WIIIKI ENGINEER OF HAWAII

VOL. 41 NO. 6

SERVING 2000 ENGINEERS & LAND SURVEYORS

AUGUST, 2005

June 13th - July 22nd

UH CoE 2005 Summer High School Internship Program

By Laura Shimabukuro & Song K. Choi

The summer is every kid's favorite time of year right? It's the perfect time to cruise at the beach, hang out with friends, relax, and study engineering?!? Maybe one of those activities seemed out of place to you - or maybe not but besides the beach, friends, and relaxing this summer, 26 high school students decided to further explore their interest in engineering by participating in the College of Engineering's Summer High School Internship. The selection process was intense with 48 students applying for the program and only 26 intern positions available in 10 of our engineering research laboratories. Of the 26 interns, all will be entering their senior year in high school, three of who reside on the neighbor islands.

The Internship Program invites high school juniors to experience and enjoy a higher level of learning at the University of Hawai'i. Interns engage in hands-on projects and work side-by-side with professors, researchers, graduate students, and undergraduate students. A faculty mentor is assigned to each intern to ensure a productive and fulfilling experience. The program was established with the belief that students become more involved when they actively participate in research and hands-on projects.

Interns will have worked for approximately six weeks, with weekly work schedules ranging from 10 to 20 hours in the lab. Some students opted to work almost 40 hours per week!

On July 13th, to further enhance the interns'

knowledge about the three engineering disciplines, a field trip to three local engineering firms was organized. The day began with a brief visit to four of our College of Engineering research laboratories, lunch, and then tours of Lockheed Martin Orincon, Laboratories, Inc., and KFC Engineering Management, Inc.'s In-Vessel Bioconversion Facility at Sand Island. The various tours allowed interns to speak directly with engineers, learn more about engineering research and development, and gain a first-hand look at construction management. Above all, the tours showcased myriad paths for an engineering career in Hawaii.

At the closure of the Internship Program, each intern was required to prepare a presentation. Faculty mentors, researchers, undergraduate and graduate students, high school principals, counselors, and teachers, and the interns' parents were invited to the presentation to learn about the interns' achievements and knowledge gained. The Final Presentations & Reception was held on Wednesday, July 20th at the University of Hawaii's HIG Auditorium.

If you would like additional information on this program as well as other CoE events or would like to assist in engineering outreach, please check our webpage at www.eng.hawaii.edu or e-mail laura@eng.hawaii.edu or schoi@hawaii.edu.

Participating Labs and interns:

Composite Materials, Dr. Mehrdad Ghasemi Nejhad,(ME); Interns: Luke Dryer, Maui HS; Neal Pang, Roosevelt HS, Sarah Runnells, Kea'au HS; Melissa Yuen, Iolani School.

Computational Engineering, Dr. Ronald Riggs (CEE); Intern: Daniel Nakagawa, Punahou School.

Corrosion, Dr. Lloyd Hihara (ME); Interns: Dane Inouye, Waipahu HS, Stephanie Ko, Mililani HS.

Environmental, Dr. Chittaranjan Ray (CEE); Intern: Michele Yoshida, Kailua HS.

Heart Sensing Experiment, Dr. Olga Boric-Lubecke (EE); Interns: Jonathan Lindstrom, Nanakuli HS; Matthew Michihara, Hawaii Baptist Academy.

Hydraulics, Dr. Michelle Teng (CEE); Interns: Evan Higa, Kalani HS; Raymond Machi, Iolani School; Owen Matsunobu, Maui HS.

Multiphase Flow, Dr. Carlos Coimbra (ME); Intern: Jordan Onuma, Hawaii Baptist Academy.

Robotics, Dr. Song K. Choi (ME); Interns: Jennie Castillo, Kapolei HS; Jonathan Kobayashi, McKinley HS; Anthony Lo, Maryknoll HS; Bryce Nagareda, Waipahu HS; Angelo Subia, Waipahu HS; Shaun Ueda, Kalani HS; Jessica Yee, McKinley HS.

Small-Satellite, Dr. Wayne Shiroma (EE); Interns: Shaunty Kleinschmidt, Kamehameha Schools; Brent Kutara, Iolani School; Kevin Sin, Iolani School.

Transportation, Dr. Panos Prevedouros (CEE); Interns: Randall Balais, Waipahu HS; Arlyn Ramos, Farrington HS.



Interns celebrate the completion of their summer program with final presentations of their projects.



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 to the Wiliki mailing list should indicate the proper society, institution or association. Corrections to email addresses should be submitted to your society coordinator.

Laverne Higa Department of Facility Maintenance 1000 Uluohia Street, Suite 215 Kapolei, Hawaii 96707 Office: 808-692-5054 Fax: 808-692-5857



HAWAII COUNCIL of ENGINEERING SOCIETIES

P.O. Box 2873 HONOLULU, HAWAII 96802

HOME PAGE: http://hces.us

2005-2006 OFFICERS

Chair:Westley Chun440-0269Vice Chair:Todd Barnes275-2901Secretary:Maelyn Uyehara521-2641Treasurer:Ken Rappolt536-6621

SOC Representative
AACE M. Uyehara
ASCE W. Chun
ASME J. Grogan

EAH

FALEA

HALS

UH(assoc)

W. Chun J. Grogan M. McMorrow M. Shoji D. Hirota

S Choi

HSPE K. Rappolt
IEEE G. Torigoe
ITE C. Yoshida
LGSEA W. Wong
SAME T. Barnes
SEAOH D. Doi
SFPE S. Dannaway

Alternate

K. Niiya R. Liu G. Yamamoto

E. Kaneshiro Q. Komori O. Libed

hida R. Archilla

Association for the Advancement of Cost Engineering

Officers & Directors

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



(L-R) Captain Tom Bersson (USN), Mr. Todd Barnes, Maj Matt Jefson (USAF), and BGen Paul Chinen (USA, Retired) affix the Distinguished Post streamer to the SAME Banner.



engineers and architects of hawaii

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 Morrisey | 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 |
| | | |

August Program Chair: Sam Gillie August Meetings

August 5th Speaker: TBA See EAH WEB page **August 12th** Speaker: TBA See EAH WEB page

August 19th No Meeting Statehood Day **August 26th** Speaker: TBA See EAH WEB page

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 sqillie@hei.com.

New Officers:

1st VP: Richard O'Connell Director: Michael Albright

Meeting Notes for July 8th, 2005

Speaker: Mindy Jaffe, Waikiki Worm Company

Subject: "Let Worms Eat Your Garbage"

Ms. Jaffe explained how we could divert waste from Oahu's landfill by promoting on-site vermicomposting, that is let worms eat your garbage. Composting worms are "litter" worms. In their natural habitat, they make their living eating decaying organic material on the surface and just below the surface of the soil.



HONOLULU POST SOCIETY OF AMERICAN

MILITARY ENGINEERS
Established 1920 --

Dedicated to the National Defense

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

Honolulu Post Officers

PRESIDENT

Col Steven Hoarn, (PACAF) USAF 1st VP (Programs) Todd Barnes, Weston Corp

2nd VP (Sustaining Members)
Vill Boudra MWH Corp
3rd VP (Membership)
Jim Bersson (HED) USA
SECRETARY

Maj Matt Jefson (PACAF) USAF TREASURER

LT Pedro Gonzalez (NAVFACPAC) USN

Honolulu Post Receives Formal Recognition

The Honolulu Post of the Society of American Military Engineers (SAME) received formal recognition in July for its status as one of only eleven distinguished posts worldwide.

Among its many accomplishments in the past year, the Post saw dramatic increases in membership, scholarship donations, and outreach projects. The scholarship program, amounting to \$10,000 in 2005, is one of the largest SAME scholarship programs in the nation. This year it supported four deserving college students with \$2,500 scholarships each. The 2006 scholarship program is expected to exceed \$15,000.

Formal honors for the Post included the addition of recognition streamers to the Post banner. Membership, Relationships and Recognition, National Security Programs, Outreach and Communications, and Education and Training streamers were added at the July meeting. The Post's National Security, Outreach and Communications, and Education and Training programs received additional accolades, being awarded "with distinction."

Unlike the tillers, earthworkers such as garden worms or nightcrawlers, compost worms do not burrow into the soil and make tunnels. Also unlike the more solitary earthworms, compost worms live in dense colonies, making them

(continued on page 7)



Website: www.sections.asme.org/hawaii

ASME-HI 2005-2006 Officers

Chairperson Raymond Liu 543-7048 Vice-Chair Rodney Krienke Secretary Kevin Dang Treasurer Derick Kam

Dir 1 yr Chester Kaitoku 527-6063 Dir 2 yr James Grogan 254-2947

HAWAII SECTION GENERAL MEETING

Date: Tuesday, August 9, 2005 Time: 5:30 p.m. to 6:30 p.m.

Place: Hawaiian Electric Company, Inc.

Ward Avenue Cafeteria

Program: Continue planning section activities for the rest of the year. 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.

ANNUAL PEARL HARBOR BOAT TOUR-LAST CALL

ASME-HI Past Chairman Stanford Yuen again this year invites ASME-HI members, their families and friends to the annual Pearl Harbor Boat Tour on Thursday, August 11, 2005, starting at 4:00 p.m. For more information about the boat tour, please visit www.sections.asme.org/ hawaii/pearltour05.htm. There is no charge for this hour and a half tour. If you would like to attend, please contact Ed Chang at 543-4227 or email him at edmund.chang@heco.com.

FREE ACCESS TO 3 ENGINEERING **PUBLICATIONS**

ASME announced a new member benefit featuring free online access to interactive editions of 1) Mark's Standard Handbook for Mechanical Engineers, 2) Handbook of Materials Selection, and 3) Mechanical Engineer's Reference Book. Access is through ASME E-Library Powered by Knovel. For complete details and instructions for activating your FREE access to these three books look in your ASME 2005/2006 Membership renewal mail-

ASME ESTABLISHES JOINT MEMBERSHIP **AGREEMENTS**

ASME members can join other professional organizations at discounts of up to 50%. For details, go to ASME Members Only site at: https://members.asme.org/myasme/login/myas me.cfm?

FUTURE TOURS AND EVENTS

- P.E. Study Group and P.E. Refresher Course: Chairman Ray Liu is coordinating a review course for the October exam with Dr. Charly Kinoshita and Dr. Stephen Masutani as instructors. Watch for the dates, times and place for the course.
- Tour of the Hawaiian Waters Park mechanical facilities being planned by Ray Liu.
- · Tour and Hawaii Section meeting with Big Island member in Kona for October 2005. Possible sites to visit include cold water bottling plant, HELCO Keahole Power Plant, and the Hamakua Partners Power Plant. Other suggestions will be appreciated.
- December 2005 Whale Watching Cruise: A second ASME-HI cruise is in the works. Stay tuned for more details.



The Society of **FIRE PROTECTION ENGINEERS**

www.sfpehawaii.org

OFFICERS

| Melvin K. Harano, P.E. | 848-6966 |
|----------------------------|---|
| harano@thermaleng.com | |
| Robert T. Bigtas, P.E. | 526-9019 |
| Rbigtas-ssda@hawaii.rr.com | 7 |
| Derick Kam | 848-6966 |
| kam@thermaleng.com | |
| Samuel S. Dannaway, P.E. | 526-9019 |
| Sdannaway-ssda@hawaii.rr. | com |
| Robert Lohaus, P.E. | 833-4095 |
| lohausbob@hawaii.rr.com | |
| Michael J. Orlowski | 474-3819 |
| Michael.orlowski@navy.mil | |
| Robert M. Miller, P.E. | 951-7215 |
| fpehi@hawaii.rr.com | |
| Derick Kam | |
| kam@thermaleng.com | |
| | harano@thermaleng.com Robert T. Bigtas, P.E. Rbigtas-ssda@hawaii.rr.com Derick Kam kam@thermaleng.com Samuel S. Dannaway, P.E. Sdannaway-ssda@hawaii.rr. Robert Lohaus, P.E. Iohausbob@hawaii.rr.com Michael J. Orlowski Michael.orlowski@navy.mil Robert M. Miller, P.E. fpehi@hawaii.rr.com Derick Kam |

1. There will be an FPE EXAM STUDY GROUP meeting at S. S. Dannaway Associates, Inc. The study group will meet twice weekly at 5:30 pm. There will be approximately 14 sessions, 2 hours each, with 2 sessions devoted to a topic. Students will be responsible for providing the instruction and leading the problem solving for one of the topics (two sessions). Students need to purchase a copy of the Reference Manual/Answer Manual for the P.E.Exam, 3rd Edition available from SFPE (MEMBER \$185.00 /NON-MEMBER \$225.00) at www.sfpe.org, Tel (301) 718-2910 Fax (301) 718-2242.

Call 526-9019 to regis-

2. HAWAII SFPE SEMI-NAR PRESENTATION

INTRODUCTION TO STRUCTURAL FIRE **PROTECTION**

special Through a arrangement with the Society of Fire Protection Engineers the Hawaii Chapter of the Society of Fire Protection Engineers is sponsoring this excellent one day seminar. This is the first time this seminar has been offered in Hawaii.

Sponsored by: Hawaii Chapter, Society of Fire Protection Engineers

Date & Time: Friday August 5, 2005 7:30 AM - 5:00 PM

Location: **AIRPORT** PLAZA HOTEL, Plumeria Room, 3253 N. NIMITZ HWY.

Cost: \$225 (\$150 for SFPE members & Chapter Friends and SEAOH members)

Deadline: The registration deadline is Friday, July 29, 2005

Who should attend: Fire Protection Engineers, Structural Engineers, Architects

For information and Sam Dannaway, Program Chairman to register contact: Hawaii Chapter SFPE Tel (808) 526-9019 / Fax (808) 537-5385

E-mail: seminars@sfpehawaii.org

NOTE THAT THE LOCATION HAS BE CHANGED FROM THE FORT SHAFTER GOLF CLUBHOUSE TO THE AIRPORT PLAZA HOTEL.



Po Box 12204 Honolulu, HI 96828 Website: www.eaauh.org

2004-2005 OFFICERS

| | 0.1.02.10 | |
|-----------|----------------------|----------|
| 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 | |
| | | |

2005 EAAUH Golf Tournament: The golf tournament was held on July 22 at the Pearl Country Club. Proceeds from the tournament will be used to award six scholarships to incoming College of Engineering freshmen.

Wayne H. Nakamura

Special thank you to all the donors, sponsors and volunteers for making the event a success!



- 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





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

2005 BOARD OF DIRECTORS (BOD) OFFICERS & DIRECTORS

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

HIGHLIGHTS OF BOD MEETING

July 06, 2005

Committee Reports:

Membership Committee: The Board voted to accept Lawrence Wolf, Sato & Associates, Inc., and Brian Lott, Consulting Structural Hawaii, Inc., as Allied Members. Amy Taniguchi, KAI Hawaii, Inc., has submitted an application for membership as a Student Member. Comments on Ms. Taniguchi's application are being solicited from the general membership and shall be submitted to the Board of Director's before August 02, 2005.

2005 SEAOH Convention Committee: Planning for the upcoming convention is ongoing and registration information will be distributed soon.

Program Committee: The Masonry Construction Practices Forum has tentatively been rescheduled from October to November 2005 to coincide with the anticipated visit of Mr. John Chrysler, Director, Masonry Institute of America.

Ad-Hoc Committee to Review Proposed Amendments to the City & County of Honolulu Building Code and 2003 International Building Code (IBC): An ad-hoc committee to review the proposed amendments to the City & County of Honolulu Building Code and the 2003 IBC is being established. A list of potential members for the review committee was generated from current SEAOH members and those members will be contacted to ask for their support to serve on the review committee.

Hawaii State Hurricane Advisory Committee (HSHAC): Additional volunteers were still being sought to serve at the HSHAC booths at the Building Industry Association of Hawaii's (BIA-Hawaii) Remodel It Right Expo on July 8-10, 2005. The HSHAC booth will be promoting hurricane preparedness and the volunteers will field questions related to such issues as continuous load paths and retrofitting of homes.

New Business:

Proposed Amendments to the City & County of Honolulu Building Code and 2003 International Building Code (IBC) Adoption – Wind and Seismic Provisions: Mr. Gary Chock,

(continued on page 7)



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

2005 COMMITTEE CHAIRS

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

General Membership Update

The Hawaii chapter is rapidly planning a welcoming reception in conjunction with the Hawaii Pacific Steel Framing Alliance to kickoff the new relationship with the Steel Framing Alliance and Light Gauge Steel Engineers

Association. Look for a flyer via fax or email for further details at they arrive.

Attended the recent SEAOH seminar on IBC 2003 code adoption and proposed amendments for City and County of Honolulu. Did you know that C&C has already approved the cold formed steel standards referenced in IBC 2003 for These standards include: Standard for Cold-Formed Steel Framing-General Provisions (AISI/COFS/GP2001), Standard for Cold-Formed Steel Framing-Prescriptive Method for One and Two Family Dwellings (AISI/COFS/PM2001, Standard for Formed Steel Framing-Design (AISI/COFS/HEAD-ER2001, and Standard for Cold-Formed Steel Framing-Truss Design (AISI/COFS/TRUSS2001. Get your copies of the most current standards with member discounts on www.steelframingal-

liance.com.



www.eng.hawaii.edu/~hspe

2005-2006 STATE OFFICERS

Manny Lanuevo, P.E. 838-8804 President State Department of Transportation manny.lanuevo@hawaii.gov Pres.Elect Ken Rappolt, P.E. 536-6621 Lyons Associates, Inc. ken@lyonassociates.com Vice Pres Barry Nakamoto, P.E. 543-4515 Hawaiian Electric barry.nakamoto@heco.com 327-9520 Dave Hein PF Secretary State Department of Transportation dave.hein@hawaii.gov 329-8249 Treasurer Marc Botticelli, P.E. Segawa & Associates mbotticelli@wrsa.biz Immediate Past President Riley Smith P.E. 936-7129 Parker Ranch rsmith@parkerranch.com Honolulu Queenie Komori 543-4526 Chapter Director Hawaiian Electric q.komori@heco.com Maui Éric Yamashige, P.E. 270-7834 Chapter Director County of Maui eric.yamashige@co.maui.hi.us Galen Kuba, P.E. 961-8422 Chapter Director County of Hawaii Engineering Div galen_kuba@co.hawaii.hi.us

Dan Lanterman, P.E. 325-84

Chapter Director Hualalai Resort

dlanterman@hualalairesort.com

STRUCTURAL SYSTEMS, INC.

General Engineering

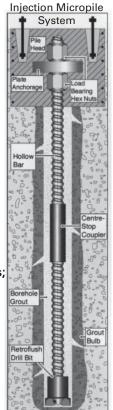
Kona

Need to hold something Up? ...Down? ...or Back? In any type of Rock, Soil or Concrete?

- · new or remedial
- restricted access
- slope stabilization
- varying site conditions
- underpinning systems
- Cased & Uncased Micro Piles; DSI-Lang, MAI, Titan

Over 2 Decades of Success! We Partner With You To Excel Where Others Fail Ph. 845-2474

www.ssihawaii.com License #AC-13555



Concrete Achievement Awards



JUDGES AWARD

HANA HIGHWAY REPLACEMENT O UAOA BRIDGE & APPROACHES

OWNER/DEVELOPER STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION
STRUCTURAL ENGINEER ... NISHIMURA, KATAYAMA & OKI, INC.
GENERAL CONTRACTOR ... DICK PACIFIC CONSTRUCTION CO., LTD.

The Uaoa Bridge is a 3-span structure comprised of 120-, 110- and 80-foot spans from abutment to abutment. The superstructure consists of an 8" bridge deck supported on seven Keehi IV prestressed concrete girders at the 120-foot span and fourteen Keehi IV prestressed concrete girders at the 110- and 80-foot spans. One of the biggest benefits of the heavy use of large reinforced concrete elements in the design, both precast and poured in place, was the ability to design a structure that could support long span girders. This produced an aesthetically pleasing structure from an architectural standpoint, and minimized the number of pier supports needed. This was a major benefit from an environmental aspect as less work was required in the neighboring streambed.





2004-2005 ASCE Hawaii Section Executive Committee

| Office | | Phone | FAX |
|-------------|--------------------|--------------|----------|
| President | Keith Niiya | 533-3646 | 526-1267 |
| | email: kniiya@ata | hawaii.com | |
| Pres. Elect | Walter Billingsley | 846-3232 | 538-7819 |
| | email: wbillingsle | y@beltcollin | is.com |
| Vice Pres. | Lori Fong | 384-5372 | 689-1585 |
| | email: Ifong@asc | ehawaii.org | |
| Secretary | Phillip Ooi | 956-8512 | 956-5014 |
| | email: ooi@wiliki. | eng.hawaii.e | edu |
| Treasurer | Ron Iwamoto | 486-5202 | 486-5206 |
| | email: ron@iwam | otollc.com | |
| Past Pres. | Westley Chun | 440-0269 | 945-7269 |
| | email: Westley.Cl | nun@ch2m.d | com |

2004-2005 YMF Officers

President Paulette Chang Vice President Scott Jennings Secretary Florence Ching Treasurer Laura Smollinski Past President Jamie Hikiji

AUGUST DINNER MEETING

Program: Gary Chock will speak on his research on wind engineering

Please join our speaker who will speak about his research on wind engineering. Mr. Chock has been a structural engineer with Martin & Chock, Inc. since 1986, and he has been engaged in structural engineering since 1980. He has been responsible for the structural engineering of many major projects in Hawaii, Guam, and Indonesia including the Hawaii Prince Hotel Waikiki, Nauru Tower, Waikiki Landmark, First Hawaiian Center, the Hilton Hawaiian Village Kalia Tower, and 2100 Kalakaua Avenue. The above projects utilized many aspects of performance-based wind engineering and wind-tunnel testing based on dynamic analysis. He was principal investigator for the NASA project, Orographically Amplified Wind Loss Models for Hawaii and Pacific Insular States.

Date: Thursday, August 25, 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 checks payable to ASCE-Hawaii Section and mail to Ron Iwamoto, ASCE Treasurer, c/o Iwamoto & Associates, LLC, 98-029 Hekaha Street, Suite #37, Aiea, Hawaii 96701, postmarked by Monday, August 22, 2005. Reservations for the dinner meeting to Ron Iwamoto by Monday, August 22, 2005, by phone at 486-5202, fax at 486-5206 or email at ron@iwamotollc.com.

EXECUTIVE COMMITTEE MEETING

August 1, 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 increasing the annual scholarships. 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.

ASCE JOB LISTINGS

The following employers have openings they would like to fill:

- Austin Tsutsumi & Associates, Inc. (Civil Engineer - Honolulu and Wailuku, Land Surveyor - Honolulu)
- Bills Engineering Inc. (CADD Technician)
- Brown and Caldwell (Senior Drafter Honolulu, Project Manager – Maui)
- CH2MHILL (Entry-level Water Engineer -Honolulu)
- Fewell Geotechnical Engineering (Geotechnical Engineer Honolulu)
- Fukunaga & Associates (Civil and Civil/Environmental Engineers - Honolulu)
- GeoEngineers, Inc. (Senior Engineer)
- Miller Associates, Inc. (Hawaii Licensed Land Surveyor)
- Towill, Shigeoka & Associates, Inc. (Licensed Professional Land Surveyor, Computer/Draftsperson (CAD), experienced Party Chiefs and Rodpersons for Oahu and Kona)
- Warren S. Unemori Engineering (Project Engineer and Civil Engineer - Wailuku)
 For more information on these job listings,



Hawaii Section — Younger Member Forum Web site: http://www.ascehawaii.org/ymf.html

2004-2005 YMF OFFICERS

| | | Phone |
|-----------|----------------------------|----------|
| President | Paulette Ujimori | 781-1187 |
| | Hawaiiymf@yahoo.com | |
| Vice-Pres | Scott Jennings | 845-8440 |
| | sjennings@rci-group.com | |
| Secretary | Florence Ching | 472-1342 |
| | fching@ascehawaii.org | |
| Treasurer | Laura Smolinski | 382-7174 |
| | Smolinskil001@hawaii.rr.co | m |
| Stud Chap | Jesse Elliot | 956-5808 |
| Pres | Elliotj@hawaii.edu | |
| Past Pres | Jamie Hikiji | 521-3051 |
| | Jamie.Hikiji@m-e.aecom.co | om |

Next YMF General Meeting

The next two YMF general meetings are scheduled for Tuesday, August 2, 6:00 p.m., at Dixie Grill along Ward Avenue, 596-8359; and Tuesday, September 6, 6:00 p.m., at Hard Rock Café, 955-7383. 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 257-6920 ext. 231.

PE Refresher Course

We are currently accepting applications for the PE Refresher course to be held from August 13-October 15, 2005. For more information, please visit our website at http://www.ascehawaii.org/ymf/PErefresher.html or contact Ms. Lorna Heller at 748-5944.

ASCE Job Classified

Looking for work? Visit the ASCE's job listing page at http://www.ascehawaii.org/jobs/jobsin-fo.html.

please visit the ASCE Hawaii Section website at http://www.ascehawaii.org/jobs/jobs.html.

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 to refer them and you could be a winner in the next drawing! Please contact our membership chair, Lori Nishida, at 533-3646 or Inishida@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 signup 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.

KNOW YOUR ASCE HISTORY

by C.S. Papacostas

KAWAIHAE

While researching "Project Tugboat," the topic of last month's article, I discovered an impressive report on the cultural history of three traditional Hawaiian sites on the west coast of the island of Hawaiii.

One of the three sites, the Pu`ukohola Heiau (with a macron on the final "a"), was completed by Kamehameha in 1791. It is located above the older Mailekini Heiau near Kawaihae Bay which was the locale of Project Tugboat, an experiment that, as I discussed in July 2005, during 1969-70 excavated the small boat harbor next to the deep draft harbor there by detonation of large charges buried in the coral bottom

Published by the National Park Service (NPS) of the Department of the Interior in 1993, the cultural report lists as the author Linda Wedel Greene who, according to the preface, led an investigative team of considerable size. The team researched documents available in Hawai`i, the U.S. mainland, and several European counties. Although some of these resources "had not been previously researched," almost all were written from perspectives other than those of native Hawaiians. As to be expected in these circumstances, these accounts contain many discrepancies in their facts and interpretations.

Nevertheless, the NPS report and numerous other historical accounts shed light on the reasons why Kawaihae has traditionally been a major port within the Hawaiian chain. Among them are the following:

- First, the bay was blessed with a "spacious, natural harbor."
- Second, this is where Kamehameha Ali`i Nui consolidated his power over the island after the death of his rival cousin Keoua Kuahu`ula and kept his residence from 1790 to 1794.

(continued on page 7)

ASCE History, from page 6

• Third, John Young ("Olohana" for his typical command "All hands"), Kamehameha's advisor and governor of the island from 1802 to 1812, who had arrived in Hawai'i in 1790, maintained his homestead there. Isaac Davis, the other foreign counsel was also granted homestead land in the area. As the NPS report put it, "The land given to Young included Mailekini and Pu'ukohola heiau. Near their homes in Kawaihae, Young and Davis raised fruits and vegetables new to Hawai'i from seeds procured from foreign ships. Their residence in this area made it a required port of call for sea captains who had to obtain Young's blessing before conducting business with the Hawaiian govern-

Young is reported to have converted the Mailekini Heiau to a European-style fort prior to 1819 to protect the Bay.

Early visitor logs have spelled Kawaihae in ways, including "Toe-yah-ya," "Toeaigh," Toiyahyah," "Toyai" and "Kohaihai." The "t" instead of "k" sound, still retained in the Ni'ihau dialect of Hawaiian, appears commonly throughout Polynesia and beyond. On this subject Robert Blust of the University of Hawaii presents a fascinating review in the December 2004 issue of "Oceanic Linguistics" ("*t to k: an Austronesian Sound Revisited.").

It was at Kawaihae that George Vancouver landed the first cattle in 1793. In 1803 Richard Cleveland left there the first horse to be seen in the islands. Early accounts note the presence of potable water, warm water springs, a fishpond, and elaborate systems of pans for the production of sea salt. The harbor thrived with the sandalwood ("`iliahi") trade, the cattle industry pioneered at Parker Ranch, and a major port for shipping produce and Irish potatoes. It appears to have reached its peak mid-19th century and then experienced a decline until, as the NPS report states:

"Not until modern times, with the dredging of its harbor and the opening of luxury resorts, did the forgotten village of Kawaihae again become a prominent site on the Kohala coast. In 1949 construction of a deep-draft harbor was recommended for the bay, which by that time was a small port shipping sugar, steers, pigs, and sheep to market on interisland vessels. In 1957 a contract was let to build causeways, a dike, and a revetment; the new deepwater port of Kawaihae Harbor was finally completed in 1959. Three years later the Corps of Engineers decided to widen the harbor's entrance channel and its basin, extend the existing breakwater, and construct a small boat harbor.

The last reference, of course, is to "Project Tugboat."

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 956email 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.

SEAOH, from page 4

Building Codes Committee Chairperson, presented a few refinements to the proposed wind provision amendments to the City and County of Honolulu Building Code / 2003 IBC that were made since the June 2005 BOD meeting. The proposed amendments and the background and results of the wind study, including the latest refinements, will be presented for discussion by Mr. Chock at the next SEAOH General Membership Meeting on July 14, 2005.

2005 Calendar of Events:

August 05, 2005 Seminar: "Introduction to Structural Fire Protection"

August 05, 2005 Golf: SEAOH Golf Tournament, Waikele Golf Club

August 18, 2005 Golf: Annual Steve Fong Golf Tournament (Pearl Country Club)

October 20-22, 2005 Convention: SEAOH / CCPI Joint Convention

October 27-29, 2005 Convention: NCSEA Annual Convention, Kansas City, MO

November 22, 2005 Seminar: "Seismic Design of Concrete Structures" (Speaker: Mr. S. K. Ghosh)

January 10, 2006 Seminar: AISC "Steel Design After College"

EAH, from page 2

ideal habitats for a dark, cozy worm bin. Their demands are few: they need only air, water, and decaying organic material to thrive. Your kitchen scraps and shredded newspaper will suit them just fine. In Hawaii, two species of worms are used for vermicomposting: Perionyx excavatus, also called Indian blue, Malaysian blue, or blueworm, and Amanthys gracillus, also called Georgia jumper. They are raised right here on Oahu in the most luscious organic environment you can find anywhere on the planet at Olomana Gardens in Waimanalo. Their vision - a worm bin in every household! Do the math. The average family generates 4 lbs. of food waste a week. If 5,000 households shifted their practice of flushing or throwing away food waste to feeding a worm colony... 5,000 households x 4 lbs. = 20,000 lbs. or 10 tons; 10 tons x 52 weeks = 520 tons of waste diverted from Oahu's waste stream each year!

WEB Site: http://www.waikikiworm.com/

2005 Pacific Coast Electrical Association Conference Announcement

The 2005 Pacific Coast Electrical Association Hawaii Conference & Expo will be held September 29 - October 1, 2005, at the Hilton Waikoloa Village. Themed "Securing Our Energy Future," the three-day conference will feature more than 40 exhibits and 20 workshops addressing renewable energy sources, energy efficiency, facility improvements and demand load control, among other issues affecting the industry. Keynote speakers for this year's event are Rear Admiral Michael Vitale, Senior Commander for the Navy Region Hawaii and Naval Surface Group, Middle Pacific and



Greg Kats from Capital E, a national firm providing strategic environmental and energy technology consulting. Saturday's breakfast special guest speaker will feature Jim Reddekopp, owner of the Hawaiian Vanilla Company on the Big Island. Registration cost is \$300.

PCEA brings together leaders from the state's electric utilities, government, facility/operations managers, professional design consultants, commercial and residential real estate development and related industries to share and address industry concerns and explore technical and economic trends.

PCEA Hawaii Conference is sponsored by Hawaiian Electric Company, Hawaii Electric Light Company, Maui Electric Company, and is co-sponsored by the State of Hawaii's Department of Business, Economic Development and Tourism, Rebuild America, U.S. Department of Energy, The Gas Company, Bank of Hawaii, and supported by Energy Industries. For more information, call 543-4751 or visit http://pcea.heco.com.

Professional Directory

SIMPSON





75-5749 Kalawa St., Kailua-Kona, Hawaii 96740-1817 Tel: 808 329-2353 Fax: 808-329-5334 Surveying Hawaii Since 1975

Tim Waite, P.E.

Sales, Engineer Mobile: 808-479-1216 Email: twaite@strongtie.com

Simpson Strong-Tie Co., Inc.

YOUR AD **COULD APPEAR** HERE FOR \$225 A YEAR



720 IWILEI ROAD SUITE 425 HONOLULU, HI 96801 PHONE: (808) 536-2705 FAX: (808) 599-4032

WALKER INDUSTRIES, LTD. Precast Concrete Products CONSPAN*
BRIDGE SYSTEMS

AARON UNO
Moul (808) 877-3430
Fox (808) 871-7282

P.O. Box 1568 Kahului, Maui, Hawaii 96732

YOUR AD **COULD APPEAR** HERE FOR \$225 A YEAR



SINCE 1930
PLANING • ENGINEERING • ENVIRONMENTAL SERVICES
PHOTOGRAMMETRY • SURVEYING • CONSTRUCTION MANAGEMENT
420 WAJAKAMILO ROAD HONOLULU HAWAII 96817-4941 808 842 1133

Weston Solutions, Inc. Suite 2301 841 Bishop Street Honolulu, Hawaii 96813 Phone: 808.585.0448 Fax: 808.585.7378



YOUR AD **COULD APPEAR** HERE FOR \$225 A YEAR

Professional Directory



735 Bishop St., Suite 330; Honolulu, Hawaii 96813 Ph: (808) 521-J990, Fax: (808) 521-J938

BROWN AND CALDWELL

nmental Engineering And Consulting • Analytical Service: 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



900 HAI EKALIWII A STREET HONOLULU, HAWAII 96814



Lihue, Kauai, Hawaii Ph. (808) 246-0625 • Fax (808) 246-0229 esmap@hawaiian.net

Established 1979

FUKUNAGA & ASSOCIATES, INC.

1388 Kapiolani Blvd. Honolulu, HI 96814 Phone: 944-1821 Email: office@fainc.org Website: www.fainc.org



CIVIL ENGINEERING AND PLANNING WASTEWATER AND WATER TREATMENT CONSTRUCTION MANAGEMENT SERVICES

Hawaii Pacific Engineers, Inc.

1132 Bishop Street • Suite 1003 Honolulu, Hawaii 96813-2830 Phone: (808) 524-3771 • Fax: (808) 538-0445 E-mail: hpeinc@hawaiipacificengineers.com



INABA ENGINEERING, INC. 2/3 WAIANUENUE AVENI HILO, HAWAII 96720

Phone: (808) 961-3727 / Fax: (808) 935-8033 Civil Engineering • Structural Engineering Land Surveying



THE LIMITIACO CONSULTING GROUP

650 lwiei Road, Suite 208 • Honolulu, F Tel (808) 596-7790 • Fax (808) 596-7361 • w

NAGAMINE OKAWA ENGINEERS INC.

CONSULTING STRUCTURAL ENGINEERS

1001 Bishop Street • Pauahi Tower, Suite 725 Honolulu, Hawaii 96813

Phone: (808) 536-2626 • FAX: (808) 536-3926



Okahara & Associates, Inc. Engineering Consultants

200 Kohola St., Hilo, HI 96720 / Ph. (808) 961-5527 Fax (808) 961-5529 677 Ala Moana Blvd., Suite 703, Honolulu, HI 98913 - Ph. (808) 524-124 Fax (808) 521-3135 73-5574 Malau St., Bay 6B, Kallus-Kona, HI 96740 Ph. (808) 323-1221 Fax (808) 329-1006



Sato & Associates, Inc.

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 & STRUCTURAL

Earth & Environmental, Inc.

Tel: 808.545.2462 Fax: 808.528.5379

Full service environme nsulting, engineering, and ly Ogden Environmental

S.S. DANNAWAY ASSOCIATES, INC.

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

Esaki Surveying and Mapping, Inc.

ENGINEERS • SURVEYORS



2006 Kalihi Street Honolulu, Hawaii 96819 Phone: 841-5064 Fax: 847-1749

HIDA, OKAMOTO & ASSOCIATES, INC.



CONSULTING CIVIL ENGINEERS PACIFIC GUARDIAN TOWER 1440 Kapiolani Boulevard, Suite 1120

Honolulu, Hawaii 96814

KFC AIRPORT, INC.

PROJECT MANAGEMENT CONSULTANTS
PLANNING • ARCHITECTURAL/ENGINEERING
DESIGN • CONSTRUCTION MANAGEMENT

3375 Koapaka Street, Suite F220-48 Honolulu, HI 96819 Honolulu, HI 968 19 Phone: (808) 836-77 Fax: (808) 834-4833 7787



841 Bishop Street, Suite 2006 Honolulu, Hawaii 96813 Tel: (808) 536-6621 Fax (808) 523-1738 E-mail: adminhi@iyonassociates.com

NAKAMURA, OYAMA AND ASSOCIATES, INC.

CONSULTING ENGINEERS ELECTRICAL/TELECOMMUNICATIONS/FIRE PROTECTION 1314 South King St., Suite 401

Honolulu, Hawaii 96814-1939 Telephone (808) 591-8887 Fax (808) 596-2383



Pacme Ger. Engineers, Inc. **Pacific Geotechnical**

Soils & Foundation Engineering Consultants

429-B Waiakamilo Road Honolulu, Hawaii 96817 (808) 841-8024 FAX (808) 848-5102 E-mail: pge@pacificgeotechnical.com



- Environmental & Infrastructure
- Design & Engineering Services
- Construction & Maintenance
- Homeland Security

AUSTIN, TSUTSUMI & ASSOCIATES, INC. Civil Engineers • Surveyors

501 Sumner Street, Suite 521
Honolulu, HI 96817
Tel: 533-3646, Fax: 526-1267, Email: atahni@a
Branch Office: Wailuku, Maui
CIVIL • TRAFFIC • SANITARY



841 Bishop Street, Suite 500 Honolulu, HI 96813 Tel: 523-8874 • Fax: 523-8950



Fewell Geotechnical Engineering, ltd.

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



Engineering Concepts, Inc. 1150 S. King St., Suite 700 Honolulu, HI 96814

Phone: 808-591-8820: Fax: 808-591-9010 Email: eci@ecihawaii.com



Soils and Foundation Engineering 99-1433 Koaha Place · Aiea, Hawaii 96701 Fax (808) 486-0870 • Phone (808) 486-0787



KN CONSULTING SERVICES, INC.

Civil Engineers 1451 South King Street, Suite 412 Honolulu, Hawaii 96814 Phone: (808) 941-8882 Fax: (808) 941-8828 Email: knconsb@pixi.com



Surveying
Civil Engineering & Design
Environmental Engineering
Water Treatment & Supply
Construction Management
Wastewater Collection & Treatment

841 Bishop Street, Suite 1900 Honolulu, Hawaii 96813



POWER SOLUTION



Hawthorne Power Systems

94-025 Farrington Hwy. Waipahu, Hawaii 96797 808/676-0205

SHIMABUKURO, ENDO & YOSHIZAKI, INC. Civil, Environmental & Structural Engineer



1126 12th Avenue, #309 Honolulu, Hawaii 96816-3 Phone: (808) 737-1875 Fax: (808) 734-5516 Email: seyeng@lava.net

BeltCollins

www.beltcollins.com

Y. Ebisu & Associates

Acoustical and Electronic Engineers

1126 12th Avenue, Room 305 Honolulu, Hawaii 96816 (808) 735-1634

MASA FUJIOKA & ASSOC.

A PROFESSIONAL PARTNERSHIP ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS



99-1205 Halawa Valley Street, Suite 302 Aiea, Hawaii 96701-3281 Phone 808 484-5366 • Fax 808 484-0007



GRAY · HONG · NOJIMA & ASSOCIATES, INC.

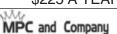
841 Bishop Street, Suite 1100 Honolulu, Hawaii 96813 Tel: (808) 521-0306 Fax: (808)531-8018



SAM O. HIROTA, INC. Engineers & Surveyors

864 S. Beretania Street Honolulu, Hawaii 96813 Telephone: 537-9971

YOUR AD COULD APPEAR HERE FOR \$225 A YEAR



Engineering, Architectural and Construction Management Recruiting Lee F. Raade, Technical Consultant (808) 220-1682 Email: lee@mpcandcompany.com Website: www.mpcandcompany.com





SUITE 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



 ENVIRONMENTAL • OCEAN

Marc M. Siah & Associates, Inc 810 Richards Street, Suite 888, Honolulu, HI 96813, Ph: 538-7180

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

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