

## ACECH HONORS ENGINEERING EXCELLENCE

### Notkin Hawaii Earns Highest Award

With innovative ideas at work from the engineers at Notkin Hawaii Inc., employees of The Honolulu Advertiser are breathing easier and healthier these days. The Advertiser's new Production and Distribution Facility, featuring a state-of-the-art ventilation system, was named the Grand Conceptor Award winner at the 2005 Engineering Excellence Awards Banquet of the American Council of Engineering Companies of Hawaii.

Notkin Hawaii pioneered the idea of Displacement Air Type System, a first for Gannett Corporation. This unique system "pours" instead of "blows" cooled air into the space. The air is already "cooled and dehumidified" making the "hot and polluted" air rise to the top of the roof where it is collected and treated. The Displacement Air Type System provides conceptually the cleanest evenly cooled, and least disruptive (in terms of airflow) press hall among Gannett Corporation's 101 daily newspapers across the nation.

Other unique features include the one of the first semi-conditioned warehouses fit and a one-of-a-kind filter system for the press hall, both "firsts" for Gannett.

### Excellence Award Winners

Taking home coveted Excellence Awards were Earth Tech Inc., for its Laea Emergency Rockfall Remediation project, and SSFM International for its Sewer Outfall Extension at Fort Kamehameha, Pearl Harbor project.

On Thanksgiving Eve 2002, after heavy rainfall, two boulders weighing a combined total of 10 tons rolled down a 45-degree hillside, careened over a 20-foot cliff, narrowly missed the roof and wall of a townhouse below and then smashed a concrete drainage ditch leaving 5-foot-deep craters in their wake. Pieces of flying rock shattered second floor windows, battered two cars and forced the evacuation of 26 families because of the potential for more rockfalls.

Because of the vertical cuts, numerous benches on the hillside, the closeness of the townhouses to the hillside and many small, unstable boulders, Earth Tech Inc., determined that the best engineering solution to protect the Laea residents was a rockfall drupe system.

Earth Tech's challenge was to develop a draping system that controls the rolling boulders and rock, is pleasing to the eye, and compatible with the surrounding environment. Equally important is the life span of the system. Since residential buildings can last up to a hundred years, drupe system replacement due to



**Notkin: Honolulu Advertiser Production and Distribution Facility with Displacement Air Type System.**

rusting every ten to twenty years was not appealing to the residents of Laea.

Earth Tech designed and managed the construction of a double-layer drupe system: the top layer of stainless steel cable nets, with black PVC coating and a 40-year manufacturer's warranty on structure from GeoBrugg, and the bottom layer of black PVC coated, galvanized and double twisted steel mesh. The



**Earth Tech: Laea Emergency Rockfall Remediation project. Demolition under mesh to remove large, loose boulder.**

drape system is the largest (about seven acres) installation using stainless steel cable nets and one of the largest cable net/mesh drupe systems anywhere.

Two months after the system was completed, it was virtually invisible, covered with grass and bushes and had set a new standard of aesthetics in the industry by closely conforming the cable net/mesh to the hillside topography and by coating or painting everything black to blend into the dark background of the lava flows.

SSFM International's challenge was to replace the aged and damaged outfall for the Wastewater Treatment Plant at Fort Kamehameha that serviced the Pearl Harbor Naval Facility and the Hickam Air Force Base. This outfall, about 2,000 feet long, discharged at a depth of 46 feet into an area of the Pearl Harbor Entrance Channel located within the Pearl Harbor estuary.

The Fort Kamehameha Outfall project was undertaken to install anew 48-inch (outside diameter) High Density Polyethylene outfall. The initial outfall route was abandoned after off-shore soil studies discovered very deep soft soils along the nearshore portion of the alignment that were not capable of supporting the pipeline.

After evaluating the four alternative routes, the selected route provided the least amount of negative environmental impacts to coral, endangered species and existing sea life, and had an estimated construction cost within the established budget.

The completed outfall is approximately 2.4 miles long with four segments: (1) open trenching over the existing reef flats (5,080 feet); (2) jet-grouting/micro-tunneling down into the entrance channel (2,620 feet); (3) open trenching along the eastern edge of the channel (3,150 feet); and (4) pipe piling supported down a sandy slope ending at a diffuser depth of 150 feet (1,930 feet).



**SSFM: Dredging for the Fort Kamehameha Wastewater Treatment Plant Outfall.**

(continued on page 13)



Published monthly by:

HAWAII COUNCIL OF ENGINEERING SOCIETIES

SERVICE PRINTERS, INC.

1829 Dillingham Boulevard • Honolulu, HI 96819

Telephone: (808) 841-7644 • Fax: (808) 847-1487

ADDRESS ARTICLES FOR PUBLICATION TO:

WARREN YAMAMOTO

1526-C Pukele Avenue • Honolulu, HI 96816

Telephone: 527-6988

**WILIKI MAILING LIST**

Additions and/or corrections should indicate the proper society, institution or association.

**LAVERNE HIGA**

Dept. of Facilities Maintenance

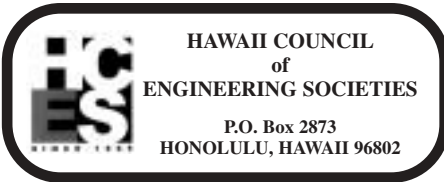
City & County of Honolulu

650 S. King Street, 15th Floor

Honolulu, Hawaii 96813

Office: 808-527-6246

Fax: 808-527-6103



**HAWAII COUNCIL  
of  
ENGINEERING SOCIETIES**

P.O. Box 2873  
HONOLULU, HAWAII 96802

HOME PAGE: <http://hces.us>

**2005-2006 OFFICERS**

Chair:	Westley Chun	440-0269
Vice Chair:	Todd Barnes	275-2901
Secretary:	Maelyn Uyehara	521-2641
Treasurer:	Ken Rappolt	536-6621

<b>SOC</b>	<b>Representative</b>	<b>Alternate</b>
AACE	M. Uyehara	
ASCE	W. Chun	K. Niiya
ASME	J. Grogan	R. Liu
EAH	M. McMorrow	G. Yamamoto
FALEA	M. Shoji	
HALS	E. Kaneshiro	
HSPE	K. Rappolt	Q. Komori
IEEE	G. Torigoe	O. Libed
ITE	C. Yoshida	R. Archilla
LGSEA	W. Wong	
SAME	T. Barnes	
SEAOH	D. Doi	
SFPE	S. Dannaway	
UH(assoc)	S. Choi	



**Officers & Directors**

President	Alan Cadieux
Treasurer	Dr. Amarjit Singh
Secretary	Maelyn Uyehara
Directors	Richard Campbell
	Joesph Uno
	Karl Kagesa



[www.sfpehawaii.org](http://www.sfpehawaii.org)

**OFFICERS**

President	Melvin K. Hirano, P.E.	848-6966
	<i>harano@thermaleng.com</i>	
Vice-Pres	Robert T. Bigtas, P.E.	526-9019
	<i>Rbigtas-ssda@hawaii.rr.com</i>	
Secretary	Mark Gouveia, P.E.	521-3773
	<i>mgouveia@cdoca.com</i>	
Treasurer	Samuel S. Dannaway, P.E.	526-9019
	<i>Sdannaway-ssda@hawaii.rr.com</i>	
Past Pres	Robert Lohaus, P.E.	833-4095
	<i>lohausbob@hawaii.rr.com</i>	
Directors	Michael J. Orłowski	474-3819
	<i>michael.orłowski@navy.mil</i>	
	Robert M. Miller, P.E.	951-7215
	<i>rpmiller@hawaii.rr.com</i>	
Webmaster	Derick Kam	
	<i>kam@thermaleng.com</i>	

There will be a meeting of the Executive Committee on Friday March 4 at Dave and Busters. All SFPE Members are welcome to attend. RSVP to 526-9019.

Hawaii SFPE Seminar Presentation

**INTRODUCTION TO STRUCTURAL FIRE PROTECTION**

Date: 05 August 2005, 7:30a to 4:30a

Location: Hale Ikena, Fort Shafter,

Cost: TBD

This seminar provides an overview of the rules and guidelines that can be used to assess the fire resistance of building assemblies composed of steel, concrete, masonry and wood. In addition, the seminar outlines methods of performance-based analyses to determine the fire resistance of exposed structural assemblies.

These include methods to estimate the temperature of steel members exposed to fire, and to calculate the structural response of concrete slabs and steel columns. The availability of computer-based methods to conduct performance-base analysis will be discussed. This seminar is valuable to code officials, architects and engineers who need to assess or understand assessments of the fire resistance of buildings assemblies.

The instructor will be Dr. James Milke, of the Department of Fire Protection Engineering at the University of Maryland.

**SOCIETY OF FIRE PROTECTION ENGINEERS ANNOUNCES NEW PRESIDENT FOR 2005 - SAMUEL S. DANNAWAY, P.E., FSFPE**

The Society of Fire Protection Engineers (SFPE) is pleased to announce the election of Samuel S. Dannaway, P.E., FSFPE, as the Society's 2005 President. Sam has a longtime record of service to SFPE having served the Hawaii chapter as its president and longstanding program chair. He served on the SFPE Qualifications Board for six years, one year as chair, and has been an active member of the Membership Committee. Sam has served on the SFPE Board of Directors since 1998 where he focused on issues of membership and chapter support. He was elected Fellow of the Society in 2002.



Mr. Dannaway founded S. S. Dannaway Associates, Inc., in 1985 and today serves as President of the 12-person fire protection engineering consulting firm, based in Honolulu. Dannaway and the firm have made significant contributions to the fire safety of Hawaii's built environment through building design and through support of fire protection education of Hawaii's engineers, fire service, and fire protection community.

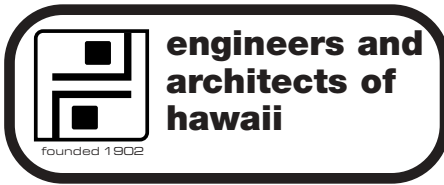
Dannaway currently serves as a principal member on NFPA 101@ Technical Committees on Healthcare Occupancies and Educational and Day-Care Occupancies.

A former volunteer firefighter in Prince George's County, Maryland, Sam is a graduate of the University of Maryland's Department of Fire Protection Engineering and a licensed engineer in Hawaii, California, and Washington. Dannaway also serves on the Honolulu AIA Codes Committee and the Honolulu Building Code Review Committee.

**Next Deadline  
for  
Wiliki  
is March 15th**



**Mayor Mufi Hannemann presents Engineers Week proclamation to officers and representatives of the Hawaii Council of Engineering Societies.**



po box 4353,honolulu,hawaii 96813

An association for Hawaii's Engineers and Architects  
New WEB Address <http://community.hei.com/eah>

#### 2003-2004 OFFICERS

President	Bob Morrissey	485-2777
1st VP	Gary Yamamoto	523-8874
2nd VP	Ron Boyle	523-8874
Treasurer	Ralph Dobson	543-4754
Secretary	Sam Gillie	543-4739
Director	Mary Ellen Nordyke-Grace	543-7000
Director	August Ahlf	737-2831
Director	Travis Hylton	531-3017
Director	Eric Kashiwamura	543-4705
Past Pres.	Martin McMorrow	247-1794

#### EAH March Program

March Program Chair- Robert Morrissey

**March 4th**, TBA see EAH Web site

**March 11th**, TBA see EAH Web site

**March 18th**, Speaker: Brandi K. Lau, Vice President- Council for Native Hawaiian Advancement : Ms. Lau will talk about the issues surrounding "The Native Hawaiian Government Reorganization Act" or "The Akaka Bill".

**March 25th**, TBA see EAH Web site

Meetings held every Friday at YWCA room 205 on Richards Street downtown. Parking at Alii Place off Alakea Street for \$1.00 per hour. Meetings start at NOON and end promptly at 1:00 pm.

Members-\$7.50 Guests-\$8.50

Program schedule may be adjusted. Call Secretary to confirm speaker. Anyone wanting a weekly email meeting notice please send your email address to Sam Gillie at [sgillie@hei.com](mailto:sgillie@hei.com).

#### Meeting Notes for January 7th, 2005

SPEAKER: Westley Chun, Principal, Engineering Solutions, Inc

SUBJECT: "Order of the Engineer"

**Westley Chun** explained that the origin of the "Order of the Engineer" ring ceremony is similar to the Canadian "Ritual of the Calling of an Engineer". In the ring ceremony, Engineers take an oath to uphold the standards and dignity of the engineering profession and to serve humanity by making the best use of the Earth's precious wealth. The original Canadian rings were crafted from the steel of the Quebec City Bridge which collapsed on August 29, 1907 killing 75 workers. A subsequent inquiry revealed that this tragedy was the result of an error in judgment made by the bridge's engi-

neers. Westley called on other engineers to join other engineers in the "Order of the Engineer" ring ceremony that will be held at Engineer's Week Banquet in February. Application for the ceremony are in the latest Wiliki.

Treasurer Ralph Dobson reported at the Board of Directors meeting that the Peter Burk Scholarship Fund balance stands at \$10,105. Operating funds are at \$1,806.

#### Meeting Notes for January 14th, 2005:

SPEAKER: Tom Quinn, Director, Hawaii Center Advanced Transportation Technologies

SUBJECT: "Hawaii: at the cutting edge of fuel cell and electric vehicle technology"

**Mr. Quinn** presented a brief history of the Hawaii Center for Advance Transportation Technologies, which is located on Cooke St in Honolulu. It is 100% funded by the Federal Government to develop and promote alternate vehicles and fuels for vehicles. They have had an active program of developing electric vehicles and buses in Hawaii for over 10 years. One electric bus has been modified to use fuel cell technology using hydrogen for energy storage. This bus is being used for transportation at Hickam Air Force Base. They also worked with HECO to install several rapid charging stations around Oahu to recharge electric vehicles.

#### Meeting Notes for January 28th, 2005:

**A Martin McMorrow Original:** The world's laziest man found a magic lamp and the lamp's genie appeared to grant the man three wishes. The man thought for a moment and then asked, "I wish for a donkey, a gorilla and a squirrel." The genie was taken-a-back at this simple request and told the man, "I usually don't question people's wishes, but are you sure those are your wishes?" The man thought for a moment and replied, "Yes, the donkey can carry me where ever I need to go, the gorilla can lift me on and off the donkey and I figure the squirrel can say "Cki-Cki.".

SPEAKER: Maria Tome, Alternate Energy Engineer, Hawaii State Energy Dept. SUBJECT: "Trends in Cars, Fuels, Prices, and Hawaii"

**Maria** explained the renewed efforts the State is making to implement the existing law to use E85 fuel an alternate fuel for gasoline. E85 is a mixture of 15% ethanol and 85% gasoline. She explained that all vehicle manufacturers have been producing cars and trucks that can burn the E85 fuels. Price per gallon should not change. Initially ethanol may be shipped into the islands, but the intent is to produce ethanol locally from sugar cane. Currently 450 million gallons of fuel per year are burned by our cars and trucks. Partly because more people are driving larger trucks and SUV's, fuel use will increase to 550 million gallons per year by 2015.

Sound Recordings of these meeting will be posted to the EAH WEB Site.



Po Box 12204 Honolulu, HI 96828

Website: [www.eaauh.org](http://www.eaauh.org)

#### 2004-2005 OFFICERS

President	Kelli Goodin	423-1900
Vice Pres	Marian Nakama	836-1900
Treasurer	Matt Fujioka	836-1900
Secretary	Ryan Sugamoto	956-6715
Directors	Lloyd P.C.W. Lee	
	Michael Y. Magaoay	
	Randolph H. Murayama	
	Wayne H. Nakamura	

#### 2005 EAAUH Vegas Field Trip Itinerary

May 18: Depart Honolulu

May 19: Arrive in Las Vegas, slot tournament and presentation by US Pipe

May 20: Golf! (Boulder Creek Golf Club)

May 21: UHAUF Las Vegas Chapter Golf Tournament and Banquet (Palm Valley Golf Course)

May 22: Golf! (Dragon Ridge Country Club)

May 23: Return to Honolulu

Deadline for applications and payment is March 11, 2005. Contact Diane Kodama ([diane.kodama@m-e.com](mailto:diane.kodama@m-e.com)) if you have not received an application and would like to join us. Hope to see you there!



# FBI

Federal Bureau of Investigation

For more information contact:  
Special Agent Kal Wang  
(808) 586-4700  
An Equal Opportunity Employer  
[www.fbi.gov](http://www.fbi.gov)

- ◆ Male and Female special agents
- ◆ Bachelor's or graduate college degree from an accredited institution
- ◆ Nationwide employment
- ◆ Computer Science/Information Technology, Engineering, Sciences (Architecture, Bio-chemistry, Biology, Chemistry, Forensics, Mathematics, Nursing, Physics, medical specialties), Law, Languages, Accounting/Finance, Intelligence, Foreign Counterintelligence, Counterterrorism
- ◆ 2-3 years strong professional/investigative/managerial work experience desired
- ◆ 23-36 years of age
- ◆ Drug policy/drug testing mandatory
- ◆ Entry-level salary (GS-10) is \$46,186 Academy training; \$57,646 - \$62,571 upon graduation, including locality/availability pay



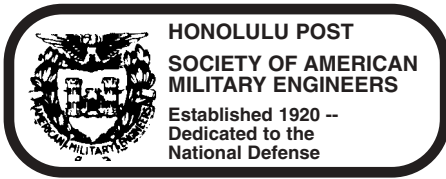
**FBI Special Agents**

AMERICA'S FINEST



**UH College of Engineering Annual Banquet** to be held on Wednesday, April 27, 2005, at the Hilton Hawaiian Village, Coral Ballroom, 5:30 p.m. - no-host cocktails and exhibits, 6:30 p.m. - dinner and program. The theme for this banquet is: "Defense and Economic Health in Hawaii." Cost: \$150 per person, tables of 10 cost: \$1,500.00, \$3,000.00, \$5,000.00 or \$10,000.00 (portion of dinner cost is earmarked as a donation). Send check with names of attendees to: College of Engineering Annual Banquet, 2540 Dole Street, Holmes 240, Honolulu, HI 96822. For more information, please email [fab@eng.hawaii.edu](mailto:fab@eng.hawaii.edu).





P.O. Box 31218; Honolulu, HI 96817  
<http://posts.same.org/honolulu/>

**2004-2005 OFFICERS AND DIRECTORS**

PRESIDENT Col Steven Hoarn (PACAF) USAF  
*Steven.Hoarn@hickam.af.mil* 449-8077  
 1ST VP (PROGRAMS) Todd Barnes (Weston) SM  
*Todd.Barnes@westonsolutions.com* 275-2901  
 2ND VP (SUSTAINING MEMBERS)  
 Will Boudra (MWH) SM  
*William.F.Boudra@us.mwhglobal.com* 543-2072  
 3RD VP (MEMBERSHIP) Jim Bersson (HED) USA  
*James.L.Bersson@poh01.usace.army.mil* 438-9293  
 SECRETARY Maj Randy Whitecotton (PACAF) USAF  
*Randy.Whitecotton@hickam.af.mil* 448-4427  
 TREASURER LT James Cho (PWC)USN  
*James.Cho@navy.mil* 221-2052

**DIRECTORS**

USN AT LARGE CAPT Tom Bersson (PACDIV)  
*thomas.bersson@navy.mil* 472-1000  
 FORMER POST PRES. Mark Schnabel (POD) USA  
*mark.schnabel@pacom.mil* 477-0880  
 YOUTH PROGRAM

Capt Yvonne Spencer (PACAF) USAF  
*yvonne.spencer@hickam.af.mil* 449-9553  
 READINESS Jim Frolich (ERM) SM  
*james.frolich@erm.com* 778-1168  
 INVESTMENT Paul Luersen (CH2MHill) SM  
*pluersen@ch2m.com* 943-7135x201  
 COMMUNICATIONS

CPT Sam Battaglia (29th EB) USA  
*samuel.l.battaglia@us.army.mil* 474-9142  
 NOMINATIONS  
 BGen(USA, Ret) Paul Chinen (Earthtech) SM  
*paul.chinen@earthtech.com* 523-8874  
 SCHOLARSHIP CDR Bert Diehl (14th Dist) CG  
*rdiehl@d14.uscg.mil* 541-2200  
 EDUCATION

CDR Susan Globokar (MARFORPAC) USN  
*susan.globokar@usmc.mil* 477-8475  
 ENGINEERS WEEK LUNCHEON

CAPT David Fleisch (PACOM) USN  
*david.fleisch@pacom.mil* 477-6011/0954  
 CONSTRUCTION CAMP

LT Greg Jennings (PWC) USN  
*greg.jennings@navy.mil* 471-1170x240  
 SMALL BUSINESS LIAISON

Marc Aoyama (15 CES) USAF  
*marc.aoyama@hickam.af.mil* 449-6063  
 ADMINISTRATION Capt Dave Wong (PACAF) USAF  
*david.wong@hickam.af.mil* 448-6620  
 MEMBERSHIP SUPPORT Dale Barlow (HED) USA  
*edwin.d.barlow@poh01.usace.army.mil* 438-1257  
 GOLF TOURNAMENT

Dana Voight (PACAF) Contractor  
*dana.voight@hickam.af.mil* 449-8088  
 ENLISTED MATTERS  
 CMSg Wayne Quattrone (PACAF) USAF  
*wayne.quattrone@hickam.af.mil* 449-8093

**SAME ENGINEERING AND CONSTRUCTION CAMP**

The Hawaii Post is sponsoring two high school students to attend the camps, one at the Air Force Academy, July 5-11, and the other at the Navy Seabee camp, Port Hueneme, CA, July 23-29. Students who have completed their freshman to junior year of high school and are interested in applying a to Service Academy or ROTC program; intend to pursue a degree in architecture, engineering, or a related field at an accredited engineering college or university; and are physically fit, are eligible.

The Honolulu Post will pay the airfare and half of the \$500 registration fee. SAME will reimburse the student the other half upon successful camp attendance. Applications available at <http://www.same.org/camps>. Send the completed package to SAME Engineering and Construction Camp, c/o Lt. Greg Jennings, 400 Marshall Road, PWC Compound, Bldg. X-11, Pearl Harbor, HI 96860. All applications must be received by April 22, 2005. Contact Lt. Jennings at [greg.jennings@navy.mil](mailto:greg.jennings@navy.mil) or (808)471-1170 x240 or (808)277-7642 for more details.



**Society of American Military Engineers  
 Honolulu Post Scholarship**

**Award:** Two \$2,500 scholarships with a 1-year SAME 'Student Member' membership

**Eligibility:**

- (1) High school senior planning to pursue a full-time undergraduate technical degree at a university with an accredited engineering or architecture program or an Engineering or Architecture Major enrolled at an accredited university
- (2) U.S. Citizen
- (3) Minimum 3.0 GPA (require copy of latest transcript)
- (4) Military affiliation or experience (i.e., SAME member or dependent, military dependent, Junior ROTC or ROTC) not required, but given preference

**Requirement:** Submit application information (below) with transcript and the following documents typewritten and double-spaced:

- (1) Resume of work experience, academic and extra-curricular accomplishments (one page maximum).
- (2) Essay (one page maximum) written around an engineering or architecture theme and its impact on society and the nation's defense/homeland security.

**Mail To:**

LCDR Dustin Hamacher  
 USCG Naval Engineering Unit Honolulu  
 Attn: SAME Scholarship Committee  
 Sand Island Road  
 Honolulu, HI 96819-4398

**Deadline:**

Postmark by 15 March 2005

**For Further Information:** Lieutenant Commander Hamacher, (808) 843-3871

**Application Information: (Typewritten)**

Name: \_\_\_\_\_ Citizenship: \_\_\_\_\_  
 Home Address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone: \_\_\_\_\_ E-Mail (if any): \_\_\_\_\_  
 School: \_\_\_\_\_ Major: \_\_\_\_\_ Student Number: \_\_\_\_\_  
 GPA: \_\_\_\_\_ Student Status: Undergraduate \_\_\_\_\_ Graduate \_\_\_\_\_ (Check Applicable)  
 Full Time Student: Yes \_\_\_\_\_ No \_\_\_\_\_ Anticipated Graduation Date: \_\_\_\_\_  
 Military Experience/Affiliation: \_\_\_\_\_ SAME Affiliation: \_\_\_\_\_



**2004-2005 OFFICERS**

President Wayne Yoshioka  
 Vice-president Greg Hiyakumoto  
 Secretary Jodi Chew  
 Treasurer Robert Nehmad

**January Meeting Highlights**

The Hawaii Section Meeting was held on January 12, 2005, as a joint endeavor with American Planning Association.

The featured speaker was Mr. Rodney Haraga, Director of the Hawaii Department of Transportation. Mr. Haraga discussed the new Department of Transportation Planning Division. The Central Planning Office (CPO) consolidates planning functions from the Airports, Harbors, and Highways Divisions. Mr. Haraga explained that the CPO will perform long-term and intermediate planning studies and analysis. Preliminary engineering activities will continue to reside in each modal division. Planning is being centralized to promote the idea of a seamless transportation network. To illustrate his point, Mr. Haraga described the modal interdependencies that occur at the Kahaluu airport. The CPO is a key component to systematically address trans-

portation needs. Mr. Haraga stressed it is imperative that transportation projects be prioritized based on needs. He envisions system-wide data collection and needs analysis will be a function performed by the CPO.

To facilitate outreach and ensure local consultation, Mr. Haraga will visit the outer islands four times a year. He intends to use these field reviews to see and hear about transportation issues on the outer islands such as access control on Queen Kaahumanu Highway on the Big Island.

The transfer of information between the CPO and the Divisions is critical. Mr. Haraga informed the group that the Department of Transportation, Highways Division and the Federal Highway Administration will be hosting a workshop to discuss and explore the linkage between planning and environmental project development activities. The workshop is scheduled for late April 2005.

Mr. Haraga was asked if he has received comments from the Hawaii Legislature about a needs-driven transportation project selection process. Mr. Haraga shared that representatives in the Legislature have been supportive of such an approach. Mr. Haraga stated that everyone wants a predictable process.

Mr. Haraga then briefly discussed additional topics raised by the audience. These topics included the Hawaii Superferry, the scenic byways program, and recruitment/staffing challenges at the State Department of Transportation.

## 2005 MATHCOUNTS OAHU COMPETITION

### Results of annual, preeminent middle school math competition

On February 12, 2005, the MathCounts Oahu Chapter Competition saw its biggest turnout yet in its 22nd year in Hawaii. There were 34 Oahu schools competing for the distinguished Team Trophy. The Kamehameha Schools Kalama Dining Hall was just about overflowing with 236 Mathletes burning their pencil leads to solve 48 math problems in the three rounds of the competition. When the smoke cleared the top team was Iolani School followed closely by Punahou School, with Kaimuki Middle School in third place, Moanalua Middle School fourth, Kamehameha School fifth, and Highlands Intermediate School sixth. These six schools earned the honor to move on to the Hawaii State MathCounts Competition on March 12, 2005 at Kamehameha Schools to see which Mathletes will represent Hawaii at the May 5-8, 2005 MathCounts National Competition in Detroit.

In the individual written part of the competition, the Sprint and Target Rounds, the top individual was Timothy Meyer of Kaimuki Middle School. His teammate, Dong-Yeop Shin was second, followed by Kent Kobayashi of Punahou, and William Chambers of Iolani. Iolani had all four team members place in the top 10, thus taking the Team first place award and second to William Chambers.

The Countdown Round is a fast-paced, oral competition for the 12 top-scoring individuals of the Sprint and Target Rounds. Pairs of Mathletes compete against each other and the clock to solve problems. Calculators are not permitted. The audience is always amazed at the speed these Mathletes can solve the problems.



L-R: Countdown Round 1st place Kent Kobayashi and 2nd place William Chambers.



The winning Iolani team, L-R: coach Li Ann Wada, Jonathan Wong, Lianne Ho, William Chambers, coach Annette Matsumoto, and Jessica Saylor.

MathCounts is a national enrichment, coaching and competition program that promotes middle school mathematics achievement through grassroots involvement in every U.S. state and territory. It is one of the country's largest and most successful education partnerships involving volunteers, educators, industry sponsors and students. President George W. Bush and former Presidents Clinton, Bush and Reagan have all recognized MathCounts in White House ceremonies. Mathletes were featured in ESPN broadcasts of the 2003 and 2004 National Competitions.

The MathCounts Steering Committee knows with 236 Mathletes competing lots of volunteers are needed to proctor and score the competition. Much gratitude is given to the 87 plus volunteers from organizations such as Hawaiian Electric Company, the US Army Corps of Engineers, SSFM International, the American Society of Civil Engineers, the American Society of Mechanical Engineers, and the Leeward Community College students of Ron Flegal.

At the end of the event, the award presenters included Dr. Michael Chun, President & Headmaster, Kamehameha Schools; Clayton Fujie, Deputy Superintendent, DOE; Sister John Joseph Gilligan, Deputy Superintendent for Special Affairs, Hawaii Catholic Schools;

(continued on page 12)

## IF YOU DON'T HAVE X-RAY VISION...HERE'S THE SOLUTION!



Our advanced surface Penetrating Radar Systems image subsurface features in real time.

Been burned by word of mouth site descriptions or "as built plans"? Preliminary site investigation helps avoid costly mistakes in boring, excavation, utility or plumbing work.

- We can scan structural concrete to a depth of 18"
- We can locate conduits, pipes, rebar, mesh, tension cable and voids PRIOR to sawcutting or coring concrete.
- We can survey for voids under concrete slabs, behind walls and swimming pools.
- We can locate buried utilities including concrete, transite, clay, plastic, double containment fiberglass, or HDPE pipe, fiber optics and environmentally sensitive sites.

*You Want To Know Everything  
That Is Down There Before You Put  
A Shovel In The Earth.*

949 Akepo Lane • Honolulu, HI. 96817  
808-845-3900 [radarone@verizon.net](mailto:radarone@verizon.net)

## Concrete Design Seminar: "Transitioning from the 1997 UBC to the 2003 International Building Code" with S.K. Ghosh

Sponsored by Structural Engineers Association of Hawaii and the Cement and Concrete Products Industry of Hawaii

This seminar will discuss how the structural provisions of the new code (Chapters 16 through 23) differ from those of the 1997 UBC, with particular emphasis on the seismic provisions.

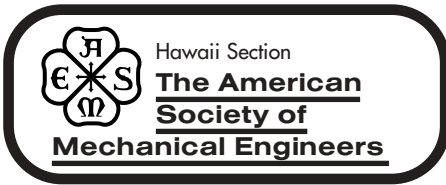
**Tuesday, April 26, 2005**, from 8:30 am to 3:30 pm (registration at 7:30 am), Makai Room, Pagoda Hotel, 1525 Rycroft Street, Honolulu.

**Featured speaker is S.K. GHOSH, P.E., Ph.D.**, president of S.K. Ghosh Associates Inc. (SKG), which is a company that specializes in structural, seismic, and code consulting.

Registration fee is \$85 per SEA/CCPI member; \$95 per non-members; \$40 per UH engineering student. Registration includes presentation handout, 2003 Analysis of Revisions to the IBC-Structural Provisions, lunch, and parking. Class size is limited. Registration deadline is April 22, 2005.

For additional information or to register, call CCPI at 848-7100 or email to [wkawano@ccpihawaii.org](mailto:wkawano@ccpihawaii.org)





Website: [www.sections.asme.org/hawaii](http://www.sections.asme.org/hawaii)

#### ASME-HI 2004-2005 Officers

Chairperson	Raymond Liu	521-3777
Vice-Chair	LCDR John Markowicz	484-9164
Secretary	Sam Gillie	543-4737
Treasurer	Rodney Krienke	373-2916
Dir 1 yr	Ron Flegal	455-0254
Dir 2 yr	Chester Kaitoku	527-6063
HCES Rep	James Grogan	254-2947

#### HAWAII SECTION GENERAL MEETING

Date: Tuesday, March 8, 2005

Time: 5:30 p.m. to 6:30 p.m.

Place: Hawaiian Electric Company, Inc. Ward Avenue Cafeteria

Program: Continue planning the ASME's 125th Anniversary and section activities. The Officers and Directors of ASME-HI look forward to seeing new and familiar faces. Lots of free pizza and pop are always provided. Please contact Ray Liu or Sam Gillie for directions and for more information.

#### NOMINATIONS FOR ASME-HI SECTION 2005 PROJECT/DESIGN OUTSTANDING ACHIEVEMENT AWARD

The nomination deadline is April 30, 2005. You can submit nominations any time before that date. If you know of any unusual or outstanding mechanical engineering-type project or design that have been completed within the past five years, please contact Ed Chang at 543-4227. The nomination process is very simple, easy, and fast.

#### REQUEST FOR DONATIONS FOR THE ASME HUMAN POWERED VEHICLE (HPV) AND MINI BAJA PROJECTS

The UHM ASME Student Section HPV Team and Mini Baja Team continue to seek support and donations from the engineering community for expenses to design, build, and compete in their respective competitions.

The HPV Team plans to compete in the April 29 – May 1, 2005 ASME West Coast Competition, while the Mini Baja Team plans to compete in the June 1 – 4, 2005 Arizona competition. Because of the high cost to participate in these annual student competitions, the students seek your help in funding. They expect expenses to reach as high as \$14,000 for HPV and \$25,000 for Mini Baja for materials and travel. Donations are tax deductible. Checks can be made out to "UH Foundation/Engineering" (specify HPV or Minim Baja or both) and mailed c/o Dr. Mehrdad Ghasemi Nejhad, Department of Mechanical Engineering, University of Hawaii at Manoa, 2540 Dole Street, Holmes Hall #302, Honolulu, HI 96822. Any support will be greatly appreciated.

#### ASME'S 125th ANNIVERSARY ACTIVITIES REMINDER

Log onto [www.asme.org/anniversary](http://www.asme.org/anniversary) for up-to-date information on events for ASME's 125th anniversary.

Events that are scheduled to take place in 2005 so far:

- Founders Day: February 16, Wednesday
- Boiler Code Day: March 12, Saturday
- Heritage Day: April 7, Thursday

#### Comic Book Engineering

A new comic strip series about engineering

has been developed to help young readers learn about engineering. *Heroes of Engineering* will feature monthly short stories covering 12 decades of significant mechanical engineering feats. The series was created as an online medium to educate young people about what engineers do and how they affect our lives. *Heroes of Engineering* is available on the ASME anniversary Web site at [www.asme.org/anniversary](http://www.asme.org/anniversary).

#### ASME HAWAII MEMBERS TOUR THE USS RONALD REAGAN

On Saturday, January 22, 2005, the ASME Hawaii senior and University of Hawaii ASME student section members had a once in a life time opportunity to tour the Navy's newest super air craft carrier – the USS Ronald Reagan.

Members of the senior section include Raymond Liu, Chairman; Sam Gillie, Secretary; Jim Grogan, Director; Alan Lloyd, retired engineer from Hawaiian Electric; and Richard Wang, Mechanical Engineer at Hawaiian Electric. The student members include David Katsuda, President; Blake Sato, Vice President; David Narahara, Treasurer; Mike Bicoy and Kevin Ohira.

This private tour was sponsored by Stanford Yuen, P.E., a past ASME Hawaii section chairman (1979-1980), and currently an Executive Assistant within the Intergovernmental Affairs Division for the Navy Region Hawaii.



*ME students and Alan Lloyd on the flight deck.*



*In the hanger bay, L-R: Blake Sato, Dave Katsuda, Kevin Ohira, Mike Bicoy and Dave Narahara.*

On this bright sunny afternoon, the tour began at the pier entrance where visitors from other private tour groups gathered. The members of the other tour groups included such dignitaries as councilmen Rod Tam and Charles Djou, Representative Mark Moses, other governmental and military officials, their families and friends. To make the tour more manageable, tour guides for the 90-minute tour included sailors assigned to 20 members within each group.

With Ensign Bannister assigned to the ASME Hawaii group, the tour began with the walk along the pier toward the awesome floating fortress. As we walked along the pier toward the stairs leading to the entrance of the hanger bay, everyone appeared to be in awe of the sheer size of the gray fortress. Finally, after

about a 10-minute travel from the pier entrance, we crossed the metal brow decking and set foot on the enormous hanger bay.

Ensign Bannister explained that the hanger bay is normally housed with aircraft and other supplies that are brought up to the flight deck thru the aircraft elevators. Instead, the hanger bay was filled with beautiful flags of various nations and two prominent flags along the wall – the American flag and a flag of the carrier with the number 76 for CVN 76.

The tour then proceeded to the flight deck directly above where everyone had an opportunity to take pictures with a jet aircraft and a helicopter. From the flight deck, we could see the USS Battleship Missouri and the Arizona Memorial to the south, and the Ford Island Bridge to the north. The flight deck, as explained by Ensign Bannister, is over 3 football fields long and covers about 4.5 acres. On a typical mission, the flight deck has a capacity to carry more than 80 combat aircraft.

After taking pictures and enjoying the view of Pearl Harbor, Ensign Bannister lead us to the landing area of the flight deck and explained how the jets land on the carrier and how they are able to stop the plane thru the use of the large diameter arresting cable. He shared with us the primary goal of the landing crew's responsibility to ensure the safety of the pilot, to extinguish fires on the flight deck and to jettison a burning plane off the deck, if required. That's when he showed us the equipment used to fight the fires on deck and the equipment used to ram a burning plane overboard. Fortunately, they haven't had the need to use it yet.

As we headed toward the bow of the carrier, we passed the Island where the carrier is controlled. The Island is about 244 ft from the keel to the mast and towers over 20 stories above the waterline. Unfortunately, we didn't get a chance to go up to the top deck to see the view.

The most exciting part of the tour revolved around the catapult area. With a top speed of more than 30 knots (1 knot = 1.15 nautical miles), the catapult system is able to accelerate a jet from 0 to 160 mph in around 2 seconds. Now that is a lot of G forces on your body.

The final destination of the tour included a visit to the Reagan museum within the hanger bay area. The museum included video excerpts from history making events of the Reagan era such as his acceptance as the Republican candidate for President of the United States during his run for the 2nd term; the destruction of the Berlin wall; the assassination attempt by John Hinckley in 1980; and explanation of the nation's economic recovery thru "Reaganomics."

The tour ended with everyone having a deeper appreciation of the military's might and need for technologically advanced war ships to maintain peace throughout the world.

The ASME Hawaii section would like to thank Stanford Yuen, P.E. for this once in a lifetime tour of the USS Ronald Reagan. For more information on this latest super aircraft carrier, please visit [www.reagan.navy.mil](http://www.reagan.navy.mil).

#### FUTURE TOURS AND EVENTS

- P.E. Study Group and P.E. Refresher Course: Chairman Ray Liu is planning to organize a FE/P.E. study group for this April's exam. He is also coordinating a review course for the October exam with Dr. Charly Kinoshita and Dr. Stephen Masutani as instructors.

*(continued on page 12)*



# 2004

## Concrete Achievement Awards



### NEW PUBLIC BUILDING AWARD

### MCON PROJECT P-593 • REGIONAL BEQ

<b>OWNER/DEVELOPER</b> .....	NAVAL STATION, PEARL HARBOR
<b>ARCHITECT</b> .....	RIM ARCHITECTS
<b>STRUCTURAL ENGINEER</b> .....	BALDRIDGE & ASSOCIATES STRUCTURAL ENGINEERING, INC.
<b>GENERAL CONTRACTOR</b> .....	DICK PACIFIC CONSTRUCTION CO., LTD.

This Bachelor Enlisted Quarters (BEQ) is located at Naval Station, Pearl Harbor. It provides living units for 208 enlisted personnel. The majority of the main building is five stories in height, but transitions to four stories at the east end. This BEQ P-593 is the first residential project in Hawaii designed for the Department of Defense Anti-Terrorism/Force Protection (AT/FP) Construction Standards including the mitigation of Progressive Collapse. Reinforced concrete was chosen as the primary construction material for the project as it was determined that it provided the most efficient and cost effective system for meeting or exceeding all the requirements of the RFP.

## High School Engineering Outreach – College of Engineering’s Engineering Expo 2005

Imagine 700+ high school students and teachers... Throw in seven engineering competitions, five engineering lab tours & demonstrations, 130+ volunteers, and what do you get? You get the Annual University of Hawaii’s College of Engineering’s Engineering Expo 2005, an excitement-driven atmosphere of challenges, imagination, creativity, and good clean fun, well most of it....

Dropping an egg tucked inside a structure from the 2nd and 4th floors of a building may not be the cleanest of events, but it definitely created a lot of excitement. The Egg Drop Competition, sponsored by the American Council of Engineering Companies of Hawaii (ACECH, Hawaii chapter), was one of seven engineering games that high school students had the opportunity to compete in at the Expo. Other events included the Bottle Rocket Competition, sponsored by the American Society of Mechanical Engineers (ASME, student chapter), which tested students’ abilities to design and manufacture a simple water rocket to remain in the air for the longest possible time; the Model Paper Column Competition, sponsored by the Chi Epsilon (XE, student honor society), which challenged students’ abilities to design, build, and test a paper column that was judged on workmanship and efficiency; the Rubber Band Racers Competition, sponsored by the Society of Automotive Engineers (SAE, student chapter), which called for an internally powered rubber band racer to be built to race a 15-foot track in the fastest time; the Motor Building Competition, sponsored by the Institute of Electrical and Electronics Engineers (IEEE, student chapter), which tested students’ ingenuity in constructing an electric motor within a 30 minute time-frame; and two new competitions including the I See, You Create Competition, sponsored by the Society of Women Engineers (SWE, student chapter), which required students to utilize teamwork and effective communication in creating an object; and finally the Battle Bots Competition, sponsored by the Pi Tau Sigma (PTS, student honor society), which tested students’ skills in building a custom battle-bot (robot) that proved superior against all others.

Twenty-one Hawaii high schools, which included four from the neighbor islands, were represented at the Expo. The following is a list of the winners for each of the competitions:

**Battle Bots**

- 1st: Farrington High School
- 2nd: Kamehameha Schools
- 3rd: Farrington High School

**Bottle Rocket**

- 1st: Farrington High School
- 2nd: McKinley High School
- 3rd: Kaimuki High School

**Egg Drop**

- 1st: Mililani High School
- 2nd: Farrington High School
- 3rd: Maui High School

**Rubber Band Racers**

- 1st: Maui High School
- 2nd: Mililani High School
- 3rd: McKinley High School

**Model Paper Column**

- 1st: McKinley High School
- 2nd: Hawaiian Mission Academy
- 3rd: Kauai High School

**Motor Building**

- 1st: Mililani High School
- 2nd: Kamehameha Schools
- 3rd: Kamehameha Schools



**Farrington High School students who won 4 trophies: Rubber band racer competition, Motor building competition, Bottle rocket launching competition.**



**Rubber band racer competition.**



**Battling bots (robots) competition.**



**Motor building competition.**

**I See, You Create**

- 1st: Kamehameha Schools
- 2nd: Nanakuli High School
- 3rd: Roosevelt High School

As an annual event, the Engineering Expo strives to introduce high school students to real-life hands-on activities that help exemplify the field of engineering. With the support and dedication of the professional engineering associations, and the College of Engineering faculty, staff, and students, the Engineering Expo hopes to continue this annual tradition of igniting sparks of interest in the engineering field to high school as well as establishing the Junior Expo for middle school students in the fall of 2005.

For additional information on participation or sponsorship in future events, please contact Ms. Laura Shimabukuro, CoE Student Services Coordinator or Dr. Song K. Choi, Assistant Dean, at 808-956-8404 or e-mail to [expo@eng.hawaii.edu](mailto:expo@eng.hawaii.edu).



**Bottle rocket competition.**

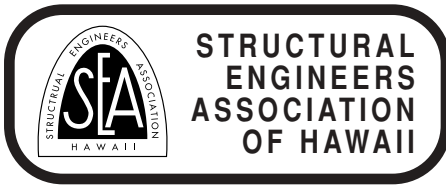


2540 Dole Street, Holmes Hall  
Honolulu, Hawaii 96822

**COLLEGE DEANS AND CHAIRS**

- |                  |                 |
|------------------|-----------------|
| Dean             | Wai-Fah Chen    |
| Associate Dean   | Vassilis Syrmos |
| Assistant Dean   | Song K. Choi    |
| CEE Chair        | H. Ronald Riggs |
| EE Interim Chair | Galan Sasaki    |
| ME Chair         | Bruce Liebert   |
| HCAC Director    | Magdy Iskander  |





PO BOX 3348, HONOLULU, HI 96801  
Web Page URL <http://www.seaoh.org>

#### 2005 BOARD OF DIRECTORS (BOD) OFFICERS & DIRECTORS

President	Beverly Ishii-Nakayama <i>beverlyn@lava.net</i>	942-9100
Vice Pres	Bennett Fung <i>bfung@ssfm.com</i>	356-1232
Secretary	Dean Kokubun <i>deank@nagamineokawa.com</i>	536-2626
Treasurer	Garett Muranaka <i>garett.muranaka@heco.com</i>	543-7574
Director	Ibbotson Kellett <i>ibbotson@hawaii.rr.com</i>	540-1030
Director	Wayne Kawano <i>wkawano@ccphawaii.org</i>	848-7100
Director	Dean Doi <i>ddoi@satoandassociates.com</i>	955-4441
Director	Paul Morimoto <i>paul@hirata-hawaii.com</i>	486-0787
Past Pres	Randy Chu <i>rntchu@hawaii.edu</i>	373-795

#### HIGHLIGHTS OF BOD MEETING

February 02, 2005

##### Old Business:

A cover letter is required to be drafted for the Complex Codes Committee Report.

Updating SEAHO By-Laws: The Board proposed to explore revising Article III DUES, of the SEAHO By-Laws (revised May 8, 2002). The proposed revisions are to increase the Membership Dues by \$10 and to include a provision to allow a member whose membership has lapsed to rejoin the organization. The proposal to explore revising the Section was approved and further discussion was tabled.

##### New Business:

Computer Committee: The Computer Committee will be tasked with researching and reporting on the current state-of-the-art in structural analysis, design, detailing/drafting and integrated software packages.

Membership Committee: The BOD voted to accept Timothy Goshi, Sato and Associates, Inc., as an Allied member, and Curtis Yokoyama, U.S. Army Corps of Engineers, as a Member.

Legislative Committee: Bills being tracked by the Legislative Committee are:

Senate Bill (SB) 982 – Retrofitting Public Buildings Designated as Public Shelters

Senate and House Bills – Relating to Procurement and Indemnification of Design Professionals for Contracts with the State

House Bill – Relating to Certificate of Merit

Senate Concurrent Resolution (SCR) No. 17 – Relating to Statewide Building Code

The BOD voted to support, in concept, the formation of a statewide building code.

2005 Installation Banquet Committee: It was reported that the 2005 Installation Banquet was successful and within budget.

2005 SEAHO Convention Committee: The BOD voted to join with the Cement and Concrete Products Industry of Hawaii (CCPI) in combining its annual conventions into a co-

sponsored SEAHO/CCPI Convention, currently scheduled for October 20 through 22, 2005 at Turtle Bay Resort.

Golf Committee: The Golf Committee will be tasked with information gathering/preliminary preparation to host two golf tournaments during 2005 – the first in May or June 2005 and the second on November 25, 2005 (the day after Thanksgiving), both on a Friday afternoon. Proposed locations included Kapolei Golf Course, Mililani Golf Club, Coral Creek Golf Course and Koolau Golf Club.

Order of the Engineer Ring Ceremony: It was reported that the Order of the Engineer Ring Ceremony is scheduled for 5 p.m. on February 26, 2005 at the Ala Moana Hotel, with the Engineers Week Banquet to follow.

Miscellaneous: The BOD approved tentative plans for establishing a list of Hawaii Structural Engineers / companies, to be posted on the SEAHO website, who are interested in including their name / the name of their company in a list of Structural Engineers / companies who serve homeowners. Interested persons are encouraged to contact Mr. Bennett Fung.

##### 2005 Calendar of Events:

February 09, 2005: Seminar: AISC Bolting and Welding Seminar

March 18, 2005: Field Trip: Ko'olani Site Visit

April 26, 2005: Seminar:

Transitioning from 1997 UBC to 2003 IBC  
June 23-25, 2005: Expo: First Annual 2005 Masonry & Concrete Expo of the Pacific  
August / Sept. 2005: Seminar Meeting: ASCE / SEAHO Joint Meeting  
October 20-22, 2005: Convention: SEAHO / CCPI Convention

**ATLAS SYSTEMS, INC.**  
Developer/Manufacturer of Rapid Foundation™ Support Products and Equipment  
"We Can Change History"®

**SETTLEMENT?**  
Restore with Atlas Resistance® Piers Resistance Products

**LATERAL INSTABILITY?**  
Support with ATLAS Helical® Tie-Back Products

**SOIL PROBLEMS?**  
Support with ATLAS Helical® New Construction Products

**Atlas Piers of Hawaii – Structural Systems Inc. (AC-13555)**  
is an approved installing contractor for Atlas Systems, Inc.™

P.O. Box 30296, Honolulu, Hawaii 96820  
845-2474 Fax 847-2966  
E-mail: [structurs001@hawaii.rr.com](mailto:structurs001@hawaii.rr.com)  
visit us at: [www.ssihawaii.com](http://www.ssihawaii.com) and also check out [www.atlassys.com](http://www.atlassys.com)

Atlas Systems, Inc.®, Atlas Resistance®, Atlas Helical®, Atlas Pier®, Logo and "We Can Change History"® and the Tower Design are registered trademarks of Atlas Systems, Inc. © Atlas Systems, Inc. 2004

## ACI CONCRETE FIELD TECHNICIAN PROGRAM—GRADE I CERTIFICATION

Sponsored by the Cement and Concrete Products Industry of Hawaii

The ACI Certification Program for Concrete Field Testing Technician—Grade I is for the purpose of certifying concrete technicians who have demonstrated the knowledge and ability to properly perform the seven (7) basic field ASTM tests on freshly mixed concrete.

**Practice Session: Performance practice session Saturday, April 23, 2005** from 8 am to 12 noon at Ameron Hawaii—Sand Island, 2344 Pahounui Drive, Honolulu, HI.

**Examination only: Saturday, May 21, 2005**, from 7:00 am to 1:00 pm (specific times to be announced). Location will be Ameron Hawaii—Sand Island.

**Session I:** Registration is \$185.00 per person and includes Practice Session and Examination. Class size is limited to 12 people. All fees must be received prior to the session date you are attending, no exceptions.

For additional information or to register, call CCPI at 848-7100





**2004-2005 ASCE Hawaii Section Executive Committee**

Office	Phone	FAX
President	Keith Niiya	533-3646 526-1267
	email: <a href="mailto:kniiya@atahawaii.com">kniiya@atahawaii.com</a>	
PresElect	Walter Billingsley	846-3232 538-7819
	email: <a href="mailto:wbillingsley@beltcollins.com">wbillingsley@beltcollins.com</a>	
Vice Pres	Lori Fong	531-7094 528-2368
	email: <a href="mailto:lfong@ascehawaii.org">lfong@ascehawaii.org</a>	
Secretary	Phillip Ooi	956-8512 956-5014
	email: <a href="mailto:ooi@wilki.eng.hawaii.edu">ooi@wilki.eng.hawaii.edu</a>	
Treasurer	Ron Iwamoto	454-2348 454-2997
	email: <a href="mailto:ron@iwamotollc.com">ron@iwamotollc.com</a>	
Past Pres	Westley Chun	488-0477 488-3776
	email: <a href="mailto:wkcchun@engrsol.com">wkcchun@engrsol.com</a>	

**MARCH DINNER MEETING**

Program: Steven Baldrige, P.E., S.E., Baldrige & Associates Structural Engineering, Inc.

**H-1 ZIPPER LANE EXTENTION: RADFORD DRIVE OVERPASS TO KEEHI INTER-CHANGE**

Contractor: Hawaiian Dredging & Construction Company

Contract Amount: \$4,338,000.00

Length of Project: Approximately 4.02 Miles

Project Highlights:

1. Demolition of Approximately 2,000 LF of Existing Concrete Median Barrier Wall
2. Construction of Crossover Lane – Airport side of Radford Drive Overpass for the Pearl City / Aiea motorists to get into the zipper lane
3. Construct 5 Express Way Sign Structures with 5'-0" Diameter x 25'-0" Deep Drill Shaft Concrete Foundations
4. 3 Swing Gate Assemblies at the New Crossover Lane
5. 1 Emergency Crossover Movable Gate System – In the event of an accident in the zipper lane
6. Electrical Work for the Sign Structures and Beacon Light System
7. 14, 915 LF of State Furnished Zipper Barriers (\$4972 Each)

Date: **Thursday, March 17, 2005**

Location: Treetops at Paradise Park  
Manoa Valley

Time: 5:30 p.m. - Social Time  
6:30 p.m. - Dinner  
7:30 p.m. - Program  
9:00 p.m. - Adjourn

Menu: Multi-entree buffet

Cost: \$22.00 for Hawaii Section members  
\$25.00 for non-section members and guests  
\$11.00 for University of Hawaii at Manoa Student Chapter members

Please make check payable to ASCE-Hawaii Section. Mail to Ron Iwamoto, ASCE Treasurer, c/o Iwamoto & Associates, LLC, Harbor Center, 98-029 Hekaha Street, Suite 37, Aiea, Hawaii 96701, postmarked by Monday, March 14, 2005. Reservations for the dinner meeting to Ron Iwamoto by Monday, March 14, 2005, by phone at 486-5202, fax at 486-5206, or email at [ron@iwamotollc.com](mailto:ron@iwamotollc.com).

**EXECUTIVE COMMITTEE MEETING**

February 10, 2005

**ASCE HAWAII SECTION STUDENT SCHOLARSHIPS**

Please help us increase our scholarship endowment so that we can recognize those deserving students. We continue to accept tax deductible donations with the goal of establishing a second annual scholarship. Make your check payable to 'ASCE Hawaii Section' and mail to ASCE Scholarship Committee, P.O. Box 917, Honolulu, HI 96808. If you have any questions, please contact Westley Chun at 440-0269, or [Westley.Chun@ch2m.com](mailto:Westley.Chun@ch2m.com).

**WEST POINT BRIDGE CONTEST**

An online bridge design contest is available to U.S. students age 13 through grade 12. Anyone else may enter the Open Competition.

The main purpose of the contest is to provide middle school and high school students with a realistic, engaging introduction to engineering. The contest provides contestants with an opportunity to:

1. Learn about engineering through a realistic, hands-on problem-solving experience.
2. Learn about the engineering design process—the application of math, science, and technology to create devices and systems that meet human needs.
3. Learn about truss bridges and how they work.
4. Learn how engineers use the computer as a problem-solving tool.
5. Have fun pitting the contestants' problem-



**2005 ASCE/WALTER LUM SCHOLARSHIP**

DESCRIPTION: Scholarship to assist a student in pursuing a degree in Civil Engineering.

DONOR: American Society of Civil Engineers Hawaii Section  
Walter Lum Scholarship Endowment Fund

AMOUNT OF AWARD: \$1,500.00

SELECTION CRITERIA:

1. Undergraduate or graduate student enrolled in the College of Engineering, University of Hawaii at Manoa, and majoring in Civil Engineering.
2. Junior, senior, or graduate status.
3. Cumulative GPA of 3.0 or above.
4. Preference given to active University of Hawaii at Manoa ASCE Student Chapter members.
5. Preference to students with demonstrated financial need without other substantial financial assistance.

ADMINISTERED BY: ASCE Hawaii Section Scholarship Committee

HOW TO APPLY: Submit scholarship application postmarked by April 1, 2004. See application for details. Applications may be obtained from the ASCE Hawaii Section website at [www.ascehawaii.org](http://www.ascehawaii.org) or from the UH Department of Civil & Environmental Engineering at Holmes Hall Room 383. If you have any questions, please call Westley Chun, 2005 Scholarship Chair, at 440-0269.

**2005 ASCE/WALTER LUM SCHOLARSHIP APPLICATION**

Name \_\_\_\_\_

Social Security No. \_\_\_\_\_

Mailing Address \_\_\_\_\_

Phone \_\_\_\_\_

E-mail address \_\_\_\_\_

Class Standing for Spring 2005 (circle one)      1st yr      2nd yr      MS      PhD  
    Junior      Senior      Senior

GPA (attach copy of transcripts) \_\_\_\_\_

Expected Date of Graduation (mm/yr) \_\_\_\_\_

Professional Society Membership(s) and details of activities for organization(s) (attach additional pages as necessary) \_\_\_\_\_

If you have or will receive other Tuition Waiver (circle one)      Full      Half  
    scholarship aid

in 2005, please (list name & amount) \_\_\_\_\_  
 indicate at right. \_\_\_\_\_

**Submit application postmarked by April 1, 2005 to:**

Dr. Westley K.C. Chun  
 ASCE Hawaii Section Scholarship Committee Chair  
 c/o CH2M HILL  
 1585 Kapiolani Boulevard, Suite 1420  
 Honolulu, HI 96814-4530



solving skills against those of other virtual bridge designers around the globe.

The contest runs from January through April but the Qualifying Round will be conducted from 1:00 p.m. EST on January 6, 2005 to 1:00 p.m. EST on February 28, 2005. The prizes are very generous indeed. Each member of the first-place team will win a \$10,000 scholarship. Each finalist will win a notebook computer. This contest provides an excellent outreach tool to our profession. Please encourage any student you know who is contemplating a career in engineering to check out this competition. Additional information about the contest can be obtained at <http://bridgecontest.usma.edu/index.htm>.

#### ASCE JOB LISTINGS

The following employers have openings they would like to fill:

- Austin Tsutsumi & Associates, Inc. (Civil, Traffic/ Transportation, Environmental and Surveying - Honolulu and Wailuku)
- Bills Engineering Inc. (Civil Engineer, Civil Designer, CADD Technician)
- Board of Water Supply (Chief Capital Projects Officer - Honolulu)
- CH2MHILL (Water Engineer - Honolulu)
- Fowell Geotechnical Engineering (Geotechnical Engineer - Honolulu)
- Fukunaga & Associates (Civil and Civil/Environmental Engineers - Honolulu)
- GeoEngineers, Inc. (Senior Engineer)
- Hawaii Pacific Engineers (Civil and Civil/Environmental Engineers - Honolulu)
- Hida, Okamoto & Associates, Inc. (Civil Engineer - Honolulu)
- Warren S. Unemori Engineering (Project and Civil Engineers - Wailuku)

For more information on these job listings, please visit the ASCE Hawaii Section website at [www.ascehawaii.org](http://www.ascehawaii.org).

#### MEMBERSHIP DRIVE

ASCE counts on our members to help us grow every year by actively participating in the Member-Get-A-Member Drive. The drive is now year-round and offers great new prizes, such as cash rewards, gift certificates, digital cameras, personal digital assistants, LCD TVs and more. For most prizes, all you have to do to be eligible to win is refer a colleague. This is a great time to help out your colleagues while also helping ASCE find new members. Take a minute to think about the people in your professional life who could benefit from membership. Visit [www.ASCEDrive.org](http://www.ASCEDrive.org) to refer them and you could be a winner in the next drawing! Please contact our membership chair, Lori Nishida, at 533-3646 or [lnishida@atahawaii.com](mailto:lnishida@atahawaii.com) for further information.

#### SIGN-UP FOR THE ASCE HAWAII SECTION'S WEBMAIL LIST

If you would like to receive e-mail notices of upcoming meetings or activities please sign-up for the ASCE Hawaii Section's webmail list at <http://www.ascehawaii.org/emailform.html>. You may also help the ASCE Hawaii Section reduce operating costs by receiving your monthly issue of the Wiliki via e-mail, please contact Joanna Seto at 586-4329 or [jseto@ascehawaii.org](mailto:jseto@ascehawaii.org).

#### ASCE HAWAII SECTION MEETING IN LAS VEGAS

ASCE Hawaii Section and ASCE Southern Nevada Branch have discussed the possibility of a joint meeting in Las Vegas from December 7-9, 2005. In addition to the joint meeting, there would likely be additional meetings and a

field trip. Travel accommodations would be included in the total costs. We would like to find out if enough Hawaii members are interested before we make any commitments. If you are interested, please contact Tony Lau at [tlau@hawaiiapacificengineers.com](mailto:tlau@hawaiiapacificengineers.com) or at 522-7426 by March 28.



#### 2004-2005 YMF OFFICERS

		Phone
President	Paulette Chang <a href="mailto:Hawaiiymf@yahoo.com">Hawaiiymf@yahoo.com</a>	781-1187
Vice-Pres	Scott Jennings <a href="mailto:sjennings@rci-group.com">sjennings@rci-group.com</a>	845-8440
Secretary	Florence Ching <a href="mailto:fching@ascehawaii.org">fching@ascehawaii.org</a>	472-1342
Treasurer	Laura Smolinski <a href="mailto:SmolinskiL001@hawaii.rr.com">SmolinskiL001@hawaii.rr.com</a>	382-7174
Student Chapter President	Jesse Elliot <a href="mailto:Elliotj@hawaii.edu">Elliotj@hawaii.edu</a>	956-5808

#### Next YMF General Meeting

The next two YMF general meetings are scheduled for Tuesday, March 1, 6:00 p.m., at The Big Island Steak House in Aloha Tower, 537-4446; and Tuesday, April 5, 6:00 p.m., at Murphy's Bar & Grill, 531-0422. If you are interested in attending to find out what the YMF is all about and how much fun we have, please call Paulette Chang at 781-1187.

#### YMF April Social Announcement- Barbecue

The YMF will be having a barbecue on Saturday, April 23rd starting at 6:30 p.m. Come join us for some ono food and drinks. If anyone is interested in attending, please contact Lisa Takushi at 531-4252 ext. 14 or at [ltakushi@cpi-hawaii.com](mailto:ltakushi@cpi-hawaii.com) by April 15th.

#### ASCE Job Classified

Looking for work? Visit the ASCE's job listing page at <http://www.ascehawaii.org/jobs/jobsinfo.html>.

#### KNOW YOUR ASCE HISTORY

by C.S. Papacostas

In January 2005 I referred to the fact that, until 1972, the "barrel" was a common unit of measurement for portland cement in the U.S.

Before weighing scales became common, in many countries throughout the world commodities were measured, bought and sold by volume (or "capacity"). The corresponding quantities were typically associated with the vessel or container used to measure them. For example, the ancient Greeks and Romans would refer to an "amphora" of wine, a large vessel with handles on both ("amphi") sides. However, the typical Roman amphora was smaller than the Greek one and, surely, no two amphorae anywhere were identical.

Kamehameha I employed volume measurement as well. The amount of sandalwood ('ilii-ahi) that he was to sell to a cargo ship during the late 1700s and early 1800s was fixed by digging a pit on the ground equal in volume to the ship's hold. The Sandalwood Measuring Pit (Lua Na Moku 'Iliahi) would be filled to the brim and the 'ilii-ahi would then be transferred to the ship's cargo hold. The most publicized of these pits is a 75-foot long one on Moloka'i at Kamiloa. Another is located on the Kapalama-Nuuanu ridge on O'ahu.

In English-speaking countries, terms such as pint, quart, gallon, bushel, barrel and a slew of less familiar words (e.g., "hogshead") are measures of volume. To confound the matter, in the United States to the present time, and in Britain until the Imperial Weights and Measures Act of 1824, a distinction was maintained between capacity measures for liquids on one hand and dry goods on the other. Thus the U.S. gallon for liquids, a descendant of the medieval wine gallon, was originally defined as a cylinder having a 7-inch diameter base, 6 inches deep and was by statute rounded off to exactly 231 cubic inches under Queen Anne in 1707. By contrast, a U.S. dry gallon is approximately 269 cubic inches! Moreover, neither of the U.S. gallons is the same as the single British imperial gallon.

Over the years, various entities attempted to reduce the pandemonium by standardizing usage. For instance, the U.S. Congress fixed the "apple barrel" in 1912 and, in 1996, extended its definition to cover equivalent steel barrels as:

"The standard barrel for apples shall be of the following dimensions when measured without distention of its parts: Length of stave, twenty-eight and one-half inches; diameter of head, seventeen and one-eighth inches; distance between heads, twenty-six inches; circumference of bulge, sixty-four inches outside measurement, representing as nearly as possible seven thousand and fifty-six cubic inches: Provided, that steel barrels containing the interior dimensions provided for in this section shall be construed as a compliance therewith."

In 1915, the 7,056 cubic inch barrel was extended to cover other dry goods, except cranberries (later defined to be 5,826 cubic inches instead!)

The next step was to establish commodity weight (or mass) equivalencies for the various volume measurements. This trend is reflected in the following provision in the Standard Specifications of the Hawaii Department of Transportation (HDOT), which is typical of such documents nationwide:

"The Contractor may weigh the material specified to be measured by the cubic yard if acceptable by the Engineer. The Engineer may convert these weights to cubic yards for payment purposes. The Engineer will decide the factors for conversion from weight to volume measurement. The Contractor shall agree to the factors before using such method of measurement."

In general, the equivalents set for various commodities by the U.S. Bureau of Standards (now the National Institute of Standards and Technology) often differ from those set by individual states. For example, a barrel of fresh apples, quinces or pears ranges from 40 to 57 pounds, depending on locale!

And what about a barrel of portland cement? The HDOT Specs are consistent with conventional U.S. practice that, by the way, is not defined in federal law:

"The term 'barrel' will mean three-hundred and seventy-six (376) pounds of cement when measuring cement by the barrel. The term 'bag' will mean ninety-four (94) pounds of cement when measuring cement by the bag."

A U.S. portland cement barrel equals four 94-lb (about 42.6 kg) bags or 376 avoirdupois pounds. Incidentally, "lb" for "pound" is derived from the Latin equivalent "libra," also connected to "balancing scales."

A Canadian barrel, by the way, equals four  
*(continued on page 12)*



**HAWAII CHAPTER**

P.O. Box 508, Aiea, Hawaii 96701  
 Phone: (808) 485-1400 Fax: (808) 485-1500  
 Web Page: www.lgsea.com

**2005 OFFICERS & DIRECTORS**

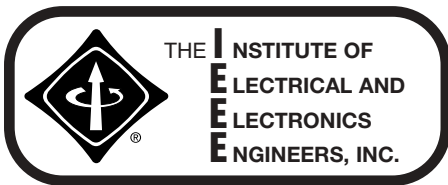
		Phone	FAX
President	Jeff Hanyu	536-2108	521-3000
Vice President	Tim Waite	479-1216	941-9079
Secretary	Brian Enomoto	486-5202	486-5206
Treasurer	Will Wong	945-0198	944-1177
Director	Howard Lau	942-9100	942-1899
Director	Glenn Isidro	533-2210	533-2686
Director	Akira Usami	682-5747	682-2928
Director	Darin Okuda	689-5400	689-5406
Director	Brent Uechi	521-6958	533-6701
Director	Shane Arnold	864-8133	
Past President	Mike Kasamoto	955-6834	955-2483

**2005 COMMITTEE CHAIRS**

Program:	Tim Waite
Technical:	Brent Uechi
Membership:	Darin Okuda
Sponsorship:	Glenn Isidro
Directed R&D:	Jim Walfish
Specifications:	Brent Uechi
Website:	Jeff Hanyu

**General Membership Update**

On February 4th, the 2005 officers and directors listed above were installed at the Plaza Club at Pioneer Plaza. Members and guests enjoyed the usual robust Plaza Club buffet din-



**IEEE Hawaii Section**

P. O. Box 37607 Honolulu, Hawaii 96837  
 Email: sec.hawaii@ieee.org  
 Web Page: http://community.hei.com/ieee/

**2005 HAWAII SECTION OFFICERS**

Chair:	Mark Rognstad	956-8712
(mark_rogstad@ieee.org)		
Vice Chair:	Alison Lee	224-9723
(al.lee@care2.com)		
Sec/Treasurer:	Marjorie Clemente	
(Marjorie.Clemente@twtelecom.com)		
Outreach committee:		
Norm Kawachika	531-1308	
(normk@ieee.org)		
Fred Kobashikawa	543-7753	
(fkobashi@ieee.org)		
Grant Torigoe	833-8889	
(torigoe@ieee.org)		
Andrew Chiu		
(andrewc_hi@hotmail.com)		

**Section Committee Chairpersons:**

HCES Rep:	Grant Torigoe	833-8889
(torigoe@ieee.org)		
Membership:	Steven Sano	543-7981
(ssano@ieee.org)		
Webmaster:	Steven Sano	543-7981
Newsletter Editor:	Jason Levy	455-0521
(jlevy@hawaii.edu)		
Professional Act:	Al Toda	455-1331
(aet@ieee.org)		
Student Act:	Tep Dobry	956-9740
(tep@ieee.org)		
Oceanic Society Chair:	Mark Rognstad	956-8712
(mark_rogstad@ieee.org)		
Computer Society Chair:	Nancy Romer	
(NLRomer@aol.com)		
Vice Chair:	Tri Nguyen	
Secretary:	Sally Dunan	
Webmaster:	Leslie Fife	

ner and were treated to an engaging discussion about local favorite eateries with entertainer Matthew Gray.

Mahalo to the members who helped man the Hawaii Pacific Steel Framing Alliance booth at the Home Building and Remodeling Show. Mike Kasamoto, immediate past president, also participated in the Third Annual Steelman Competition as a judge.

Our 2004 sponsorship drive was a late, yet very successful, initiative. Sponsorship donations continue to come in and we thank our generous sponsors for without their contributions, the Chapter would not be able to function! With their support, another strong slate of speakers and seminars are sure to follow for 2005!

The program committee continues to prepare this year's slate of programs. Topics scheduled to appear are: Dr. Ian Robertson's reports concluding the Corrosion of Fasteners study and the Load Bearing Top Plate study, several field trips and job site visits, and several guest speakers from the mainland. Please contact Tim Waite, 2005 Program Chairperson, with suggestions on program content for this year.

For members in good standing in 2004, you should all have received your dues renewal notices from LGSEA. These are due to LGSEA by March 31st. For those who have not received a renewal notice; please call 1-866-465-4732 to have a notice sent to you.

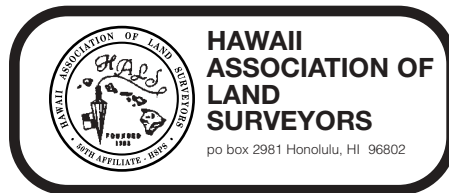
**ASME (continued from page 6)**

- Whale watching tour & tour of the engine room: Hosted by member P. Michael Watson, President of American Dream Cruises, about early March 2005.
- Tour and Hawaii Section meeting with Big Island member in Kona for next year in May. Possible sites to visit include cold water bottling plant, HELCO Keahole Power Plant, and the Hamakua Partners Power Plant. Other suggestions will be appreciated.

**MathCounts (continued from page 5)**

and Nathan Yuen, Vice President, Hawaii Society of Professional Engineers (HSPE) Honolulu Chapter. The Masters of Ceremony was Scott Seu of HSPE.

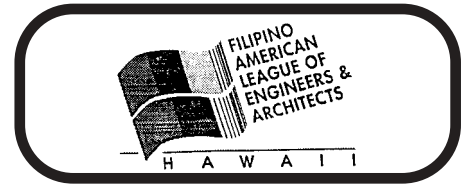
The Hawaii Society of Professional Engineers sponsors MathCounts and its major industry sponsors are Aloha Airlines and Hawaiian Electric Company.



http://www.geocities.com/hals\_us

**Officers for 2004**

President	Kevin Kea
Vice-President	Erik Kaneshiro
Secretary	Dennis Chong
Treasurer	Stacey Kimura
Director	David Hatchell
Director	Joanne Williamson
NSPS Governor	Pat Cummins
Past President	Layton Nakao



P.O. Box 4135, Honolulu, Hawaii 96812  
 Website: http://www.falea.org

**2004-2005 OFFICERS AND DIRECTORS**

President	Greg Garcia
Vice-Pres./	
Pres.-Elect	Vergel Del Rosario
Secretary	Judy Tabios
Treasurer	Ramon Bonoan
Asst. Treas.	Elvi Pineda
Bus. Mngr.	William Gacutan
Asst. Bus Mngr	Susie Agraan
PRO	Nap Agraan
Directors	Constancio Galang
	John Ramos
	Marites Shoji
	Jun Suela
	Renie Agsalda
	Rene Manuilit
	Segundo Velasco
	Joey Resurreccion



www.eng.hawaii.edu/~hspe

**2004-2005 HSPE BOARD**

President	Riley Smith
President Elect	Manny Lanuevo
Vice President	Ken Rappolt
Secretary	Neal Herbert
Treasurer	Marc Botticelli
Immed. Past Pres.	Peter Boucher(non voting)
<b>State Directors</b>	
Honolulu Chapter	Queenie Komori
Maui Chapter	Eric Yamashige
Big Island Chapter	Galen Kuba
Kona-Kohala Chapter	Dan Lanterman

**ASCEYMF (continued from page 11)**

bags as well, but each bag there is only 87.5 pounds. Based on a cursory check, I concluded that a 50-kg bag is common in Europe, South Africa, Jamaica and China. None of these places seems to have used a portland cement barrel, however, and, to paraphrase University of Hawaii Professor Ian Robertson, the business of specifying concrete mixes by cement bags is a uniquely American phenomenon!

On a different note, the notorious "pork barrel" is commonly taken to be 200 pounds. Pursuant to the Mississippi Code of 1972:

"If any person shall sell, keep, or offer for sale, any barrel of flour, meal, pork, or beef, as a barrel thereof, containing less than the standard weight net, he shall forfeit to the county all of such underweight flour, meal, pork, or beef which he may have in his possession."

Do you know of a civil engineering accomplishment or event that your fellow ASCE members might find interesting? Please send a brief description to C.S. Papacostas (fax 956-5014, email csp@wiliki.eng.hawaii.edu). Previous articles in the series may be found at the Section's web site. Just point your browser to <http://www.ascehawaii.org>.



**ACECH Honors (continued from page 1)**

During the planning, design, and construction of the project, several new and innovative techniques were used, including geophysical surveys, underwater coring, outfall plume modeling, and jet-grouting/micro-tunneling, and deep-water off-shore pile driving.

**Honor Award Winners**

Well deserved Honor Award Winners for 2005 were Belt Collins for its Waipahu Wastewater Pump Station project and Wilson Okamoto Corp. for its Hanalei Bridge Replacement project.

Belt Collins' initial project was to expand the capacity of the Waipahu Wastewater Pump Station to allow connection for additional development. However, towards the end of the pump station expansion, it was discovered that the inlet pipe had separated from the pump station wet well, implying a potential for groundwater pollution. The challenge for Belt Collins was to develop an innovative way to fix the broken pipe without creating a sewage spill.

The pump station and main junction manhole showed evidence of sinking, with the main junction manhole sinking more than the pump station. Soil borings indicated silty-clay depths exceeding 200 feet. Since it was impossible to totally arrest the settling of the structures, the emergency repair project set out to substantially slow down the rate of the settling and to replace the broken pipe segment.

Arresting the settling of the main junction manhole consisted of underpinning the manhole with jet-grouted "piles". Each grouted "pile" was three feet in diameter and 105 feet deep, with a minimum strength of 500psi. To alleviate the fear of further groundwater pollution, jet grout was also used to saturate the ground around the displaced pipe to create a "water-tight" barrier through which a channel was cut to access the pipe section and create a waterway for potential extreme peak wastewater flows. Holes were cut/formed in the junction manhole and wet well to allow these extreme peak flows to pass should the bypass pumps fail to handle the incoming wastewater flows.

The new pipe section of HOBAS pipe material was borrowed from the Kalaheo Avenue Sewer Relief project. A concrete cradle was created for the pipe segment, supported by the valve vault constructed above the pipe. In the



**Belt Collins: Waipahu Wastewater Pump Station project. Application of unique construction techniques prevented contamination of groundwater.**

end, the junction manhole was supported on three-foot diameter jet grouted "piles", the valve vault was supported on 16-1/2-inch octagonal driven piles, and the existing wet well/pump station was supported on 12-inch square driven piles. It is hoped that all structures will now settle at a very similar rate.

Wilson Okamoto Corporation's Kuhio Highway, Remove/ Repair/ Replace Metal member, Hanalei Bridge project involved planning, community input, design, and a new attitude to conduct business to replace the deteriorated Pratt truss. Originally fabricated in 1912, the Hanalei Bridge is 110-foot long, one-lane, single span steel truss bridge with timber deck. Kuhio Highway and the Hanalei Bridge provide sole access to Hanalei and outlying North Shore communities.

In 1972, State of Hawaii Department of Transportation Highways Division began plans to replace the Hanalei Bridge with a new multi-lane bridge that met current load and design standards. The public opposed the plan as the existing bridge had become a landmark identified with the rural character of the North Shore.

In 1978 the bridge was determined to be eligible for inclusion in the National register of Historic Places. The determination was followed by a long period of inaction. Over 25 years after the initial attempt, HDOT revived the project.

Based on its past history, acceptance of any bridge replacement by the local community was a key factor considered at the outset of the project which began in August 1998. An informational meeting was held with the community to explain the steps that would be taken to evaluate available options, which included a detailed inspection to record the actual condition of the bridge, and a load test to determine the availability of the deteriorated Pratt truss to support imposed loads. A second informational meeting was held to discuss the findings and to present alternatives for the long-term solution for the bridge crossing. The open communication and discussion of issues between HDOT, the State Historic Preservation Division, the community, and Wilson Okamoto, made it possible to implement a viable long-term solution that achieved the objectives of all parties.

The design plans retained the one-lane timber deck travel surface and used high strength corrosion and coatings to reduce maintenance costs of the bridge. The construction contractor implemented the design that required traffic on the bridge be maintained during construction. Upon completion, the appearance of the Pratt trusses now resembles the original bridge as it looked over 90 years ago.



**Wilson Okamoto: At the request of the community, the new Hanalei bridge was painted black to match the color of the 1912 Hanalei Bridge.**

**Professional Directory**

<p><b>SSFM INTERNATIONAL</b> 501 Sumner Street, Suite 620 Honolulu, Hawaii 96817 Ph (808) 531-1308   Fax (808) 521-7348 Project Managers, Planners, &amp; Engineers www.ssfm.com</p>	<p><b>WEST THOMAS ASSOCIATES</b> Land Surveyors 75-5749 Kalawa St., Kailua-Kona, Hawaii 96740-1817 Tel: 808 329-2353 Fax: 808-329-5334 Surveying Hawaii Since 1975</p>	<p><b>WPT</b> Walker P. Thompson, Inc. Surveying &amp; Mapping 720 IWILEI ROAD SUITE 425 P.O. Box 3351 HONOLULU, HI 96801 PHONE: (808) 536-2705 FAX: (808) 599-4032</p>	<p><b>R. M. TOWILL CORPORATION</b> SINCE 1930 PLANNING • ENGINEERING • ENVIRONMENTAL SERVICES PHOTOGRAMMETRY • SURVEYING • CONSTRUCTION MANAGEMENT 420 WAIAKAMILO ROAD HONOLULU HAWAII 96817-4941 808 842 1133</p>
<p><b>URS</b> 815 Piikoi Street, 8<sup>th</sup> Floor Honolulu, Hawaii 96813-2141 PH: (808) 583-1116 FX: (808) 583-1188 Engineers Scientists Program and Construction Managers Environmental Planners</p>	<p><b>Tim Waite, P.E.</b> Sales, Engineer Mobile: 808-479-1216 Email: twaite@strongtie.com <b>Simpson Strong-Tie Co., Inc.</b> Strong-Tie® connectors</p>	<p><b>WALKER INDUSTRIES, LTD.</b> Precast Concrete Products <b>CONSPAN</b> BRIDGE SYSTEMS AARON UNO P.O. Box 1568 Kahului, Maui, Hawaii 96732 Maui (808) 877-3430 Fax (808) 871-7262</p>	<p><b>Weston Solutions, Inc.</b> Suite 2301 841 Bishop Street Honolulu, Hawaii 96813 Phone: 808.585.0448 Fax: 808.585.7378 www.westonsolutions.com <b>WESTON SOLUTIONS</b> An employee-ownership Company</p>
<p><b>WILSON OKAMOTO CORPORATION</b> Civil Engineers Structural Engineers Traffic Engineers Planners PH: 808 946 2271 FX: 808 946 2272 11007 L. BOWEN DR. SUITE 400 HONOLULU, HAWAII 96820   www.wilsonokamoto.com</p>	<p><b>YOUR AD COULD APPEAR HERE FOR \$225 A YEAR</b></p>	<p><b>YOUR AD COULD APPEAR HERE FOR \$225 A YEAR</b></p>	<p><b>YOUR AD COULD APPEAR HERE FOR \$225 A YEAR</b></p>

# Professional Directory

 <p><b>ACE</b> Land Surveying LLC 111 Bishop St., Suite 506, Honolulu, Hawaii 96813 Tel: (808) 521-3996 Fax: (808) 521-7038 Email: ace@landsurveyingllc.com</p>	 <p><b>amec</b> Earth &amp; Environmental, Inc. Tel: 808.545.2462 Fax: 808.528.5379 www.amec.com Full service environmental consulting, engineering, and compliance support. Formerly Ogdan Environmental</p>	 <p><b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> Civil Engineers • Surveyors 501 Sumner Street, Suite 521 Honolulu, HI 96817 Tel: 533-3646, Fax: 525-1267, Email: statstn@aatahawaii.com Branch Office: Wailuku, Maui CIVIL • TRAFFIC • SANITARY</p>	 <p><b>BeltCollins</b> www.beltcollins.com</p>
<p><b>BROWN AND CALDWELL</b> Environmental Engineering And Consulting • Analytical Services 119 Merchant St., Suite 200 • Honolulu, HI 96813 (808) 523-8499 Fax (808) 533-0226 2145 Wells St., Suite 302 • Wailuku, HI 96793 (808) 244-7005 Fax (808) 244-9026</p>	<p><b>S.S. DANNAWAY ASSOCIATES, INC.</b> Fire Protection Engineers Building Code Consultants 720 Iwilei Road, Suite 412, Honolulu, HI 96817 Tel: (808) 526-9019/Fax: (808) 537-5385 ssda@hawaii.rr.com</p>	 <p><b>EarthTech</b> A Tyco International Ltd. Company 841 Bishop Street, Suite 500 Honolulu, HI 96813 Tel: 523-8874 • Fax: 523-8950</p>	<p><b>Y. Ebisu &amp; Associates</b> Acoustical and Electronic Engineers 1126 12th Avenue, Room 305 Honolulu, Hawaii 96816 (808) 735-1634</p>
 <p><b>ESH</b> ENGINEERS-SURVEYORS HAWAII, INC. (FORMERLY WILLIAM HEE &amp; ASSOCIATES, INC.) 900 HALEKAIWILA STREET HONOLULU, HAWAII 96814 Phone: 591-8116</p>	 <p><b>Esaki Surveying and Mapping, Inc.</b> Lihue, Kauai, Hawaii Ph. (808) 246-0625 • Fax (808) 246-0229 esmap@hawaiian.net <b>ENGINEERS • SURVEYORS</b> Established 1979</p>	 <p><b>Fewell Geotechnical Engineering, Ltd.</b> OAHU: 96-1416 Waihona Place • Pearl City, Hawaii 96782-1973 (808) 455-6569 • FAX (808) 456-7062 MAUI: (808) 873-0110 FAX (808) 873-0906</p>	<p><b>MASA FUJIOKA &amp; ASSOC.</b> A PROFESSIONAL PARTNERSHIP ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS <b>MFA</b> 99-1205 Halawa Valley Street, Suite 302 Aiea, Hawaii 96701-3281 Phone 808 484-5366 • Fax 808 484-0007</p>
<p><b>FUKUNAGA &amp; ASSOCIATES, INC.</b> 1388 Kapiolani Blvd. Honolulu, HI 96814 Phone: 944-1821 Email: office@fainc.org Website: www.fainc.org</p>	 <p><b>GEOLABS, INC.</b> Geotechnical Engineering and Drilling Services 2006 Kalih Street Honolulu, Hawaii 96819 Phone: 841-5064 Fax: 847-1749</p>	<p><b>GEOTECHNICAL GROUTING CONSULTANT</b> Edward D. Graf 182 Lumahai St. Tel: 808-396-9451 Honolulu, HI 96825 Fax: 808-396-2075</p>	 <p><b>GRAY • HONG • NOJIMA &amp; ASSOCIATES, INC.</b> 841 Bishop Street, Suite 1100 Honolulu, Hawaii 96813 Tel: (808) 521-0306 Fax: (808)531-8018</p>
 <p><b>CIVIL ENGINEERING AND PLANNING WASTEWATER AND WATER TREATMENT CONSTRUCTION MANAGEMENT SERVICES</b> <b>Hawaii Pacific Engineers, Inc.</b> 1132 Bishop Street • Suite 1003 Honolulu, Hawaii 96813-2830 Phone: (808) 524-3771 • Fax: (808) 538-0445 E-mail: hpeinc@hawaiipacificengineers.com</p>	<p><b>HIDA, OKAMOTO &amp; ASSOCIATES, INC.</b> CONSULTING CIVIL ENGINEERS <b>HDA</b> PACIFIC GUARDIAN TOWER 1440 Kapiolani Boulevard, Suite 1120 Honolulu, Hawaii 96814 Phone: (808) 942-0066 Fax: (808) 947-7546</p>	 <p><b>ERNEST K. HIRATA &amp; ASSOCIATES, INC.</b> Soils and Foundation Engineering 99-1433 Koaha Place • Aiea, Hawaii 96701 Fax (808) 486-0870 • Phone (808) 486-0787</p>	 <p><b>SAM O. HIROTA, INC.</b> Engineers &amp; Surveyors 864 S. Beretania Street Honolulu, Hawaii 96813 Telephone: 537-9971</p>
 <p><b>INABA ENGINEERING, INC.</b> 273 WAIANILUJIE AVENUE HILO, HAWAII 96720 Phone: (808) 961-3727 / Fax: (808) 935-8033 Civil Engineering • Structural Engineering Land Surveying</p>	 <p><b>KFC AIRPORT, INC.</b> PROJECT MANAGEMENT CONSULTANTS PLANNING • ARCHITECTURAL/ENGINEERING DESIGN • CONSTRUCTION MANAGEMENT 3375 Koapaka Street, Suite F220-48 Honolulu, HI 96819 Phone: (808) 835-7787 Fax: (808) 834-4833</p>	 <p><b>KN CONSULTING SERVICES, INC.</b> Civil Engineers 1451 South King Street, Suite 412 Honolulu, Hawaii 96814 Phone: (808) 941-8882 Fax: (808) 941-8828 Email: knconsb@pixi.com</p>	 <p><b>Certified Arborist</b> P.O. Box 893953, Mililani, Hawaii 96789-0953 Mobile (808) 381-1342 FAX (808) 625-4287 E-mail: ckwan@hawaii.rr.com</p>
<p><b>THE LIMTIACO CONSULTING GROUP</b> CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS 615 Piikoi Street, Suite 1605 • Honolulu, Hawaii 96814 Tel (808) 596-7790 • Fax (808) 596-7361 • www.tlghawaii.com</p>	 <p><b>LYON ASSOCIATES</b> CIVIL ENGINEERING • CONSTRUCTION MANAGEMENT 841 Bishop Street, Suite 2006 Honolulu, Hawaii 96813 Tel: (808) 536-6621 Fax (808) 523-1738 E-mail: admin@lyonassociates.com</p>	 <p>Surveying Civil Engineering &amp; Design Environmental Engineering Water Treatment &amp; Supply Construction Management Wastewater Collection &amp; Treatment 841 Bishop Street, Suite 1900 Honolulu, Hawaii 96813</p>	 <p><b>MPC and Company</b> Engineering, Architectural and Construction Management Recruiting Lee F. Raade, Technical Consultant (808) 220-1682 Email: lee@mpcandcompany.com Website: www.mpcandcompany.com</p>
<p><b>NAGAMINE OKAWA ENGINEERS INC.</b> CONSULTING STRUCTURAL ENGINEERS 1001 Bishop Street • Pauah Tower, Suite 725 Honolulu, Hawaii 96813 Phone: (808) 536-2626 • FAX: (808) 536-3926</p>	<p><b>NAKAMURA, OYAMA AND ASSOCIATES, INC.</b> CONSULTING ENGINEERS ELECTRICAL/TELECOMMUNICATIONS/FIRE PROTECTION 1314 South King St., Suite 401 Honolulu, Hawaii 96814-1939 Telephone (808) 591-8887 Fax (808) 596-2383</p>	 <p><b>NEWCOMER - LEE LAND SURVEYORS, INC.</b> 1498 Lower Main Street, Suite "D" Wailuku, HI 96793-1937 Tel: (808) 244-8889 Fax: (808) 244-8422</p>	 <p><b>oceanit</b> www.oceanit.com</p>
 <p><b>Okahara &amp; Associates, Inc.</b> Engineering Consultants 200 Kohala St., Hilo, HI 96720 / Ph. (808) 961-5527 Fax (808) 961-5529 677 Ala Moana Blvd., Suite 703, Honolulu, HI 96813 Ph. (808) 524-1224 Fax (808) 521-3151 73-5574 Maau St., Bay 68, Kailua-Kona, HI 96740 Ph. (808) 329-1221 Fax (808) 329-1036</p>	 <p><b>Pacific Geotechnical Engineers, Inc.</b> Soils &amp; Foundation Engineering Consultants 429-B Waiakamilo Road Honolulu, Hawaii 96817 (808) 841-8024 FAX (808) 848-5102 E-mail: pge@pacificgeotechnical.com</p>	 <p><b>PACIFIC MACHINERY INC.</b> 94-025 Farrington Hwy. Waipahu, Hawaii 96797 808/676-0205 FAX 808/676-0264 CATERPILLAR &amp; OLYMPIAN Generator Sets, Engines, Switchgear and Ancillary Equipment. (Prime Power &amp; Standby Power, 8-2000 kW) CATERPILLAR 3600 Utility Plant Generator Sets (1.5-5 MW)</p>	 <p><b>ParEn, Inc.</b> SUIITE 1500, PACIFIC PARK PLAZA 711 KAPIOLANI BOULEVARD HONOLULU, HAWAII 96813 TELEPHONE: (808) 593-1676 FAX: (808) 593-1607 EMAIL: paren@pareninc.com dba park engineering Engineers, Surveyors, Planners</p>
 <p><b>Sato &amp; Associates, Inc.</b> HONOLULU 2046 South King Street Honolulu, HI 96826 Tel: (808) 955-4441 Fax: (808) 942-2027 MAUI 2115 Wells Street Wailuku, HI 96793 Tel: (808) 244-9265 Fax: (808) 244-5303 CONSULTING ENGINEERS • CIVIL &amp; STRUCTURAL</p>	 <p>• Environmental &amp; Infrastructure • Design &amp; Engineering Services • Construction &amp; Maintenance • Homeland Security 590 Palea Street, Suite B, Honolulu, HI 96819-1835 Tel: (808) 840-2000 • FAX: (808) 839-0339</p>	<p><b>SHIMABUKURO, ENDO &amp; YOSHIZAKI, INC.</b> Civil, Environmental &amp; Structural Engineers <b>SEY</b> 1126 12th Avenue, #309 Honolulu, Hawaii 96816-3715 Phone: (808) 737-1875 Fax: (808) 734-5516 Email: seyeng@lava.net</p>	 <p><b>Marc M. Siah &amp; Associates, Inc.</b> Consulting Engineers 810 Richards Street, Suite 888, Honolulu, HI 96813, Ph. 538-7180 • CIVIL • STRUCTURAL • ENVIRONMENTAL • OCEAN</p>

HAWAII COUNCIL OF  
ENGINEERING SOCIETIES  
P.O. Box 2873  
Honolulu, Hawaii 96802

Presorted  
Standard  
U.S. Postage Paid  
Honolulu, Hawaii  
Permit No. 1400