ULLING, INDUSTRY HAWAII JUNE 2018/\$4.95 **PARK LANE** MASTERPIECE Despite major challenges, the \$400 million project comes off without a hitch HAWAII'S Hurricane-Ready Homes in Hawaii PERMIT NO. 583 ноиоглгп' ні **GIA9** U.S. POSTAGE **OTS TASA9 INSIDE: HAWAII LUMBER PRODUCTS ASSOCIATION GUIDE**

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awaii's roofers have adapted to many changes in their industry, from coatings to solar PV. Now they must adjust to new energy codes that go into effect next March. In this issue we report on how the new regulations will impact the industry.

We also offer our annual Hawaii's Top 10 Roofers survey. Not surprisingly, Beachside Roofing tops the list at No. 1 again. Read profiles on the complete Top 10 roofers inside, as well as some of Hawaii's other leading roofers.



Hawaiian Dredging's safety training includes how to properly use fall protection equipment.

And columnist Don Chapman interviews Dora Fong, who heads up one of the Islands' top firms, Honolulu Roofing Co.

If it's June, then it must be National Safety Month as hosted each year by the National Safety Council. In our report, some of the state's leading safety gurus offer prime insights to builders.

And, as hurricane season begins this month, we find a growing optimism among builders that Hawaii's new homes are being built with greater hurricane resistance as a result of updated codes.

We also take a look at contractor Micronesian Renewable Energy's work at the Guam Memorial Hospital to install on a 432-panel solar power system.

There's a special resource guide on the Hawaii Lumber Products

Association (HLPA) in this issue, with timely articles and a membership directory.

Also in this issue, we take a look at what's happening these days with the American Institute of Architects (AIA) Honolulu Chapter.

A hui hou,

david@tradepublishing.com





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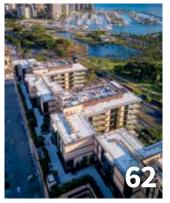
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On the cover Park Lane Ala Moana.

Design by Ursula A. Silva

COMING IN JULY

Building Industry Hawaii presents its annual Hawaii's Top 25 Contractors, with rankings and profiles of the Islands' top builders. We also offer an update on new construction-related Codes, Regulations and Laws and report on Women Building Hawaii. And we see what's new in Jobsite Technology.





Join Kimo and Carole as they present stories of these kama'aina, who with passion and hard work, created remarkable success stories! Watch how these humble entrepreneurs grew their ideas into thriving businesses that have had an impact on the people of Hawaii!

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If you'd like your organization's event to be considered for Datebook, contact brett@tradepublishing.com a minimum of two months prior to your event.

JUNE 1

2018 Apprentice Graduation Ceremony

Apprentices graduating from the Associated Builders and Contractors Hawaii Chapter (ABC Hawaii) construction programs receive their certifications and celebrate their achievements in ABC Hawaii's 2018 Apprentice Graduation Ceremony. No fee for graduating and current apprentices and apprentice instructors.

5:30-9 p.m. Piilani Ballroom, Dole Cannery, 735 Iwilei Road. Registration and payment required by May 24. Call 845-4887 or go to abchawaii.org for information and registration form. Fee: \$60 per person; \$550 to sponsor a graduate's table of 10. Additional sponsorships available.

JUNE 2, 9; JULY 14, 21

Contract Documents (STP Unit 4)

The General Contractors
Association of Hawaii (GCA of
Hawaii) presents the Associated
General Contractors of America's
Supervisory Training Program (STP),
designed and field-tested for contractors. Honolulu attorney Scott I.
Batterman explains contracts, liens,
bonds and insurance; scope changes
and ADR; construction field documentation and more. Certificate available
after completing course.

7:30 a.m.-noon (June 2, July 14); 7:30 a.m.-12:30 p.m. (June 9); 7:30 a.m.-1 p.m. (June 21). GCA Conference Room, 1065 Ahua St. Limited seating. RSVP with payment by May 23 via info@gcahawaii.org or gcahawaii.org, or call 833-1681. Fee: GCA of Hawaii members \$295; nonmembers \$395. No refunds after May 23. Replacements accepted.

JUNE 6

BIA-Hawaii General Membership Meeting

The Building Industry Association of Hawaii (BIA-Hawaii) presents Mel Kaneshige, managing member of Aukai Consulting LLC, who shares the latest on the innovative Kahauiki Village project and its future prospects. Lunch included.

11:30 a.m.-1:30 p.m. Manoa Grand Ballroom, Japanese Cultural Center of Hawaii, 2454 S. Beretania St., 5th Floor. To register and for more info, go to biahawaii.org or email clm@biahawaii.org. Fee: BIA-Hawaii members \$50; nonmembers \$60.

JUNE 7, 8

Construction Quality Management (CQM)

GCA of Hawaii, the U.S. Army Corps of Engineers Honolulu District and the Naval Facilities Engineering Command, Pacific Division present this two-day mandatory USACE and

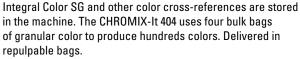


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NAVFAC training/certification requirement for appointed contractor quality control system managers (CQCSM). Valid for five years. Two employees per company per course.

8 a.m.-3:30 p.m. (June 7); noon-3:30 p.m. (June 8). GCA of Hawaii, 1065 Ahua St. To register with payment, go to gcahawaii.org. Fee: GCA members \$95; nonmembers \$125.

JUNE 8-9

3rd Annual Construction Industry of Maui Home Show

This popular CIM event showcases products and services from leading builders, remodelers, building material suppliers, financial institutions, and home and landscape specialists. Vendor registration deadline is May 25.

4-8 p.m. (June 8); 9 a.m.-4 p.m. (June 9). War Memorial Gymnasium, 700 Halia Nakoa St., Wailuku. Go to mauiconstruction.org or contact Brad Wells at (808) 280-0772 or constructionindustryofmaui@gmail.com for registration and more info.

JUNE 12-14

Construction Quality Management (CQM)

Offered through BIA-Hawaii. This U.S. Army Corps of Engineers three-day class for credentialed CQ managers is limited to four attendees per company per course. Cerificate issued after completing course; valid for five years.

1-4 p.m. (daily). BIA-Hawaii, 94-487 Akoki St., Waipahu. Register at biahawaii.org. For more info, contact Barbara Nishikawa at 629-7505 or BLN@biahawaii.org. Fee: BIA-Hawaii members \$95; nonmembers \$125. \$62.50 through available ETF funding.

JUNE 13

GCA 2018 Safety Awards Banquet

GCA of Hawaii celebrates the Hawaii builders that successfully achieve safe and healthy workplaces at this annual industry gala.

5-6 p.m. (no-host cocktails/dinner). Honolulu Country Club, 1690 Puumalu St. Limited seating. Tabletops



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and sponsorships available. To register with payment by May 31, go to gcahawaii.org or call 833-1681. Fees (per person): GCA of Hawaii members \$70; nonmembers \$100. No refunds after May 31. Replacements accepted.

JUNE 14

YAF Pau Hana: Bowling With Bosses

The American Institute of Architects Honolulu Chapter (AIA Honolulu) Young Architects Forum invites staff and employers to team up and strike some pins at Aiea Bowl. YAF Honolulu welcomes professionals that are nearly licensed, newly licensed and out to 10 years of licensure.

5:30-7 p.m. Aiea Bowl, Aiea Shopping Center, 99-115 Aiea Heights Dr., Aiea. Contact yaf.aia.honolulu@gmail. com for more info.

JUNE 15, 22

Risk Management (PMDP Module 4)

GCA of Hawaii and the Associated General Contractors of America present a Project Manager Development Program designed to enhance the performance of novice (less than two years' experience), newly-hired and teambased project managers. "Risk Management" covers insurance, sureties and bonding; warranties and liability periods; risk allocation and more. Certificate available after completing course.

8 a.m.-4 p.m. GCA Conference Room, 1065 Ahua St.

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- This law applies to all hoisting machines having a lifting capacity of 2000 pounds or more and are involved in any construction or demolition work.
- Employers using crane operators without a valid Hawaii certificate may be cited by the State Department of Labor and Industrial Relations (HIOSH) for a safety violation.
- For more information: visit our website at HMOAB. Hawaii.gov or call our office at (808) 586-8146.



HAWAII HOISTING MACHINE OPERATORS ADVISORY BOARD HAWAII DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

Limited seating. Register by June 1 at info@gcahawaii. org, gcahawaii.org or call 833-1681. Fee: GCA of Hawaii members \$395; nonmembers \$495.

JUNE 23; JULY 14, 28

AIA Architectural Walking Tour of Honolulu

On every second and fourth Saturday of the month, AIA Honolulu hosts walking tours of Honolulu's architectural landmarks. Tour groups must be 4-12 people.

9-11:30 a.m. AIA Honolulu Center for Architecture, 828 Fort Street Mall, Suite 100. RSVP with payment in advance at contact@aiahonolulu.org by June 22 (for June 23) and July 14. July 28 registration TBA. For more info: call 628-7243 or go to aiahonolulu.org. Fee: \$15 per person.

JUNE 25-28

OSHA 511 - OS&H Standards for the Construction Industry

Offered by BIA-Hawaii and UC-San Diego's OSHA Training Institute. Four-day OSH certificate course covers the standards, policies and procedures in general industry, with a special focus on those areas cited by OSHA as the most hazardous. Various credits available.

8 a.m.-4 p.m. (daily). CTC Pacific, 94-487 Akoki St., Waipahu. Register at osha.ucsd.edu or via oshatraining@ ucsd.edu. For more info, go to biahawaii.org or call (800) 358-9206. Fee: \$765. No refunds after June 11.

JUNE 28

ARE Review: Project Development & Documentation

This AIA Honolulu ARE exam prep session covers ARE 5.0 (Project Development & Documentation), sample questions and study tips to assist those on the path to licensure. Various credits available.

5-7 p.m. AIA Honolulu Center for Architecture, 828 Fort Street Mall, Suite 100. Advanced online registration and payment is required at aiahonolulu.org. For more information, contact Todd Hassler at toddh@pva.com.

JULY 10, 12, 14, 17, 19

40-Hour Safety Hazard Awareness Training for Contractors

Offered through BIA-Hawaii. Designed specifically for the Site Safety & Health Officer (SSHO), this course provides the training for additional required certification as stated in the NAVFAC UFGS 1.6.1.1.1. Industry and academic prerequisites required. Certification provided after successful testing.

7:30 a.m.-4 p.m. (daily). CTC-Pacific, 94-487 Akoki St., Waipahu. Online registration at biahawaii.org, or contact Barbara Nishikawa at BLN@biahawaii.org or 629-7505. Fee: BIA-Hawaii members \$450; nonmembers \$575; \$287.50 with available ETF funding.

JULY 11. 18

"Leadership and Motivation" (STP Unit 1)

The GCA of Hawaii presents the Associated General Contractors of America's Supervisory Training Program

(STP), designed and field-tested for contractors. Unit 1 presenter Kristi Koga covers motivation, feedback, training and more. Certificate available after completing course.

8 a.m.-4 p.m. (daily). GCA Conference Room, 1065 Ahua St. Limited seating. Register with payment by June 29 via info@gcahawaii.org, gcahawaii.org or call 833-1681. Fee: GCA of Hawaii members \$295; nonmembers \$395. No refund after June 29. Substitutions available.

JULY 12

YAF Workshop: Hack-a-thon Firm **Culture**

AIA Honolulu's Young Architects Forum collaborates with builders at a leading Hawaii firm, YAF Honolulu welcomes professionals that are nearly licensed, newly licensed and out to 10 years of licensure.

5:30-7 p.m. Nordic PCL Construction Inc.,1099 Alakea St., #1600. Contact yaf.aia.honolulu@gmail.com for more info.

JULY 16-19

Stormwater Quality & Safety Classes & Workshops

These City & County of Honolulu workshops present the new Water Quality Rules and best practices for keeping your project in compliance and on schedule. Builders are encouraged to provide input prior to the event. Sponsorships available.

8 a.m.-4 p.m. (daily; schedule subject to change). Neal S. Blaisdell Center, 777 Ward Ave. Go to https://sites.google. com/view/cchworkshop for more info, to RSVP and provide input.

JULY 18

First-Aid/CPR/AED Certification Class

ABC Hawaii presents first aid, CPR and AED (automated external defibrillator) training and certification.

8 a.m.-1:45 p.m. ABC Hawaii Training Room 201A, 1375 Dillingham Blvd. Contact Renee Rosehill at 845-4887 to register by July 11. Fee: ABC members \$125; nonmembers \$150.

JULY 31

Early Bird Deadline: 2018 Pacific Building Trade Expo

Exhibitors have until July 31 to nab early bird rates to the 2018 Pacific Building Trade Expo, which is scheduled for Nov. 14 and is Hawaii's premier exposition for contractors, builders, engineers, architects and other AEC professionals. The Expo showcases more than 250 local and national vendors, presents free

accredited seminars, provides valuable networking opportunities, and is coproduced by the Honolulu chapters of the American Institute of Architects and the Construction Specifications Institute, along with presenting sponsor HonBlue Inc.

Register at pacificbuildingtradeexpo. com. For more info and exhibit space, contact Barbie at barbie@pacificbuildingtradeexpo.com. Free admission for AEC industry professionals and contractors.



Roofing, Anyone?

Dora Fong thought she had heard everything, before a caller asked for a thatched roof

o say you're a roofer is rather like saying you're an artist—it can mean so many things and involve so many different materials and applications. Dora Fong, president of

Honolulu Roofing, thought she had seen and done just about everything until she got a call to build a thatched roof. Talk about back to the future.



Dora Fong

"It was pretty crazy, we actu-

ally had to go back into the building code," she says of the project at Four Seasons Ko Olina. "I didn't even know if we could do it. I was almost afraid to do it."

The job entailed hiring a Mainland consultant and bringing in palmetto leaves from Florida, which had to be shipped in a refrigerated container and then approved by state agricultural inspectors. Despite the difficulties, Dora says, "It doesn't leak."

Which is what a roof is supposed to do.

Growing up in Kalihi and attending Farrington High, Dora didn't exactly dream of a career in roofing. "My mother wanted me to become a teacher," she says.

Instead, she went to work for her father Melvin Padayhag's general contracting company.

"He's a carpenter by trade, had a small GC company—windows, doors, cabinets, that kind of stuff. That's how I got into it," she says.

She continued on a part-time basis after her first child was born, but after five years, "I wanted to get back into the workforce, more adult engagement."

Ballard Bannister hired her at KD Construction:

"We had eight union trades inhouse, and it was intense to learn. But my boss took me under his wing, we'd have sit-downs, go over everything. He gave me that one-on-one and treated me with respect, and guided me. That was about five years. I was also going to night school at HCC and KCC, construction courses and speech courses.

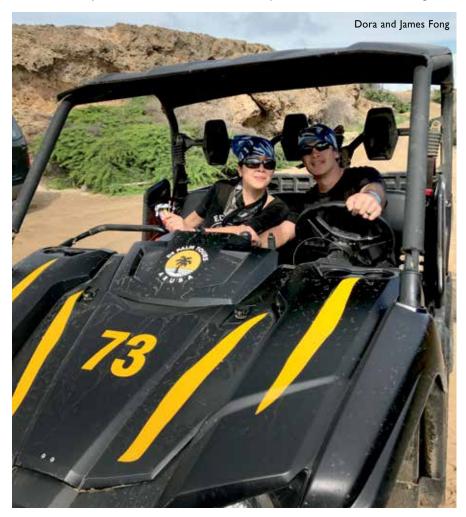
"There were so many trades we were engaged with, I was thinking maybe I should go into concrete, maybe carpentry. But my father said, hey, everybody needs a roof. But we didn't have roofers at KD. I don't really know why I went in that direction."

But she did, and that would lead to a call from Guy Akasaki.



"When I first interviewed Dora, I was impressed with her self-confidence," Akasaki says. "As we spoke further, I sensed a common kinship, in the aligning of core values which she felt was important to make an organization grow successfully—a key element to our family of companies. Though general contacting was her strength, I sensed a stronger spirit of determination, fortitude, honesty, commitment and tenacity that would allow her to rise up.

"Here we are 2018," Guy adds, "and it's truly an honor and a privilege to have her leading the team." Says Dora: "Honolulu Roofing



is the union side, and he wanted to grow that part of his business. At that time it was just Roy Fabella and Rudy Belmonte running the show. I said 'OK, I'll try my best'—that was 2005, and I've been here since."

When Roy Fabella retired in 2012, Dora was named president.

"It's been a whirlwind of a ride," she says.

"When I got into it, I was surprised at everything it entails, so many types of roofing materials and waterproofing. And we're so important at the front end, so the rest of the building can be built, but we're often the last thought on a general contractor's mind. So we have to put the roof on first, but we can't protect the whole roof. If we get called back that there's a leak, at that point it's often because there's been damage, the roof has been trashed by other trades. You're one of the first to go in after the site work and then one of the last, the retention is so long.

"It's neverending—new materials, new codes. Every project is different, even if the materials are the same—assembly is different, application is different, manufacturer requirements are different, the architect wants something different, consultant wants something different. You get pulled in all kinds of ways."

Her biggest project so far—more than 90,000 square feet of roofing and waterproofing—is The Timbers on Kauai, a luxury oceanfront residential



The Honolulu Roofing team, from left, Nalu Kahanaoi, Kerry Medeiros, Dora Fong, Jason Ortiz, Sue Jaeger, David Kahele and Dan Jaeger.

enclave that was formerly a Ritz Carlton property.

"It's wrapping up right now, but that was nightmare," she says. "The general contractor got terminated, we hadn't gotten paid and we were three-quarters of the way through—the general didn't tell us they were having issues. ... It was gut-wrenching, it could have shut us down if we weren't able to get paid."

Current projects include the main lobby area at Hilton Hawaiian Village.

"And we're at the Royal Hawaiian Hotel, the timeshare next door," she says. "We also did the Royal Hawaiian's green roofs. You think of the Royal Hawaiian, you think pink, but the roofs are green, literally green, not eco green, it's their trademark

color. We asked if they wanted another color, they said no, green."

She's the mother of three—Justice, Dlynn and Alana—and is married to James Fong, a civil engineer. In her free time, she's active with Soka Gakkai International, a lay Buddhist organization. "I like to help take care of women and families in Kaneohe where we live. A lot of the older women are widows; I just check in on them."

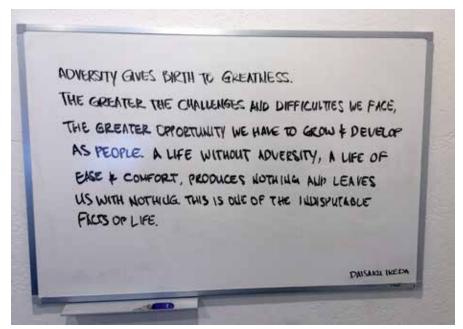
Asked about her job's requisites, she replies:

"Keeping a level head. Because there's change upon change all day long, and being able to go back and relearn and investigate and research and deal with so many characters, different kinds of people we deal with—manufacturer's reps, consultants, owner reps, GCs, employees. It's a lot of putting out fires. And I'm good at juggling."

Her Buddhist faith comes in handy at work, she says, and at stressful moments all she has to do is look at the message she's written on a white board in her office, a quotation from Daisaku Ikeda:

"Adversity gives birth to greatness. "The greater the challenges and difficulties we face, the greater opportunity we have to grow and develop as people. A life without adversity, a life of ease and comfort, produces nothing and leaves us with nothing. This is due to the indisputable facts of life."

Have a good story about a good person in Hawaii's building industry? Please mail me at don@tradepublishing.com.



Pace of Awards Remains Hot

Contracts awarded by government agencies during the month of April increased sharply from \$23,551,150 last year to \$61,080,885. April was the fourth consecutive month reflecting a substantial increase in agency awards.

Year-to-date volume of \$593,524,373 continued to exceed expectations with awards nearly tripling the total of \$237,319,952 during the first four months of 2017.

When HART's May award of \$400 million for utility relocation construction (see story on page 88) is included with results available at press time,

agency volume during the first five months of 2018 will surpass \$1 billion.

Hawaiian Dredging Construction Co. Inc. landed April's largest single award of \$16,199,000 for Big Island bridge work.

rehabilitation project and a resurfacing job with a combined value of \$9,015,407.

Contracts worth \$20,841,604 in federal highway projects were

April was the fourth consecutive month reflecting a substantial increase in agency awards

Close Construction Inc. won school-related bids for three jobs totaling \$11,839,096, while Maui Kupuno Bulders LLC picked up a park awarded in April. The University of Hawaii and the Department of

Oahu

Close Construction Inc.\$4,111,925 Parking Lot Expansion, University of Hawaii at West Oahu

Close Construction Inc.3,912,083 Waikele Elementary School Cafeteria, Expand and Renovate

Close Construction Inc.3,815,088

UH Lab School Portable Building Permits and UH Laboratory Buildings 1 and 2 Demolition Plan, UH- Manoa

Amethyst Builders LLC 2,185,000 7876 Ad Renovation Interior, Leeward Community College, UH

57 Engineering Inc......2,125,058

Bilger 337 Renovation, UH-Manoa A's Mechanical & Builders Inc. 1,745,760

Kapolei Elementary School, Miscellaneous R&M FY2016

Oahu	\$26,338,009
Hawaii	17,580,331
Maui	14,690,808
	2,471,737
	\$61,080,885

AWARDS BY AREA

Odnu	\$20,556,009
Hawaii	17,580,331
Maui	14,690,808
Kauai	2,471,737
Total	\$61,080,885

AWARDS I	BY AGENCY
FedHwy	\$20,841,604
UH	13,262,077
DOE	13,036,662
DOT	5,034,803
	3,448,645
DBEDT	2,161,370
DLNR	1,888,315
BWS	838,417
DHHL	332,192
HI State Library	System 194,000
DPWHI	42,800
Total	\$61,080,885

57 Engineering Inc......1,305,370 The Foreign Trade Zone No. 9, Restroom ADA Retrofit and Elevator Replacement Project

Sterling Pacific Construction Inc. 1,058,533 Diamond Head State Monument, Traffic Control Improvements,

Economy Plumbing & Sheetmetal...... 856,000 The Foreign Trade Zone No. 9 Makai Wing Chiller Replacement Project

Hawaii Works Inc.....822,306 Metcalf Street Retaining Wall, UH-Manoa

Amethyst Builders LLC 741,532 Niu Valley Middle School, Miscellaneous R&M FY13 HSI Mechanical Inc......696,239

Kapolei High School, Miscellaneous R&M FY16 Isemoto Contracting Co. Ltd......625,800

Hawaii Community Correctional Center, Replace Security Doors Pac Electric Co. Inc. 499,436 Kaimuki High School, Auditorium Lighting Retrofit

Sterling Pacific Construction Inc. 316,651 Diamond Head State Monument, Sewer Lift Station Replacement

Kaikor Construction Associates Inc. ... 237,000 Kawainui Marsh Restoration, Phase 1A

Kaikor Construction Associates Inc. 220,000 Kahekili Concrete Drainage Channel Temporary Repairs

Education each authorized more than \$13 million in work.

Henry's Equipment

Rental & Sales Inc.....

8872A and 8872B Modulars Installation of Fire Hydrants, Honolulu Community College, UH

Delta T Corp. dba Big Ass Solutions...... 191,461 Hokulani Elementary School, Install Ceiling Fans

EBJ Construction Inc......186,500

Honolulu District Baseyard, Construct Covered Storage

RHS Lee Inc......186,200 Individual Wastewater System Improvements at Keaiwa Heiau State Recreation Area

HSI Mechanical Inc......157,422 Waipahu Intermediate School, Miscellaneous R&M FY14

Hawaii Works Inc.....139,945 Pipe Hanger Replacement, Keolu Bridge No. 1

Maui Kupuno Builders LLC...... 4,642,604 HI FTNP Hale 10(2), Haleakala National Park Rehabilitation

Maui Kupuno Builders LLC......4,372,803 Hana Highway Resurfcing, Hookipa Park to Kaupakalua Road,

F&H Construction......3,228,705

Maui High School, Expand/Renovate Band/Choir Building

APRIL'S TOP 10 CONTRACTORS

1. Hawaiian Dredging Construction Co. Inc. (1)	\$16,199,000
2. Close Construction Inc. (3)	11,839,096
3. Maui Kupuno Builders LLC (2)	9,015,407
4. F&H Construction (2)	3,670,705
5. 57 Engineering Inc. (2)	3,430,428
6. Amethyst Builders LLC (2)	2,926,532
7. Pacific Blue Construction LLC (1)	1,827,189
8. A's Mechanical & Builders Inc. (1)	1,745,760
9. Sterling Pacific Construction Inc. (1)	1,058,533
10. Stan's Contracting Inc. (2)	1,054,600

Information is summarized from the Contractors Awarded section of BIDService Weekly, compiled by Research Editor Alfonso R. Rivera

Arita Poulson General Contracting 880,253 Maui Waena Intermediate School, Miscellaneous R&M FY16
LTM Corp. dba Civil-Mechanical Contractor 698,472
Replace Discharge Heads and Valves, Halawa Shaft Pump Station F&H Construction
Repair Air Conditioning System at Pier 1 Terminal, Kahului Harbo
Betsill Bros

Hawaii

Recreation Area, Hamakua

Hawaiian Dredging Construction Co. Inc	16.199.000
HI STP SR 11(1) & SR 11(2), Hilea and Ninole Str	, ,
Stan's Contracting Inc Hawaii Community Correctional Center, New Inta	,
Stan's Contracting Inc Kaumana Elementary School, Miscellaneous R&N	,
Isemoto Contracting Co. Ltd Hilo Public Library, Exterior Repairs and Painting	194,000

Kauai ₋ Pacific Blue Construction LLC........... 1,827,189 Kauai Community Correctional Center, New Sallyport, Lihue Cushnie Construction Co. Inc......332,192 Lots 1-3 Wall Improvements, Kekaha Residence Lots Unit 4

West Hawaii Civic Center and Kau Police Station, Vrl Surveillance

Security Upgrade, Kailua-Kona

George M. Oye Inc...... 89,931 Individual Wastewater System Improvements at Kalopa State

Maxum Construction of Hawaii LLC 312,356 Kauai Plant Industry Facility, Replace AC Split Units and Mechanical Room Door

AL&C Mechanical & AC Corp. 8,900 Noelani Elementary School, Bldg. B, Replace Gutters and Downspouts

LOW BIDS

The companies below submitted the low bids in April for the work detailed. Submitting the lowest bid is not a guarantee of being awarded the job. However, it is a strong indication of future work, and subcontractors can plan accordingly.

Oahu\$21,577,700	Titan Industries LLC912,170 Various Schools Statewide, Gems AC Efficiency Replacement,
Interstate Route H201, Moanalua Freeway Highway Lighting Improvements, Halawa Heights Off-Ramp to Middle Street Overpass	Moanalua, Radford and Aiea Complexes, Package 13 57 Engineering Inc898,148 Aiea Intermediate School, Building B and Band Room Expansion
Oceanic Companies Inc	Economy Plumbing & Sheetmetal 865,314 Hamilton Library Phase 1, Mechanical Room Waterproofing, UH-Manoa
7881 Da Native Hawaiian Center for Excellence, Partial Renovation of Building Da and New Dance Audition, Leeward Community College, Universty of Hawaii	BCP Construction of Hawaii Inc 843,769 Halawa Correctional Facility, Window Assemblies and Hardware Replacement and Related Improvements
Rons Construction Corp	MJ Construction Co
Ewa Beach WWPS FM Vault Modifications Layton Construction Co	Certified Construction Inc393,352 Kaneohe Civic Center, Reroof and Other Miscellaneous Work
Campbell High School, Eight Classroom Buildings Close Construction Inc	Henry's Equipment Rental & Sales Inc
Buildings 1 and 2 Demolition Plan, UH-Manoa All Maintenance & Repair2,279,981 Wahiawa District Park, Gymnasium Improvements Phase 2, Miscellaneous Improvements	Commercial Electric Inc
Alakona Corp	Brian's Contracting Inc
Prometheus Construction	Site Engineering Inc
Henry's Equipment	Bora Inc
Rental & Sales Inc	Integrated Construction Inc141,700 Kailua lwi Kupuna Reinternment Project
Oahu Plumbing & Sheetmetal Ltd 1,340,712 7880 GT Building, Replace AC, Leeward Community College	Certified Construction Inc138,164 Enchanted Lake Community Park, Recreation Building Reroofing
Titan Industries LLC	Integrated Construction Inc121,700 Repair Fence at Pier 1, Honolulu Harbor
Waianae and Waipahu Complexes, Package 11 Ralph S. Inouye Co. Ltd	Shinco Management Inc
Airport Brian's Contracting Inc	Power Constructors LLC
CC Engineering & Construction Inc 988,000 Various Schools Statewide, Gems WC Efficiency Replacement, Kalihi Schools, Package 15	Kalihi Elementary School, Bldg. B, Replace Ceiling T. Taketa Sheet Metal Inc58,760 Kaimuki High School, Various Buildings, Replace Gutters and
DYC Electrical Services	Downspouts
Kalaheo High School Campus, Rewire Fire Alarm Titan Industries LLC956,813 Various Schools Statewide, Gems AC Efficiency Replacement,	WJ Hale Construction Inc
Farrington HS, Fern ES and Kapalama ES Package 14 (Farrington Complex)	Lloyd H. Tokunaga14,838 Heeia Elementary School, Room B101, Replace ACM Floor Tile

ng indication of future work, and subcont
Titan Industries LLC
57 Engineering Inc898,148 Aiea Intermediate School, Building B and Band Room Expansion
Economy Plumbing & Sheetmetal 865,314 Hamilton Library Phase 1, Mechanical Room Waterproofing, UH-Manoa
BCP Construction of Hawaii Inc
MJ Construction Co
Certified Construction Inc393,352 Kaneohe Civic Center, Reroof and Other Miscellaneous Work
Henry's Equipment Rental & Sales Inc
Commercial Electric Inc285,900 Oahu Community Correctional Center, Electrical Infrastructure Systems Repairs and Improvements
Brian's Contracting Inc252,000 Laie Water Reclamation Facility, Generator/Blower Building Repair
Integrated Construction Inc247,700 King Street and Alapai Street Sidewalk Widening
Site Engineering Inc
Bora Inc
Integrated Construction Inc141,700 Kailua Iwi Kupuna Reinternment Project
Certified Construction Inc
Integrated Construction Inc121,700 Repair Fence at Pier 1, Honolulu Harbor
Shinco Management Inc
Power Constructors LLC

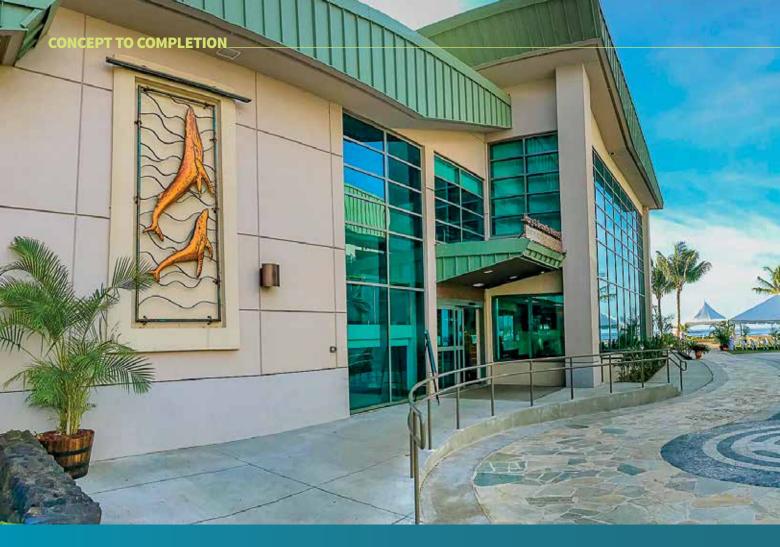
Maui
Jacobsen Construction Co. Inc 6,248,000 2232 Pilina Renovate Kitchen, UH Maui College, Kahului
F&H Construction3,228,705 Maui High School, Expand/Renovate Band/Choir Building
Arita Poulson General Contracting 880,253 Maui Waena Intermediate School, Miscellaneous R&M FY16
Viking Construction Inc
Stewart Norrie
Alpha Inc
Oceanic Companies Inc238,889 Kihei WWRF Filter Access Platform, Wailuku
Elcco Inc
All Court Inc. 99,865 Tennis Court Resurfacing at Wells Park and Kahului Community Center
Castaway Construction & Restoration LLC
Hawaii
MEI Corp
Central Striping Service Inc
Stan's Contracting Inc
Kauai
Maui Kupuno Builders LLC

Marriott Sewage Pump Station, Emergency Generator and ATS

Pacific Blue Construction LLC.....197,779 Kapule Building, Finance ITT/Renovation Cushnie Construction Co. Inc......182,792

Clearing, Demolition and Fencing at Palani and Hokulei Parks, Lihue

www.buildingindustryhawaii.com | 15



Long-awaited Waianae EMS Facility set to Open

Ralph S. Inouye Co. adds the final touches as residents embrace chicken-skin moments

BY DAVID PUTNAM

he nonprofit Waianae Coast Comprehensive Health Center and residents of the leeward area are having chicken-skin moments as general contractor Ralph S. Inouye Co. Ltd. adds the final touches to the final building of WCCHC's three-phase improvement project that's been 12 years in the making.

Ralph S. Inouye Co. has

constructed the two-story Harry and Jeanette Weinberg Emergency Medical Services Building on the 17-acre campus, with the blessing held on March 10. The grand opening of the EMS Building is planned for July 17—all that remains to do is to finish up interior details in workspace areas and add furnishings.

"The client was very specific in their needs, and made sure to do everything in their power to provide a facility that met their users' requirements," says Blake Inouye, project engineer for Ralph S. Inouye Co., which was founded in 1962. "I believe w



which was founded Blake Inouye in 1962. "I believe we succeeded in providing a facility that they will be



happy with for years to come."

The opening of the EMS Building will mark the much-anticipated completion of WCCHC's three-phase, \$49 million improvement project. Kober Hanssen Mitchell Architects Inc. was the architect for all three buildings.

The first two phases of the project were the construction of the Harry and Jeanette Weinberg Family Medical Building, which opened in 2009 with Nan Inc. as the GC, and the Harry and Jeanette Weinberg Adult Medical and Pharmacy Building, which opened in 2013 with Hawaiian Dredging Construction Co. Inc. as the GC.

The WCCHC traces its beginnings to the closure of the Waianae Sugar Mill in 1949, which left the area without a medical dispensary. About 20 years later, residents pushed for the formation of a clinic, and in 1972 the WCCHC was established. Today the med center is the largest employer and healthcare provider on the Waianae coast. WCCHC reports serving more than 37,000 patients last year, and over 203,500 visits through its seven service sites.

Inouye says the scope of the \$17.3 million project involved a "complete build-out of the new Emergency Medical Services Building and landscaping tying in to the adjacent campus buildings."

CONCEPT TO COMPLETION

The 22,143-square-foot masonry and steel building will operate 24/7 and will house 16 exam rooms, more than twice the number in the original ER clinic that opened in 1975. WCCHC reports an average 24,000 ER visits per year.

The new EMS Building also houses chemistry, phlebotomy and hematology lab spaces; a radiology department, administrative offices and training rooms.

The other two buildings in the improvement project offer a combined 46 exam rooms: the Family Medical Building has 12 pediatric exam rooms and 14 for women's health patients, and the Adult Medical and Pharmacy Building has 20 exam rooms.

Ralph S. Inouye Co. got the notice to proceed (NTP) in November 2015 on the new EMS Building and accompanying walkway that connects the three structures. Each building also boasts a unique copper emblem.

"There are many features that stand out on this project, including the building being nestled into the hills



Main lobby and reception area in the new EMS Building at WCCHC

of Waianae overlooking the ocean," Inouye says. "But one of the most beautiful features is the breezeway between the Emergency Services Building and the Adult Medical Building.

"It's a meandering path of basalt and quartzite pavers with a central *piko* emblem that is a central point tying in the entire campus. The breezeway connects the *mauka*

parking lot to the *makai* observation deck that provides a stunning view of the ocean and Maili Point."

Bringing all the elements together was challenging., says Inouye, pointing to the "coordination of complicated MEP (mechanical, electrical and plumbing) systems for medical equipment and services," along with "phasing of the landscaping work that tied into existing operational dental, medical and facility buildings."

He says Ralph S. Inouye Co. "resolved complicated issues with on-site meetings with the owner, design consultants and subcontractors. We collaborated with regular on-site subcontractor meetings and planned MEPF coordination using 3D BIM clash-detection sessions."

Additionally, he says, "because of the extensive MEP systems involved with this hospital facility, the building and systems were modeled using Revit, and virtual clash detection was performed using Navisworks. This helped save time and money by identifying conflicts before we started installation in the field."

Mostly, Inouye says, the project was a team effort involving contractors and client, doctors and nurses, med center administrative and maintenance staff—and even the patients.

"Because the project involved landscaping up to adjacent medical, dental and facility buildings that were in operation, there were multiple phases that needed to be developed with close collaboration with the owner and architect," Inouye says. "This included shutting down access to the





Radiology imaging room and equipment

main entry of the previous emergency medical services building.

"We worked very closely with the owner and architect on phasing the work to minimize the shutdown of the entrances to the buildings. This involved overtime and weekend work for the contractor, and multiple patient and employee re-routing plans by the owner that minimized disruptions to the facility and impact to the construction schedule."

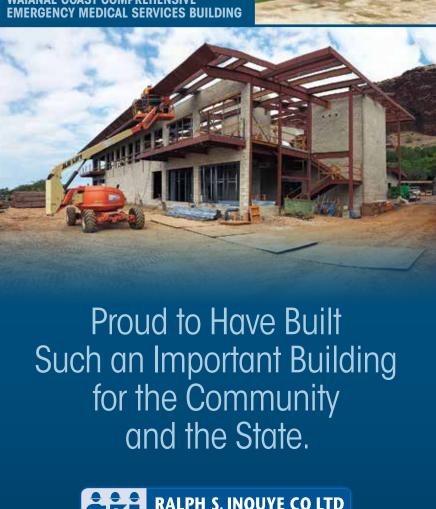
Inouye lauded the efforts of the team, with special kudos to superintendent Mark Tagami; Lance

> "I believe we succeeded in providing a facility that they will be happy with for years to come." —Blake Inouve

Takara, a former RSI project engineer; foreman Randall Shibata; Marianne Glushenko, the owner's representative; and Peter Maertens of Kober Hanssen Mitchell Architects Inc.

"All of them were major contributors to the success of the project, and we want to thank each of them for their willingness to help to make this such a great project," Inouye says, adding that Glushenko and Maertens "were instrumental to the success of the project. They responded to issues in a very timely fashion to keep the project moving forward, and were very professional, open, honest and fun people to work with."







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After a slowdown in 2017, Island Roofers remain optimistic about 2018

BY DAVID PUTNAM

awaii's leading roofers report a significant downturn in business in 2017, following the previous year's record volume of work.

Based on the companies who responded to *Building Industry Hawaii*'s annual Hawaii's Top 10 Roofers survey, the industry did 24 percent less work last year. The Top 10 roofers report a combined \$90

million in earnings in 2017—a sharp drop from the record \$123 million in

2016.



Tim Lyons

Although the Top 10 roofers' combined tally for 2017 was more akin to 2013's \$93.8 million in earnings, Tim Lyons, executive

director of the Roofing Contractors Association of Hawaii (RCAH), remains optimistic for 2018 and beyond.

"We are not complaining," Lyons says. "On the residential side, we have had more than one contractor tells us that their customers have seen repeated gains in their home value and figure that they have to have their roof keep up with the increase.

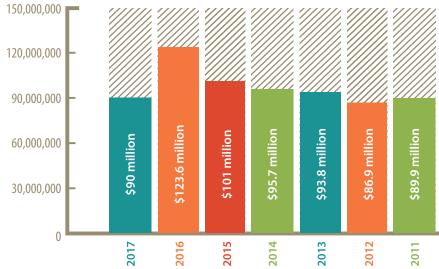


HAWAII'S TOP 10 ROOFING CONTRACTORS

2017 RANKING IN MILLI	IONS
1. Beachside Roofing LLC	\$30
2. Tory's Roofing and Waterproofing Inc.	16.4
3. Commercial Roofing & Waterproofing Hawaii Inc.	14.7
4. Surface Shield Roofing Co.	6.5
5. Honolulu Roofing Co. Inc	5.9
6. (tie) David's Custom Roofing & Painting Inc	5.0
(tie) Cool Roof Hawaii	5.0
(tie) Pacific Industrial Coatings LLC	5.0
9. Roofing Solutions	2.4
10. R&C Roofing Contractors	2.1
OTHER LEADING ROOFERS	
Kokua Roofing	2.0
Buck Roofing Co. Inc.	1.9
Shafer's Roofing & Construction	NA

The 7-Year Itch

Reported earnings by Hawaii's Top 10 Roofers during the past seven years:



"For contractors that can manage that and still go after the revenue needed to sustain and grow their operation, 2018 will be a great year," Lyons says.

Beachside Roofing LLC, which reports earnings of \$30 million last year, remains No. 1 in the survey. Beachside's business, however, was \$10 million below the previous year's banner earnings.

Tory's Roofing and Waterproofing Inc., which reports a solid gain in earnings last year, jumps from third to No. 2, displacing last year's No. 2-ranked roofer Commercial Roofing & Waterproofing Hawaii Inc.

Making the biggest leap this year is David's Custom Roofing & Painting Inc., which jumped three places into a three-way tie for the sixth spot with Cool Roof Hawaii and Pacific

Industrial Coatings LLC.

Two firms—Roofing Solutions and R&C Roofing Contractors—are making their first appearance in the Top 10 at Nos. 9 and 10, respectively.

The annual rankings are based on revenue and other performance factors. Absent from this year's Top 10 is Tropical Roofing and Raingutters, which declined to participate in this year's survey.

#1

BEACHSIDE ROOFING LLC

CEO/PRESIDENT: Scot Jimenez | **SPECIALTY:** Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle, specialty coatings | **HAWAII STATE LICENSE:** BC-22075

or the eighth consecutive year, Beachside Roofing LLC sits atop the Hawaii's Top 10 Roofers rankings with the highest earnings of any Hawaii roofer taking part in the *Building Industry Hawaii* annual survey.

The Kapolei-based company reports earnings of \$30 million in 2017, a similar level to two years ago but 25 percent below the banner year in 2016 of \$40 million.

Scot Jimenez, Beachside's president, was recognized as the Roofer of the Year by the Roofing Contractors Association of Hawaii (RCAH). He

says the slower year was "typical, cycledown from the new construction upswing in 2016."

He forecasts the roofing business as "staying steady, with many new bids for future work."



Scot Jimenez

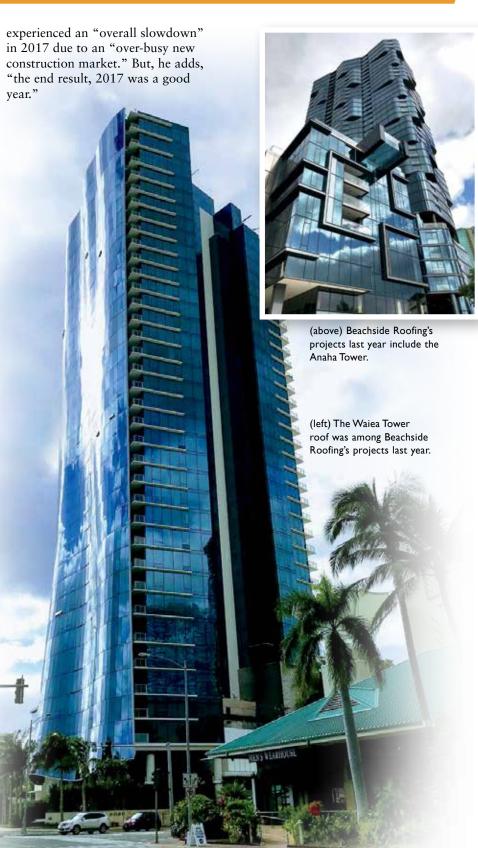
Beachside, which has been doing business in Hawaii for 37 years, does 30 percent of its work in the public sector. However, one of its major roofing jobs in 2017 also ranks as one of Hawaii's most high-profile ultra-luxury condominium projects: Park Lane Ala Moana. Beachside worked with general contractor Albert C. Kobaysahi Inc.

"We did all the roofing over top of seven residential towers, and all the waterproofing in the surrounding decking of the project footprint, The entire project is built on an elevated podium," Jimenez says.

Other projects for the firm last year include the Anaha Tower, the Ritz Carlton Phase 1, the Waiea Tower, the Alohilani Resort renovation, the Kaanapali Resort Phase 3 and The Collections.

Beachside also began work on such projects as ConRAC Honolulu, Art Space Lofts and Kamalani Residences. Jimenez says the industry

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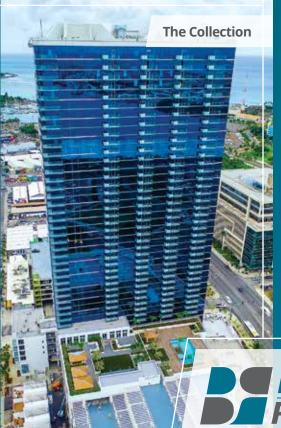




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BEACHSIDE ROOFING License # BC-22075 #2

TORY'S ROOFING & WATERPROOFING INC.

CEO/PRESIDENT: Louis Tory Jr. | **SPECIALTY:** Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle | **HAWAII STATE LICENSE:** BC-8576

ory's Roofing & Waterproofing Inc. moves into the No. 2 spot among Hawaii's Top 10 Roofers with reported 2017 earnings of \$16,425,000, an 8.6 percent increase over the previous year.

"2017 was an extremely busy year," says General Manager Sandra Tory.
"We've always had a good balance of commercial to residential business, but last year there was a large increase on the commercial side. In 2017, we also saw a lot of Neighbor Island work, which was a bonus, but logistically a



Tory's Roofing & Waterproofing began work on the Kalaeloa Kaimana project in 2017.



 $\label{thm:continuous} \textit{Tory's Roofing \& Waterproofing reroofed the state Capitol Building in Downtown Honolulu last year.} \\$

new challenge. Each year we've seen an increase in growth and are very blessed to be able to learn and grow along with the industry."

The Pearl City-based company, founded in 1972, moved up one notch after ranking third for the past six years. Tory's reports 48 percent of its jobs in 2017 were done in the public sector. Among those projects was the "high-profile task of reroofing the Hawaii State Capitol building in Downtown Honolulu," Tory notes.

The scope of work included tear off of the old membrane and installation of new insulation and single-ply PVC

membrane over a total of 538 squares.

"Working on this job was both challenging and rewarding due to the time frame and the unique design of the roof. The time requirements for this job were set by the schedule of the legislative sessions. Roofers were only able to be on the jobsite when legislature was out of session, which required precision and planning," Tory says.

The roof posed unique challenges due to its sloping nature. "The roof begins perfectly flat at each of the four sides, and then slopes upward to an approximately 75-degree angle to create a slanted wall several feet high around

the square open air rotunda in the perfect center of the roof," Tory says, noting the firm "takes great pride in the accuracy and skilled TPO installation on this project."

Projects that Tory's completed last year include the AMC airport terminal at Hickam Air Force Base, five buildings at Brigham Young University-Hawaii and The Willows restaurant. The company also began work on the townhomes at Kalaeloa, which includes the Kaimana, Mahana and Makai subdivisions; the Dowsett Point complex and Joint Base Pearl Harbor-Hickam Building 1456.

Tory's also won the Roofing Contractors Association of Hawaii's top honor in the Shingle Roofing Commercial category.

While business was solid, Tory notes a need for more workers. "One of the factors that is always challenging is workforce," she says. "With incoming growth comes the need for workforce growth, and in this day and age, it is increasingly more difficult to find quality trade workers and laborers."

Looking ahead, she adds, "so far in 2018 we haven't seen too much of a slow down. Work is consistent and steady. Again, we're very blessed to be able to continue to grow and learn from this industry for the last 45 years."



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COMMERCIAL ROOFING & WATERPROOFING HAWAII

CEO/PRESIDENT: Guy Akasaki | SPECIALTY: Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle, roof management and maintenance, gutters, turnkey roofing/PV installation | HAWAII STATE LICENSE: BC-18179

ommercial Rooing & Waterproofing Hawaii Inc. President Guy Akasaki calls 2017 "a strange year, kind of a gap year between large projects."

CRW, which saw its numbers slip last year to \$14.7 million—a 29 percent decrease from 2016's \$20.9 million, ranks No. 3 among this year's Hawaii's

Guy Akasaki

Top 10 Roofers. The Waipahu-based company had held the No. 2 spot in the annual survey for the past six years.

Akasaki says the industry is "moving through the top of the 10- to 15-year

economic cycle." He notes that last year "was down for the most part. For the years leading up to 2017 the industry was on a tear, with no end in sight."

Akasaki points to fewer PV-related jobs in 2017 than past years. "The last few years we had large projects with our PV affiliate and other subs," he says. "Our revenues were higher and reflected that as we were subcontracting large amounts of work to others.

"Since that time, we are doing fewer roof-based PV systems, focusing back to our core roofing systems and servicing our client base."

Larry Young, vice president of the



CRW worked with 850 pipe penetrations on the rooftop of the Embassy Suites in Kapolei.

25-year-old company, notes that the kinds of roofing work has seen a shift. "Generally, we've seen a lot of clients

leaning toward roof recoating and rehabilitation versus reroofing," he says.

Projects completed by CRW in 2017 include the **Embassy Suites** in Kapolei, the **Brigham Young**



Larry Young

University Cannon Activities Center, AOAO 1717 Ala Wai, The Ark and Aloha Petroleum.

Embassy Suites, which was new construction, involved below grade waterproofing with a low slope and installing TPO membrane on the main as a steep mansard tile roof around

height of the building and the slope of the tile roof areas, creative installation methods had to engaged. The crew installing the tile started near the gutter edge and worked their way back towards the parapet walls."

Adding to the uniqueness of the project were 850 pipe penetrations on the rooftop, the company says.

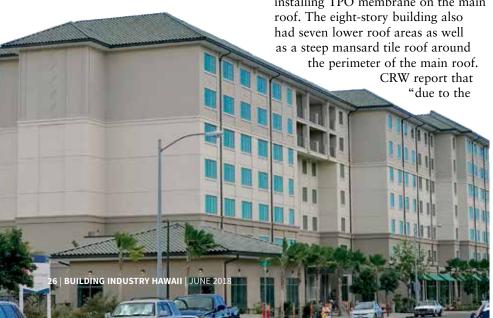
CRW also began work in 2017 on such projects as the Moanalua Hillside Apartments, AOAO Villages at Waipio, Hale Aloha at the University of Hawaii, Kaanapali Shores and the Airport Hotel.

In 2017, CRW's work garnered several awards and recognitions. The company was honored by the Roofing Contractors Association of Hawaii with first place awards in two commercial project categories: steep slope tile roofing and low slope single-ply roofing.

CRW also helped spearhead a Back-2-School Drive with the Salvation Army and in November provided labor for the installation of several standing seam metal roofs over the public/private collaboration Kahauiki Village project.

Akasaki says "it appears 2018 is shaping up to be a great year. Projects are moving forward (with) confidence in the economy. Again, we are at the top end of the economic historical cycle, so it is a good time to prepare for downside turns."

CRW installed the roof on the new Embassy Suites in Kapolei.





ABOUT THE PROJECT

BYU's Cannon Activities Center was the largest tile re-roof on campus. As the sports auditorium, the interior is almost as large as a football field with rafters 240 feet in length. Due to the size of this project, special methods were implemented to get the job done safely and efficiently. A total of 730 squares of concrete tile roofing were removed and replaced.

PAST PROJECTS FOR STEEP SLOPE TILE ROOFING

- Punahou School
- Eaton Square
- Hilton Waikiki
- Embassy Suites
- Sheraton Poipu
- Fairmont Kea Lani
- City Hall
- CSWo Kapolei
- Kalapawai Café
- Kamehameha Schools















& Downspouts





SURFACE SHIELD ROOFING CO.

CEO/PRESIDENT: Shon Gregory | SPECIALTY: Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle | HAWAII **STATE LICENSE:** C-28235

urface Shield Roofing Co. celebrated its 10th year of doing business in Hawaii in 2017.

"This was a great milestone for us, and we are excited with our

continued expansion of staff and skills so we can continue to best serve the Islands' home and business owners," says President Shon Gregory.



Shon Gregory

The Honolulubased roofer reports earnings of \$6,556,532 last year to remain No. 4 among Hawaii's Top 10 Roofers. The year's tally, however, was more than 33 percent down from 2016 when Surface Shield did \$9.7 million in business to land in the No. 4 spot.

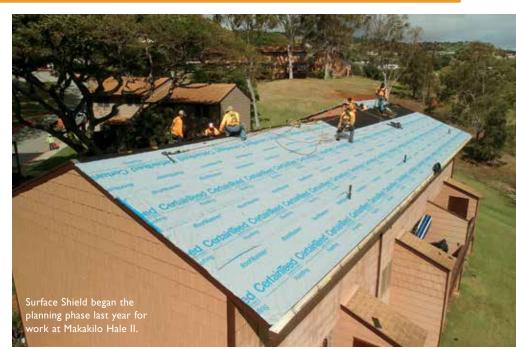
"It ended up being a good year," Gregory says of 2017. "With the general construction industry going relatively strong, there was a fair amount of roof work ripe for the estimators diligent at combing the bid sites. Our first and second quarter did slow a bit, but there was a gradual increase in the third and fourth.

"2016 was a banner year for Surface Shield with our highest ever in sales," he adds. "But 2017 did not disappoint. We completed over 300 projects last year of various sizes and scopes."

Gregory says projects in 2017 included various Department of Education buildings on the campuses of Ewa Makai Elementary School, Roosevelt High School and Red Hill Elementary and at Foodland Pearl City and Iwilei Business Center.

"The schools were the most challenging projects due to the amount of traffic at these facilities," he says. "In addition, the scope of these projects were extensive and with lots of special order materials. However, all the projects turned out really well.

"The Iwilei Business Center coating





Surface Shield's projects last year include the Hawaii Kai Shopping Center.

project," he adds, "was a particularly challenging project due to the extent of the scope and hard to reach areas."

Also in 2017 Surface Shield began the planning phase for Makakilo Hale II.

Though 2017 did not match the previous year's numbers, the company fared 38 percent better than in 2015 when it reported earnings of \$4.7 million and ranked ninth.

"You know," Gregory says, "we

see a lot of work out there; the inclement weather always keeps home and business owners on their toes. Tie that with the amount of people visiting and relocating to the islands and there is an undeniable need for business expansion, housing development and also for good builders to make it all happpen.

"I'm an optimist—the future looks bright."



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HONOLULU ROOFING

CEO/PRESIDENT: Dora Fong | SPECIALTY: Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle, Neptune WetSuit below-grade waterproofing, dampproofing, vapor barrier, air barrier and roofing. | HAWAII STATE LICENSE: C-23799

or Honolulu Roofing Co., business in 2017 mirrored work in 2015 as the company reports earnings of \$5,911,498 in earnings to rank No. 5 among this year's Hawaii's Top 10 Roofers.

Two years ago, the 17-year-old Waipahu-based firm reported \$5.7 million in earnings. Last year, however, Honolulu Roofing reported \$8.4



Dora Fong

million and Dora Fong, president, says the company's 29 percent decline in earnings was "due to unforeseen occurrences. Mainly our resources were tied up. So much time and effort was

spent dealing with litigations, not due to our part."

Another stumbling block, she says, was ill-timed changes in general contractors. "As a result, we were unable to get more bids out, and we also had to turn down a few projects," she says.

But the year held many positives, too. Fong credits "repeat customers— GCs like Nordic PCL and Swinerton and also with hotels," with keeping their roofing crews busy.

Projects that Honolulu Roofing completed last year include the HMSA Center, Sheraton Maui Phase IV, Tripler Army Medical Center, the University of Hawaii Hale Wainani and the Hawaiian Air Cargo facility.

The company also began work on



Honolulu Roofing 's rojects last year included the Timbers Kauai Ocean Club & Residences.

two other major projects: the Timbers Kauai Ocean Club & Residences and the Ward Entertainment Center theater deck.

Fong says both the HMSA and the Timbers jobs were notable. The HMSA Center building entailed 20,000 square feet of modified bitumen. The Timbers projects required 50,000 square feet of tile and 60,000 square feet of fluid-applied membrane.

And more good news: The company rose in the Inc. 5000 ranking from No. 2,083 to No. 1,367 during the 2016-17 year. And there were additions to the team: Jason Ortiz as project manager, Sue Jaeger as project coordinator, Mark Lagrimas as superintendent and Samuel Lee as warehouse manager.

So far, 2018 is shaping up to be "a stellar year for us," Fong says. "We are currently working with Nordic PCL on the Punahou Phase 1B project, and work is in progress at Hale Mahana Student Apartments with Albert C. Kobayashi. In the summer we will be starting a significantly large federal project and we also have quite a bit of work with our hospitality clients.

"More commercial improvement projects are expected in the near future," she adds, "on account of the recent tax reform which allows qualifying taxpayers to fully expense the cost of qualifying (roofing) work in the year of purchased rather than recovering them over multiple years through depreciation."





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COOL ROOF HAWAII

OWNER: Kevin McCallum | **SPECIALTY:** Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle | **HAWAII STATE LICENSE:** C-28824

ool Roof Hawaii, founded in 2007, shares the No. 6 spot among Hawaii's Top 10 with reported earnings of \$5 million in 2017.

Although business last year was \$1.5 million less than what Cool Roof

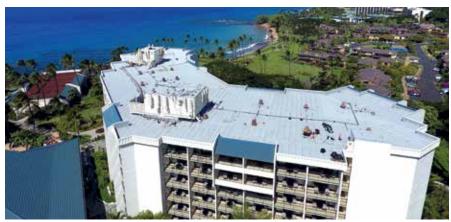


Brenden Clement

brought in during 2016 to rank No. 7 in the annual survey, General Manager Brenden Clement remains optimistic for 2018.

A major factor on Cool Roof's business last year,

he says, was "a larger concentration on commercial projects vs. residential. With the solar market contracting, the



One of Cool Roof's projects last year was the Mariott Wailea's Haleakala Tower.

residential roofing market contracted along with it.

"There is still a lot of work to be had in the residential market, but there is more repairs and smaller jobs compared to the larger reroof jobs of the past."

Along with "many residential properties," the Honolulu-based roofing company reports doing 35 percent of its work in the public sector.

Projects completed in 2017 include the Mariott Wailea's Haleakala Tower, Ka Hei Package 6 for the Department of Education, the Pohai Nani Retirement Community.

Clement says the tower project at the Marriott Wailea was a unique job in that it included a "full tear off down to the deck—including asbestos abatement— and installation of sloping insulation, coverboard and new Firestone APP modified bitumen.

Cool Roof also began work on the roof at Hilton Waikoloa's Lagoon Tower.

Clement says the overall roofing industry in Hawaii "has evolved a lot, a lot of new faces. We were one of the new faces once, so we appreciate and embrace the changing marketplace and the new competition."

Looking ahead, he adds, the state's roofing business "should be shaping up nicely. With the new code changes in the public sector being implemented, you will see a lot more projects coming online and to code. It will put things on a more even playing field, competition-wise, as well as providing for a proper and energy-efficient roof to be installed."

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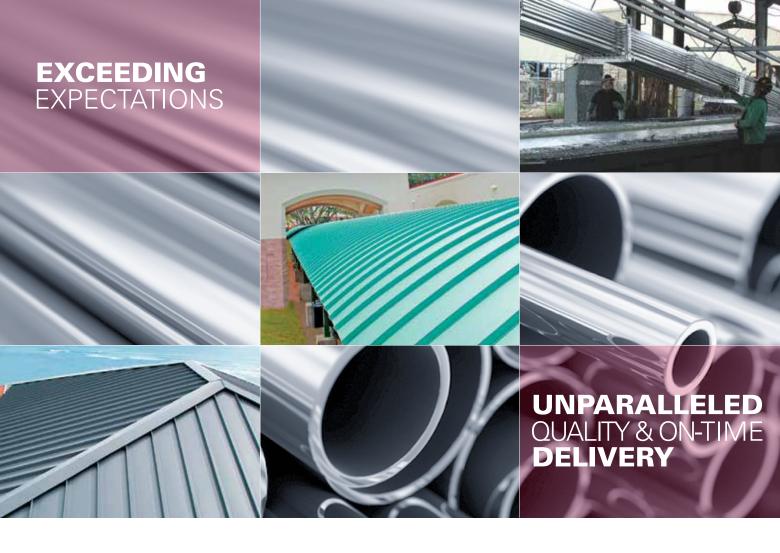
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CEO/PRESIDENT: Davelyn Leong Martin | SPECIALTY: Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle. | HAWAII STATE **LICENSE: BC-19703**

avid's Custom Roofing & Painting Inc. repeated its earnings of \$5 million for the second straight year, but jumps three spots and into a three-way tie for No. 6 among Hawaii's Top 10 Roofers.

"2017 did not experience quite as many extreme storms as previous years, so it did seem less 'hectic.' Despite this, the year was still a great and busy one," says Davelyn Leong Martin, CEO and president of the family business in Pearl City that been doing commercial and residential homes in Hawaii for 38 years.

"We completed many residential and commercial projects in 2017," says Martin, who points to one unique project that David's Custom Roofing began in late 2017 and recently

completed. The Diamond Head residence, Martin says, now has a "beautiful copper shingle roof."

She says the work "included insulation at flat roofs and copper permalock shingles at the slope roof." The project also required more than 100 squares of roofing of both asphalt shingle and fluid-applied coating.

Looking ahead, Martin says the state's roofing business "may take a hit over the next year due to many new regulations the customer is paying for it.

imposed by OSHA and the state energy code. These new regulations are driving up costs for homeowners and businesses. Contractors are required to comply, and "We are blessed to be busy, but the industry as a whole may see a decline due to these reasons."

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PACIFIC INDUSTRIAL COATINGS LLC

CEO/PRESIDENT: Bob Johnson | SPECIALTY: Low slope, fluid applied, spray foam and silicone roof systems. | HAWAII STATE LICENSE: BC-30137

or Pacific Industrial Coatings LLC, 2017 was a year of consolidation and change as Bob Johnson became sole owner of the company founded in 2009 when his co-owner retired.

The move, he says, allowed for "freedom to grow, improve processes and take the company to the next level."

PIC reports an increase in earnings to \$5 million in 2017—up from \$4.5 million the previous year. PIC also jumps into a three-way tie for No. 6 among Hawaii's Top 10 Roofers for 2028, up from No. 10 last year.

"In 2016 we started an ownership transition and reorganization that carried over into 2017," says Johnson, who took over as sole owner of the company founded in 2009. "These changes involved a lot of hard work by some great people, a lot of learning and some tough decisions that have all prepared us for a great future."

The firm wrapped several major jobs in 2017. Johnson says work on Keauhou Lane was especially challenging "because it was multiple scopes and multiple buildings. It involved tapered spray foam roof systems on two ninestory buildings and waterproofing on two plaza decks and a bridge.

"We also had to take extra safety steps due to debris from a 40-story building."

Other projects PIC completed last year were the Castle Medical Center, the Marriott Waikoloa on the Big Island, the Holiday Gardens condominium, the Warehouse at 179 Sand Island Access Road, the Monte Vista condos, an office building at 238 Sand Island Access Road, the Kahana Manor condos on Maui, the Pauahi Hale Affordable Housing in Chinatown and the Makaha Valley Plantation.



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ROOFING SOLUTIONS

CEO/PRESIDENT: Stephen Elijah DeLaGarza | **SPECIALTY:** Low slope, fluid applied, singly ply, modified bitumen, steep slope, metal, tile, shingle, stone-coated steel, aluminum standing seam. | **HAWAII STATE LICENSE:** C-34059

50 percent increase in business in 2017 propels Roofing Solutions to No. 9 among Hawaii's Top 10 Roofers.

The Kaneohe-based roofer, which has been doing business in Hawaii for 41 years, reports earnings of \$2,494,583 last year to break into the Top 10 fir the first time. The company was listed among the state's Other Leading Roofers in last year's survey with \$1.6 million in 2016 earnings.

CEO Stephen Elijah DeLaGarza says Roofing Solutions had several notable achievements last year. "We became factory-certified installers capable of offering NDL warranties for Firestone, The Garland Co., Durolast, GAF, Polyglass, Mulehide, Malarkey, Genflex, Flex, Metacrylics and Energy Seal Coatings," he says. Projects completed in 2017 include Barbers Point Elementary School, Palisades Elementary School, Dunkin Donuts, Leahi Hospital, Maluhia Hospital and Safeway Enchanted Lakes.

DeLaGarza says a historic two-story residence in Nuuanu posed unique challenges. "This was an insurance restoration project valued at over \$223,692," he says, noting that the house had a 12/12 pitch with three layers, requiring wood shake, asphalt shingles and aluminum shingles.

Roofing Solutions, he says, "had to remove all existing layers and re-deck over existing lathe boards (spaced decking). Copious lumber repairs were needed due to water rot and termite damage," and replacing the wood "required custom milling of lumber, as all lumber used in the late 1800s was nominal.

ROOFING CONNECTIONS

Websites of Hawaii's Top 10 Roofers and other leading roofers:

Beachside Roofing LLC beachsideroofinghawaii.com

Buck Roofing Co. Inc. buckroofinghawaii.com

Cool Roof Hawaii coolroofhawaii.com

Commercial Roofing & Waterproofing Hawaii Inc. commercialroofinginc.com

David's Custom Roofing & Painting Inc. davidsroofinghi.com

Honolulu Roofing Co. Inc. honroof.com

Kokua Roofing kokuaroofing.com

Pacific Industrial Coatings LLC pichawaii.us

R&C Roofing Contractors roofinspectionhawaii.com

Roofing Solutions roofingsolutionshawaii.com

Shafer's Roofing LLC *shafersroofing.com*

Surface Shield Roofing Co. *surfaceshieldroofing.com*

Tory's Roofing & Waterproofing Inc. torysroofing.com

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R&C ROOFING CONTRACTORS

CEO/PRESIDENT: Chris Tamura | **SPECIALTY:** Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle | **HAWAII STATE LICENSE:** C-33642

teady growth has resulted in R&C Roofing Contractors' first Top 10 appearance as the 10-year-old Honolulu company saw its earnings in 2017 jump 31 percent over the previous year.

R&C reported earnings of \$2,196,000 last year, a strong increase over the \$1.6 million in 2016.

"2017 was a very good year for the roofing industry," says R&C President Chris Tamura. "Stormy weather contributed to the inquiries for new roofs, and despite the slowdown in the solar industry, we were very busy reroofing solar panel customers."

Tamura says a challenging project last year for the firm was the San Cho Ltd. warehouse. "The San Cho warehouse roof coating project was most challenging in that it was a project on Maui. Being Oahu based, it presented many logistical issues that we needed to overcome."

Other roofing jobs the company completed last year include the St. Marks Episcopal Church, Manoa Gardens, Waipiolani AOAO and the Moiliili Community Center. R&C also began work on the Kalihi Union Church roof.

"As a small and growing company, attracting and retaining good qualified roofers and administrative employees is very challenging," Tamura says.
"The roofing industry has its ups and downs. Factors that affect the economy and weather are fickle and unpredictable. As long as we as an industry adapt and provide fair and honest service, there is always room for success."



KOKUA ROOFING

CEO/PRESIDENT: Ron Lloyd | SPECIALTY: Low slope, fluid applied, steep slope, metal, tile, asphalt shingle, slate, wood shingle, thatch (natural and synthetic) | HAWAII STATE LICENSE: CT-31641

okua Roofing slipped out of the Top 10 as earnings dropped to \$2,080,493 in 2017. The company, which is part of Utah-based Pacific Crossing Inc., was ranked No. 8 last year with reported earnings of \$5.1 million.

"Last year was much better. Spending was up and more people were willing to upgrade to premium products," says Ron LLoyd, president of the company founded in 2011.



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HAWAII'S TOP 10 ROOFFRS

Kokua's completed projects last year include Koloa Landing and Kainani Villas for general contractor Layton Construction, Hale Hinahina for Maryl Construction and Kamakana Family & Senior Housing for Unlimited Construction.

The company also began work on the Katz residence for GC Trend Builders and help with the Habitat for Humanity Blitz Build.

Lloyd says the Katz project, with a copper shingled roof imported from Spokane by Zappone Manufacturing, posed unique challenges.

"Virtually no section of the roof consists of straight lines requiring custom sizing of the majority of the 20,000 shingles," he says. "No nail guns were used for the shingles or the 40,000 fasteners. All were nailed in by hand to accentuate the beauty of the copper."

Kokua also took home the Roofing Contractors Association of Hawaii's 2017 top honors in the steep slope residential category.

SHAFER'S ROOFING

CEO/PRESIDENT: Bernadette
Shafer Robins | SPECIALTY:
: Low slope, fluid applied,
single ply, modified bitumen,
steep slope, metal, tile, shingle
| HAWAII STATE LICENSE:
BC-32095

PAST TOP 10 ROOFING CONTRACTORS

2017 RANKING	2016 REVENUE
1. Beachside Roofing LLC	\$40.0 million
2. Commercial Roofing & Waterproofing Hawaii Inc.	. 20.9
3. Tory's Roofing & Waterproofing Inc.	15.1
4. Surface Shield Roofing Co.	9.7
5. (tie) Honolulu Roofing Co. Inc.	8.4
5. (tie) Tropical Roofing & Raingutters Inc.	8.4
7. Cool Roof Hawaii	6.5
8. Kokua Roofing (Pacific Crossing Inc.)	5.1
9. David's Custom Roofing & Painting Inc.	5.0
10. Pacific Industrial Coatings LLC	4.5

2016 RANKING	015 REVENUE
1. Beachside Roofing LLC	\$30.5 million
2. Commercial Roofing & Waterproofing Hawaii Inc.	19.0
3. Tory's Roofing & Waterproofing Inc.	14.7
4. Tropical Roofing and Raingutters Inc.	6.9
5. Oceanview Roofing	5.9
6. Honolulu Roofing Co. Inc.	5.7
7. (tie) David's Custom Roofing & Painting Inc.	5.0
7. (tie) Pacific Industrial Coatings LLC	5.0
9. Surface Shield Roofing Co.	4.7
10. Kokua Roofing (Pacific Crossing Inc. dba Kokua R	oofing) 4.0
2015 RANKING 2	014 REVENUE

2015 RANKING	2014 REVENUE
1. Beachside Roofing, LLC	\$29.7 million
2. Commercial Roofing & Waterproofing Hawaii Inc.	18.5
3. Tory's Roofing & Waterproofing Inc.	13.0
4. Tropical Roofing and Raingutters Inc.	8.8
5. Kapili Roofing	5.1
6. (tie) David's Custom Roofing & Painting Inc.	4.5
6. (tie) Pacific Industrial Coatings, LLC dba PIC Hawa	ii 4.5
8. Honolulu Roofing Co. Inc.	4.1
9. Surface Shield Roofing Co.	4.0
10. Oceanview Roofing	3.5

hafer's Roofing, founded in 1985, performed 50 percent of its work in the public sector in 2017. Among its projects last year, the Kapolei-based company installed a metal roof on the Kalaupapa Airport maintenance shop.

"We got to experience the beautiful people and land of the Island of Hawaii for a week," says Bernadette Shafer Robins, a past president of the Roofing Contractors Association of Hawaii.

Other projects completed in 2017 include the Miso Fort Shafter Task orders and Kahalui Elementary School. Shafer's Roofing also began several residential projects last year and supported fundraising efforts for such charities as the American Cancer Society, the Kidney Foundation, Legacy of Life Hawaii and the Lupus Foundation.





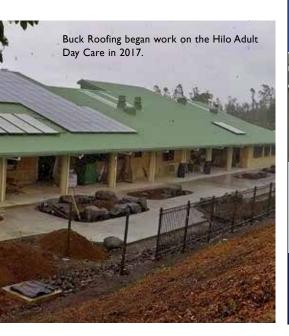
BUCK ROOFING

CEO/PRESIDENT: Hina Schipa SPECIALTY: Low slope, fluid applied, single ply, modified bitumen, steep slope, metal, tile, shingle, waterproofing | HAWAII **STATE LICENSE:** C-15237

uck Roofing reports revenue of \$1.9 million in 2017, and \$2.4 million in 2016—a 71 percent increase in business from the \$1.4 million in 2015.

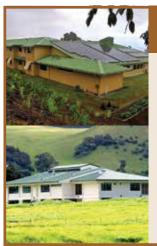
Buck Roofing does 95 percent of its work in the public sector. Projects that the 42-year-old, Honokaa-based company completed last year include Kukuihaele Park improvements, the Kamehameha School Naeole pool facility, the Hokulia Golf Course fitness pavilion, Meheula Vista Phase 2, the University of Hawaii at Hilo Hale Kehau dormitory and Mohouli Senior Housing Phase 2.

Other jobs it began in 2017 include the new Wainani Estates, the Hilo Adult Day Care, the Hawaii Island Humane Society, and Hapuna Prince waterproofing and Kawailani Street improvements and waterproofing.





Buck Roofing completed work on the Mohouli Senior Housing Phase 2 last year.



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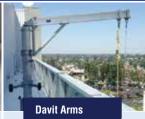
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ROOFERS:

New Codes Will Raise Costs

The state's new energy code applies to both new roofs and repairs

BY BRETT ALEXANDER-ESTES

CRW installed radiant barrier and ridge vents for AOAO Lae Nani to meet Kauai County's current energy code requirements. PHOTO COURTESY COMMERCIAL ROOFING & WATERPROOFING HAWAII INC.

awaii's counties are currently in the process of adopting the new 2015 International Energy Conservation Code (2015 IECC). On March 31 2019, the new energy code will apply to all commercial and residential projects in the state.

The new energy code also applies to new roofs, re-roofs and repairs.

Larry Young, vice president/PME of Commercial Roofing & Waterproofing Hawaii, Inc., says "adhering to the new energy code ensures that the total mix of products used and installed on roofing projects are done in a way that maximizes energy efficiency from the top down."

Young says the new energy roofing codes reduce the amount of energy needed "to cool down building interiors—ultimately reducing our carbon footprint." It won't drastically change roofing projects, he says. "It's simply reinforcing the integration of multiple facets to build energy-efficient roofing systems."

New Costs Ahead

The new energy codes apply to both pitched and flat roofs. New codes for pitched roof are the most comprehensive, and will likely lead to the heftiest price hikes.

"The steep slope roofing projects will likely feel the impact of the new energy code the most," Young says. "Two out of three energy-efficient components have to be installed in lieu of insulation being installed on the deck or in the attic. These include EnergyStar-compliant roof covering, Radiant barrier, attic or ridge ventilation."

Insulation **Inflation**

Insulation comes with a higher price tag, too. "Higher costs associated with the new codes include the cost of



Jeffrey Rapoza

roofing insulation on both new residential builds and roof replacements," says Jeffrey Rapoza, branch manager of RSI Roofing & Building Supply

> and Allied Building Products Solar Division.

Installing exterior insulation on a pitched roof, says Davelyn Leong Martin, president of David's Custom Davelyn Leong Martin Roofing & Painting

Inc., requires "a lot of extra work" and will likely raise costs "20 to 40 percent, depending on the type of home and what is needed.

"You have to put in insulation, the cover board. And if you're using rigid insulation you're going to have to build up the eaves, put in nailers, put on bigger flashing. There have been instances when the customer opts out of (exterior) insulation, and if that's the case they're going to have to insulate inside the house."

For a typical 2500- to 3000-squarefoot, three-bedroom Hawaii home,

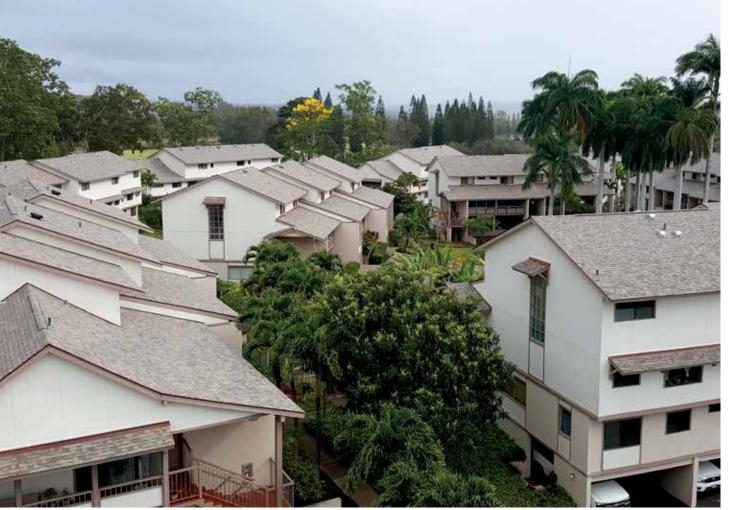
says Rapoza, "the cost of insulating the roof will be about 25 percent of the roof's cost. Roofing this home with superior-grade asphalt shingles-for example, CertainTeed solar-reflective

> "The steep slope roofing projects will likely feel the impact of the new energy code the most." —Larry Young

shingles—will cost about \$10,000. So the insulation—either exterior or interior (attic space) insulation—will run about \$2,250."

Brenden Clement, director of sales for Cool Roof Hawaii, predicts an increase of at least 20 percent for





For AOAO Kuahelani, CRW met and exceeded new energy code requirements with EnergyStar-compliant roofing, radiant barrier, ridge vents and solar fans. PHOTO COURTESY COMMERCIAL ROOFING & WATERPROOFING HAWAII INC.

energy-efficient cool roofs "due to the price of the insulation and acces-

sories to meet the code requirements. There will be a lot of recover/overlay as in coatings and single-ply cool roof systems to keep the energy efficiency compliance."



Brenden Clement

Sonny Leandro, branch manager of Roofline Supply & Delivery, agrees. "If a roof is not

able to be coated or an overlay can't be performed due to the condition of the existing roof say, due to trapped moisture-a tearoff will need to be done," he says.



"From the roof deck to the roof membrane, (the roof) will need to meet code, and that cost will be a lot more than the existing-

Moreover, says Young, "there are also price increases slated for June for materials."

Training Gap

According to Martin, some Hawaii roofers don't have the skills to install to code—another compliance cost. "It's probably something that they're going to have to learn right away,"

> "They can email me, and I will provide training." —Howard Wiig

she says. "It's not that hard, but it's definitely difficult just starting up, so it will take some training."

Clement agrees. Training "is a must, and needs to be done," he says.

Howard Wiig, energy analyst with the Hawaii State Energy Office, the agency implementing the 2015 IECC,



Howard Wiig

says the agency is eager to offer training to Hawaii's building associations, unions and other groups. "They can email me, and I will provide training," he says. The Roofing

Contractors Association of Hawaii will also sponsor training, "but we

will wait for adoption," says Tim Lyons, executive director of RCAH.

Job prep may be in order for roofing clients, too. "Overall, Hawaii roofers will need to be able to educate



Tim Lyons

clients on why the new energy code is being implemented," Young says, "and help them prepare to build up their budgets to support the (inevitable) increase in cost of re-roofing to meet energy code."

code roof assemblies."

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HAWAII GROWS WITH WOOD



Lumber use in Hawaii's Commercial Construction

Still Rising

*Photo courtesy of Kuʻulei Kaʻanoi, Allied Builders Systems

hen it comes to residential structures, wood is one of Hawaii's most popular choices in building materials. However, for commercial and industrial buildings, wood has sometimes remained secondary to steel and concrete construction because it was believed that wood may not have the durable capabilities to sustain certain commercial buildings. The tides are shifting, and there is a movement toward more wood construction in commercial buildings in Hawaii, for a variety of reasons.

HAWAII GROWS WITH WOOD

The benefits of using wood are many, but leading the way is that wood is usually one of the least expensive of all building materials, with prices remaining more affordable than most other building materials, even during recent years.

Another reason, architects and builders look more at green construction every day. "With a growing interest to sustain a healthy planet, there is no other building material better suited for that purpose than wood," said Scott Loomer, president of the Hawaii Lumber Products Association and Truss Systems Hawaii.

"This is why Hawaii builders should continue to use wood for more commercial and industrial construction."

One of the exciting new commercial wood-framed projects on Oahu is the new Assets School in Honolulu, located near the airport. Assets School serves gifted and capable students, specializing in those with dyslexia and other language-based learning differences. They have a special learning environment to provide strength-based programs, complemented by outreach and training.

- Manufacturing lumber from trees is more costeffective than turning any other raw material into a building
- Wood and lumber are sustainable/renewable resources
- Wood is, and has historically been, the most common building material
- Most construction tools are made mostly for use with wood
- The majority of contractors are primarily experienced with wood framing

- strength by using stacked wall framing (i.e. areas vulnerable to earthquakes or hurricanes, like Hawaii)
- Wood is naturally energyefficient—a major plus for commercial projects
- Heating or cooling can account for up to 50 percent of a building's utility costs
- Wood uses 53 percent less energy than other building materials
- Wood is 400 times less heat-conductive than steel and 8.5 times less heatconductive than concrete





*Photo courtesy of Kuʻulei Kaʻanoi, Allied Builders Systems

For their new campus, Assets School selected Group 70 (G70) as their architecture firm, with Lindsey Ching as lead architect.

G70's aim is to provide a highquality structure that is achieved by working together to develop a clear vision of the project. Wood was selected as the main building material for its ease in use, design, green benefits, flexibility, sustainability, energy efficiency and affordability.

The project broke ground in September 2017. Locally owned and operated since 1970, Allied Builders System is the general contractor. Ku'ulei Ka'anoi, Allied's project engineer, is overseeing construction and reports "they will complete this project a full two months ahead of schedule on May 31, 2018.

"This project has been an overall wonderful experience, and Assets School has been a wonderful team and partner. We've enjoyed the opportunity to integrate Assets learning possibilities for their students throughout the school in the design and build-out of the brand new learning environment for their students."

Hale Mahaolu Senior Living
Center, another new commercial
wood project under construction, is
in Kula, Maui, with Arisumi Brothers
as general contractor. Scott Loomer,
president of Maui's Truss Systems
Hawaii and current president of the
HLPA, provided the trusses and walls.
Groundbreaking was held in August
2017, with the project's completion
date toward the end of this year.
Senior citizens with limited incomes
soon will be able to rent an apartment
in Kula with unobstructed views of

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HAWAII GROWS WITH WOOD



South, West and Central Maui.

Says Loomer: "Truss Systems is proud to be involved with such an important project for Maui residents. As Maui's leader in wood trusses and structural components, we look forward to helping other Maui projects with their commercial wood framing needs."

Phase 1 of the project will have 39 units and a senior center. Over \$20 million was raised for this public-private partnership. The upcountry project has nine different funding sources, including private, federal, state, county and nonprofit entities.

The new center includes PV, commercial quality appliances, a beauty salon and offices. The Phase 1 units

and the senior center are both located on the Lower Kula Highway side of the property. The second phase of units will be further makai.

Everett Dowling, the developer, had the foresight and courage to drill a water well for his Kulamalu Development, of which Hale Mahaolu is a part. Having this water readily available alleviated the need for the project to stand in line for a precious upcountry water meter for which hundreds are on a wait list.

Another motivation for wood's popularity is its natural beauty. Wood creates a warm and inviting environment. Hawaii has amazing examples of wood-framed commercial developments including: Kapolei

Commons; the Hilo tennis pavilion; the airports in Hilo, Kona and Kauai; and Waipahu, Mililani and Pearl City shopping centers. These commercial developments are just a few of the many outstanding examples of wood's structural integrity in Hawaii.

The Hawaii Lumber Products Association is comprised of professionals representing the development and construction industry as well as building material producers and service companies. They are committed to the education and promotion of lumber products as the best choice for construction in Hawaii. To find out more about using wood to build commercial buildings, please visit www.hawaiilumber.com.

What to Consider When Shipping Lumber to Hawaii

hen Hawaii was starting to grow, many ports did not have adequate docks and relied on experienced swimmers to float, paddle, or swim huge pieces of lumber ashore.

Now, shipping wood and lumber to Hawaii is a more efficient operation. Experienced cargo transportation firms work together with contractors and suppliers to make sure the needs of Hawaii are met, giving tips to ensure fast and efficient service.

If You Can, Order Ahead

Aloha Marine Lines provides Hawaii with full-service bi-weekly tug and barge service direct from mills and wood treaters throughout the Pacific Northwest.

Bret Harper, sales manager for Aloha Marine Lines Inc., says the most significant source of costs when shipping to Hawaii are fuel expense, facilities and labor. His advice is to order with time to spare using a barge service, rather than steamship, to transport lumber to Hawaii.

"Transit time is 12 to 14 days," says Harper. "We offer specialized unique equipment, such as 53-foot containers and platforms, which appeal to a lot of contractors and builders, since a significant portion of the building material cargo we transport is composed of wood products."

Lumber Protection

Sause Bros. started transporting Pacific Northwest lumber to Hawaii in 1966 to provide for the housing boom. Between 1960 and 1964, over 22,000 new single-family wood-sided houses were constructed, with an estimated 26,000 more to be built.



*Photo courtesy of Lynden Inc.

Sause Bros. supplied the demand for materials.

With most of their shipments today also consisting of wood products, their number of shipping options and skilled workers ensure shipments have the safest option for lumber to and from Hawaii. Not only are containers, platforms and flatracks available, but they also offer expert tarping, strapping and shrink-wrap protection.

According to Sause Bros. representatives, experience and ability to innovate enables them to transport lumber, plywood, bulk and heavy equipment to Hawaii effortlessly.



*Photo courtesy of Lynden Inc.





*Photo courtesy of James Zane, McCabe, Hamilton & Renny Co., Ltd.

From Ship to Shore

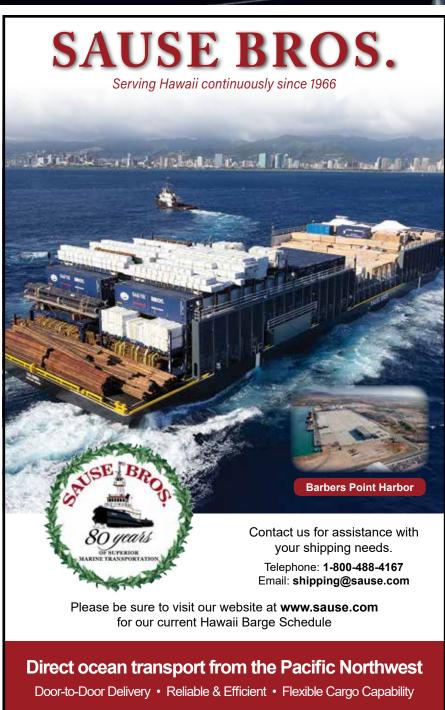
What happens when the barges arrive? Although strong swimmers aren't needed to get the wood to shore anymore, stevedore company McCabe Hamilton Renny Co. Ltd. prides itself on stepping in and handling shipments at the dock.

"For one of our clients, just about 68 percent of their cargo volume is lumber products," says James Zane, vice president of Planning & Business Development, "We provide the labor and machines to handle the offloading and loading of various forms of construction materials and commodities—handling cargo from ship to shore."

When You Need Lumber Fast

When you're in a time crunch, you can rely on who's been shipping longest. Matson Navigation Co. began shipping to Hawaii with sailing schooners in 1882 from San Francisco. In 1960, Matson launched S.S. Hawaiian Citizen as the first full containership in the Pacific. Since then, Matson Navigation Co. has been shipping to the Islands every week from the West Coast.

"We are the only carrier that serves Hawaii every week, sailing from Seattle with cargo originating from both Oregon and Washington, arriving in Honolulu a week later," says Gary Nakamatsu, vice president of Hawaii sales. "The transit time is very important in our service because it provides just-in-time delivery for our customers. We pride ourselves on our frequency and our dependability."



Hawaii Embraces the

Latest Advancements

in Wood Treating

he latest advancements in wood treatments available in Hawaii include fire retardants and weather-resistant options for Hawaii homeowners.

With Hawaii's recent spate of building fires, fireretardant treated wood is a good choice for builders. Allweather Wood's D-Blaze® FRTW treated wood stops fire from blooming in above-ground application and showed no combustion after sustaining a 30 minute tunnel test. The National Fire Protection Association (NFPA 255) also approves it for building use, and it needs no special equipment for installation.

Says John Heideman, general manager Hawaii for Mendocino Forest Products, "Allweather Wood's D-Blaze® fire retardant treatment is especially relevant for buildings in Hawaii that want to stay up to code—it's anti-flake and low-corrosive qualities let it stand the test of time."

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solution that uses dissolved
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against termite and fungal damage. Unlike borate, CA-C pressure-treated wood can be used outdoors and with water-contact and ground-contact applications.

Wolmanized® Outdoor® Wood is ideal for outdoor use and can be stained or painted. The Allweather Wood line of products has a wide range of wood types and preservatives to protect against water, decay, fire, mold, humidity and pests, covering all commercial and residential uses.

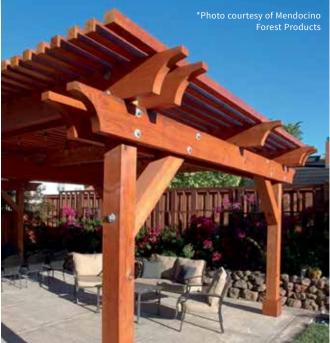
Always a local favorite, Hi-bor® borate pressure-





*Photo courtesy of Dan Crockett, Mendocino Forest Products







*Photo courtesy of Dan Crockett, Mendocino Forest Products

treated wood was developed in Hawaii by Koppers Performance Chemicals for Island life. Hi-bor® wood products perform insect control on a wide range of insects including ants, silverfish, cockroaches and termites. Borate treatments are water-soluble, so it should not be used on wood intended for outdoor or ground-contact use.

Wood treatment options are continuously improving, as well as the availability

and ease of accessibility. Treated wood products can now be found in chain retailers, and through local companies including Hardware Hawaii. Always consult with the lumber experts to decide which treated wood products are best for you.

For comprehensive information on how to pick the right wood treatments for your needs, contact our Wood Treatment members at hawaiilumber.com





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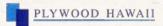
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The Best-Looking Wood is Not Always THE STRONGEST

*Photo courtesy of Plywood Hawaii, Inc.

awaii is currently seeing an increase in the use of Hawaiian wood for interior building design. When considering lumber for construction, it is important to consider strength, not just overall appearance. Thankfully, lumber grades are available to let you know which wood products are up to the task.

A lumber grade determines the overall end use of a product based on the wood's visible characteristics, species and region of growth.

More Softwood, More Construction

As reported in March, the global trade of softwood lumber reached a record high in 2017. U.S. softwood lumber production reached the highest level seen in a decade, and an increase in demand has happened across the nation, including Hawaii.

Softwood lumber is a collection of



*Photo courtesy of Plywood Hawaii, Inc.

woods including firs, pines and cedars. Currently, the American Softwood Lumber Standard oversees the enforcement of softwood grading standardization in North America.

Two Categories of Grading

Softwood lumber grading is divided into two categories, strength and appearance. Strength places an emphasis on the structural integrity and durability of the wood, while appearance focuses on the wood's aesthetic and any apparent blemishes.

Wood that has limited shakes, splits, pitch streaks and pockets, knots and wane, may still be given a high strength standard, as some of these defects happen during milling. These characteristics would have to be limited to appear aesthetically pleasing and receive a high appearance grade.

Know Your Price Point

Higher grades have higher prices, with prices often doubling from one grade to the next. So, if you're budget conscious, it's advised to know exactly what grade of lumber you need for the job and stick with it.

Where to Buy in Hawaii

So where can you buy properly graded lumber in Hawaii? HPM Building Supply, Hardware Hawaii, and Plywood Hawaii are some of our members that supply pro-graded lumber. For more on where to buy graded lumber, or to learn more from our Grading Experts, visit hawaii-lumber.com

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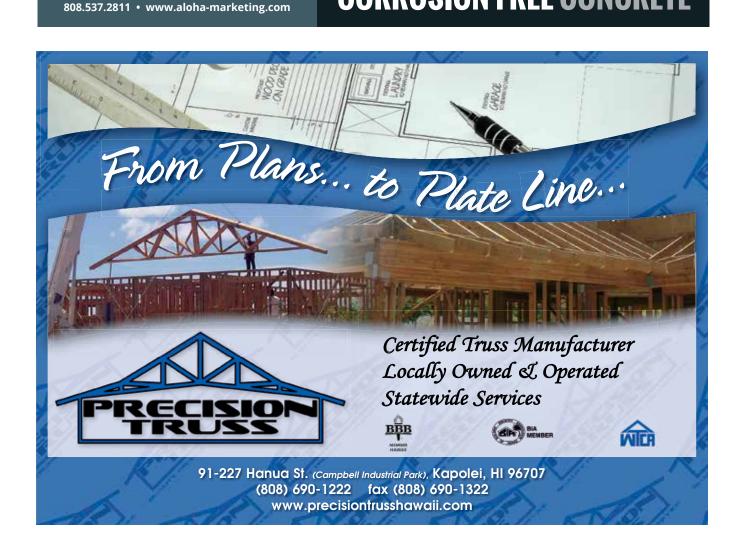
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Hawaii's leading safety managers say training for workers should be held on a regular basis.

THE GOAL: Send Workers Home Safely

Island safety managers urge use of training and technology to protect employees from jobsite injuries

BY DAVID PUTNAM

he No. 1 goal of all construction companies "is to make sure each one of our workers goes home safely at the end of their workday," says Steve Kalani, safety manager for Commercial Roofing & Waterproofing Hawaii Inc.

In the high-hazard construction industry, workers can be exposed to such dangers as falling from rooftops, being struck by equipment, electrocutions, silica dust and asbestos.



Steve Kalani

According to the Occupational Safety and Health Administration, nearly 6.5 million people work at more than 250,000 construction sites across the U.S. on any given day,

resulting in an overall higher injury rate among builders.

With strong safety training, however, many injuries might be avoided.

"You really don't have one magic safety measurement that is most important on a jobsite. It's a

combination of measures or measurements that really determine a successful jobsite," says Tristan Aldeguer, the health, safety and

SAFETY 5 MONTH N

The National Safety Council hosts National Safety Month in June each year in the United States to mark a time to increase safety awareness with the goal of reducing preventable injuries and deaths.

environmental training manager for Hawaiian Dredging Construction Co. Inc. "If I had to start with one measurement it would be the two Cs: 'Do



Tristan Aldeguer

you Care about your workforce, and are you Committed to sending them home safe each day?'

"You can measure that by how well safe work practices are planned into activities, housekeeping on a jobsite, material handling and sequence or phasing of activities on a jobsite."

Frequent Citations

There are many examples, both in the Islands and across the Mainland, of workplace safety violations.

• In February 2017, a 55-yearold man was operating a loader in a ship's cargo hold on Malakole Street

Hawaiian Dredging workers receive training in the proper use of fall protection equipment.

in Kapolei when the loader overturned and ejected him. He fell 10 to 15 feet and was taken to the hospital in serious condition.

- In May, a New Jersey building company was fined \$221,343 for exposing employees to safety hazards while performing residential demolition work.
- A worker fell from a roof at a Kapolei Commons construction site last July and was transported to a trauma hospital in critical condition.
- A roofing company in West Virginia was fined \$57,600 in April for 13 safety violations that occurred during construction at a church. Inspectors found employees did not wear protective helmets, had inadequate training and were exposed to potential

electrical hazards.

• Also in April, a Syracuse roofing contractor reached a \$175,000 settlement with the U.S. Department of Labor after being issued four citations for fall protection violations in 2016 and 2017.

According to OSHA, some of the most frequent hazards for construction workers include falls from heights, trench collapse, scaffold collapse, electric shock and arc flash/arc blast, failure to use proper personal protective equipment (PPE) and repetitive motion injuries.

"The most important safety measure on our jobsite is to ensure that our workers have the tools and information to be able to do their job," says Kalani. "Each project is different, each jobsite is different."

He says he conducts safety meetings

PREPARE FOR THE UNEXPECTED

Emergency situations can happen at any time, making it crucial that you are prepared before the crisis happens, according to the National Safety Council which offers these tips:

- Research and prepare for natural disasters common to your area, such as tsunamis, floods, earthquakes or hurricanes.
- Create an emergency kit for both your home and car.
- Create a home emergency plan with your family and learn how to shut off your utilities.
- Be a good participant in emergency drills at work and school by following instructions and paying attention to lessons learned.
- Store important phone numbers, including those of family members, with other important documents in a fire-proof safe or safety deposit box.
- Learn first aid and CPR for children and adults. Check out the NSC First Aid app.
- Know how to respond to an active shooter with free NSC training at nsc.org/communitytraining.

Your Home Emergency Kits Should Contain:

 Food and water for each family member for three days as well as a can opener and nonperishable foods, such as tuna and peanut butter.

- Hand-crank or battery-powered flashlight and radio with extra batteries.
- Full first aid kit, including hand sanitizer and garbage bags.
- Plastic sheeting and duct tape for broken windows or a leaky roof.
- Whistle to signal for help so rescuers can locate you

Your Car Emergency Kit Should Contain:

- A properly inflated spare tire, wheel wrench, tripod jack and jumper cables.
- A tool kit, compass, duct tape and car charger for your cell phone.
- A flashlight with extra batteries, a rain poncho and a fire extinguisher.
- Reflective triangles and vest, and brightly colored cloth to make your vehicle more visible.
- A first aid kit and enough nonperishable food and water for three days.
- Inclement weather items such as a shovel, windshield washer fluid, clothing, cat litter for traction and blankets.

with workers "before they even step on the jobsite so they understand the scope of work, have the right personal protective equipment and are trained to use it. It's important that they know what the hazards are and what safety measures have been implemented to mitigate those hazards."

Aldeguer also stresses that "safety training and/or coaching should be done daily and as needed. Unfortunately, when someone mentions safety training, people assume it has to be conducted formally in a classroom with PowerPoint, and some amount of minimum training hours need to be covered.

"Most of our trade employees are kinesthetic learners—they learn by physical activities," Aldeguer adds. "Field activities or hands-on components should be included with conventional safety training. It's also important that you verify comprehension of training."

Safety Conference

Safety training is readily available to contractors and their workers across the Islands. Training is offered

...continued on page 92

Improve Worker Safety

The Arlington, Va.-based Associated General Contractors of America offers its "13 Proven Steps to Improve Construction Worker Safety" to help organizations protect their workers. The General Contractors Association of Hawaii is affiliated with the AGC. The 13 steps are:

For new employees:

- 1. Establish a buddy system for all new hires.
- Hold safety orientation sessions for all new hires, including temporary workers.

Ongoing training:

- 3. Ensure managers and supervisors have the appropriate leadership and effective communication skills to instill safety culture and concepts into the workforce.
- 4. Institute two separate Pre-Task Hazard Analysis training programs.
- 5. Hold monthly "lunch and learn" safety training programs.
- 6. Require all foremen and superintendents to attend "Leadership in Safety Excellence" certification courses.
- 7. Hold targeted safety training to address all safety incidents.
- 8. Make sure all training and materials are available in languages that can be read by all members of your workforce.
- 9. Train your trainers.

Operating procedures:

- 10. Create worker task-specific "pocket safety guides" for every assigned task.
- 11. Establish craft-specific safety mentoring programs.
- 12. Issue easy-to-read badges to all workers indicating their level of training.
- 13. Authorize all workers to issue "stop work" cards to address safety risks.

FATAL FALLS: SMALL BUSINESS AND RESIDENTIAL CONSTRUCTION 20-99 Small businesses **61%** (10 or fewer employees) 20-49 account for 61% of fatal falls in construction Fall fatalities in residential 1-10 **Employees** construction more than Fatalities caused by doubled from: falls from elevation remain the leading cause of death for construction workers 26 deaths accounting for in 2011 370 of the 991 to construction fatalities 61 deaths recorded in 2016 in 2015 PROVIDE (BLS data) Three simple steps to preventing falls Join the Campaign to CDC Mosh Stop Construction Falls!







Four cranes in operation at the Park Lane construction site

The site area is approximately 316,000 square feet and consists of eight buildings with two floors of residential parking, various amenity spaces and 217 residential units that were constructed on top of a new commercial parking structure.

"Meeting the developer's budget and schedule were the first priority



Park Lane after project completion







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The Park Lane project involved the construction of eight buildings and two floors of parking.

to insure that the project would get off the ground," says Miles Ikeda, project manager. "ACK spent many months in advance working with the developer and design team to provide design-assist and preconstruction services to help the developer and architect make cost-effective decisions to keep design development on track."

ACK's partner on Park Lane was LF Driscoll Co. LLC of Pennsylvania. LFD supplemented on-site staff with project managers, project engineers and building information modeling support.

The project broke ground in May 2015. Work was spread into three phases, with the final phase completed in late 2017.

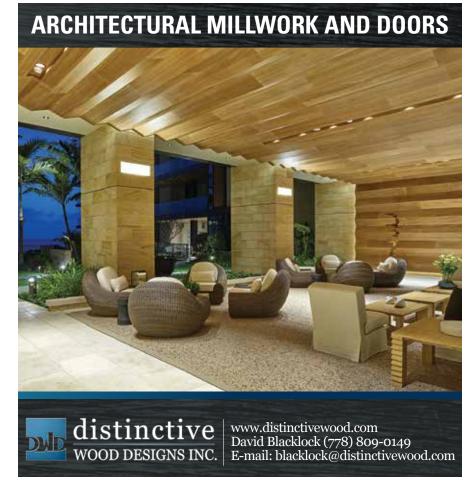
"Once in construction, meeting the developer's high expectations for a unique, ultra-luxury project was the priority," Ikeda says. "Field mock-ups of various elements were constructed for the client's approval prior to going into production.

"Once in production, ACK and our subcontractors followed a strict quality control program that held ACK and all subcontractors accountable for the work. Weekly OAC (owner, architect, contractor) meetings were held to discuss and resolve any open design or construction issues. There were also separate in-depth meetings to discuss critical issues, MEP (mechanical, electrical and plumbing) coordination and quality assurance objectives and evaluations.

"ACK accompanied the owner, developer and construction managers on their weekly jobsite walks to review and address any quality issues or concerns that the team brought up, or to implement new designs. The entire project team was fully involved in all aspects of design and construction." Challenges Galore

The sheer size of the project combined with the location posed many challenges.

"The site was huge, and bounded





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SPOTLIGHT ON SUCCESS

by two of the busiest roadways in Honolulu: Piikoi Street and Ala Moana Boulevard," Ikeda says. "The site was also located within the state's largest and busiest shopping center. And to top it off, the Park Lane residential units started from the third floor of a new but fully operational commercial parking structure."

One specific challenge was getting materials from the ground floor up to the third floor and above.

"ACK was fortunate to have built



Interior of the recently completed Park Lane

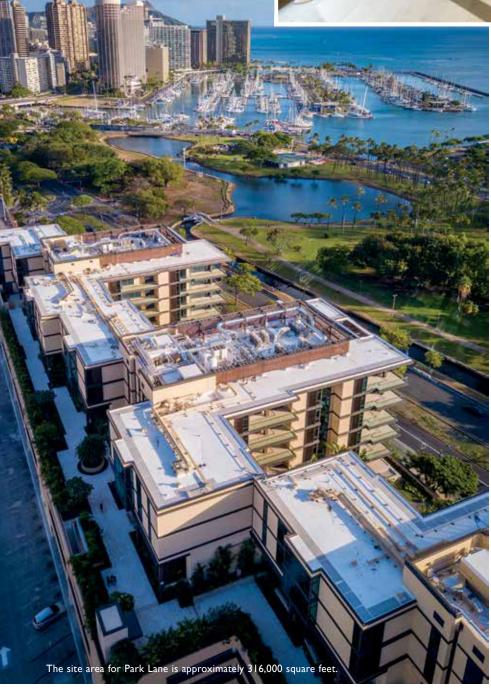
the new commercial parking structure and continued to utilize the four tower cranes to serve the massive site," Ikeda says.

Because there was no longer jobsite space on the ground floor of the parking structure, measures such as daily lane closures on both roadways were necessary to facilitate pumping concrete and hoisting all construction and finish materials to the upper floors. Only six hours a day were available to pump over 79,000 cubic yards of concrete from Ala Moana Boulevard and hoist all drywall, tile, countertops, cabinets, appliances and fixtures.

"Dismantling three of the tower cranes was even tougher," Ikeda says. "It required two lane closures on Ala Moana, with a contraflow lane in the opposite direction, and coordination with and approval from the state Department of Transportation months in advance."

Working at Ala Moana Center, ACK had to take steps to insure public safety. During construction, the company erected illuminated, covered sidewalks on both Ala Moana and Piikoi. In addition, ACK installed debris netting above the covered sidewalks along Ala Moana and within the shopping center at locations where work was going on above parking stalls or drive lanes.

ACK also maintained single-lane closures on both roadways to create a safety barrier between the public and construction hoisting activities. Road closure teams of properly dressed and



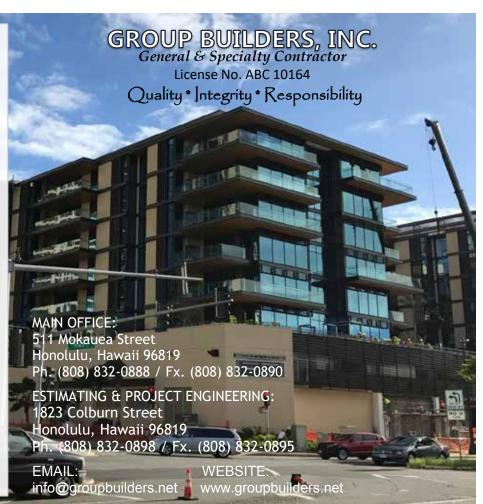
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Thank you to our project team for the hard work, patience, support and resilience to such a challenging and progressive project. Group Builders' potential truly continues to shine through our employees, their energetic effort and inspiring dedication.

Much Mahalo!

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Amenities at Park Lane

equipped certified flaggers watched and maintained lane closures.

To address concerns of those around the construction site, ACK held community meetings to explain the project and to provide a direct line to the project manager for those with issues or problems.

"During construction, understanding and addressing the concerns of adjacent neighbors and businesses was a high priority," Ikeda says. "ACK used sound and dust meters to periodically monitor construction activities. ACK also developed and implemented a best management practices (BMP) plan approved by the state Department of Health to eliminate run-off from the construction site." Bringing Their 'A' Game

The project's design also presented hurdles. "Eight low-rise buildings on a massive site were actually more challenging than going vertical with one high rise," Ikeda says.

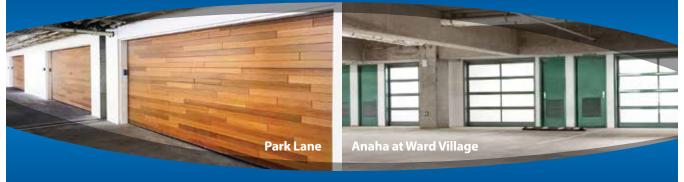
Instead of needing one tower crane, Park Lane required four. Instead of three or four elevators as in a normal



Park Lane features 217 residential units.

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high-rise, Park Lane has 24. Instead of one single roof with one mechanical plant, there are eight.

"More than one building was being completed at a time," Ikeda says, "requiring multiple finish crews from the same trades in all buildings."

Unlike a typical high-rise or condominium project which repeats unit layouts for multiple floors, Park Lane features 97 different floor plans within its 217 units, making MEP coordination difficult.

"Our construction project team utilized building information modeling (BIM) to create a virtual 3D model of each building with all common areas and units laid out, including all plumbing, fire sprinkler, HVAC, and electrical equipment and fixtures shown," Ikeda says.

"This 3D model allowed virtual 'clash detection' for many different elements to check for conflicts before they occurred, and to resolve them before it became a costly problem in the field."

Ikeda says "constant interaction,

communication and feedback" played a major role in the project's success. "The project team—which included the owner—held weekly project

"More than one building was being completed at a time, requiring multiple finish crews from the same trades in all buildings."

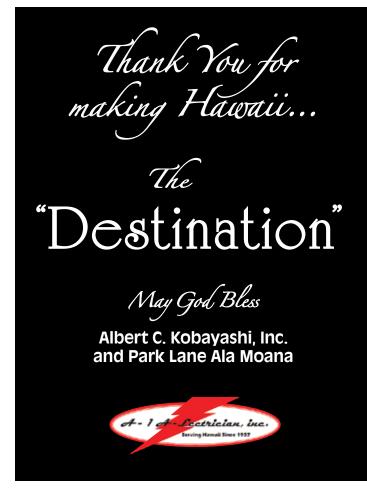
—Miles Ikeda

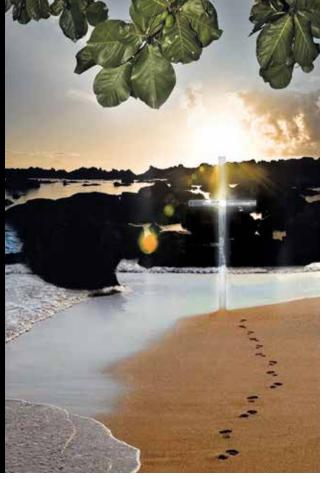
update meetings, numerous topicspecific meetings (MEP coordination, quality assurance, etc.) and GoTo Meetings for across town and across oceans. We used the latest software programs to streamline, process, and shared RFI (request for information) responses, submittals, 3D models and punch list programs in real time.

"We went on site visits to material suppliers in various countries, held joint weekly jobsite walks and the occasional project team recreational get-away, all to keep everyone in the know and focused."

Looking back, Ikeda says Park Lane "was a very difficult and challenging project, but everyone on the project team brought their 'A' game, worked hard together, rolled up their sleeves and got it done.

"This was definitely a good project for ACK. First, we were fortunate to work again with the leading developers in town to make their visions a reality. Secondly, it provided much need jobs for our workers, our subcontractors, and the construction industry in general. Third, it proved again that ACK has the talent, skills and dedicated people to plan, execute, build and manage a project of this size and quality."







Contractor Micronesian Renewable Energy installed 432 solar panels on the rooftop of the Guam Memorial Hospital.

Guam Hospital Retrofits Roof with Solar SystemPV panels expected to generate \$89K in savings in power use from GPA

BY MAR-VIC CAGURANGAN

he Guam Memorial Hospital's newly installed 432panel solar power system is now up and running.

The photovoltaic panels on the hospital's rooftop each measures 3 feet by 5 feet and are positioned for maximum sun exposure to produce 100kW, according to contractor Micronesian Renewable Energy.

Although GMH will remain on the Guam Power Authority's grid, the solar power allows the hospital to reduce its GPA power consumption by 9 percent on a daily basis, according to hospital administrator Peter John Camacho.

The hospital pays the government-run GPA an average of \$180,000 a year. Camacho says the new solar system, which was completed in April, is projected to reduce the hospital's energy cost by \$89,000 a year.

The GMH rooftop solar project, which cost

\$349,200, was funded through a \$500,000 grant from the Department of Interior's Empowering Insular Affair Grant Program.

GMH Chief Planner William Kando says the hospital intends to use the remaining \$150,800 from the grant for other energy-efficient measures pending DOI approval.

MRE construction manager Sean Carbonneau, said in a news conference for the project launch in October 2017 that the system will provide ample energy during the sunny summer months and also enough to buffer the reduced power generation during the cloudy or rainy days.

The GMH rooftop solar project was initiated in 2015 to address "environmental concerns by utilizing renewable and more eco-friendly forms of energy generations," Camacho says. "It is one of the many other initiatives that are part of a

broader strategy to run the hospital in a more efficient manner."

The GMH rooftop solar system is among the largest projects undertaken by MRE, which has installed 67 percent of the solar projects completed on Guam, according to Joe Rosario, the company's marketing director.

Other ongoing MRE projects include Guam Veteran Affairs (100kW), Paradise Fitness Center facilities in Hagatna and Dededo (100kW each), Genghis Khan shop (100kW), two contracts with Navy Base Guam one for 250kW and another for 110kW), and Mount Carmel School Saipan (143kW).

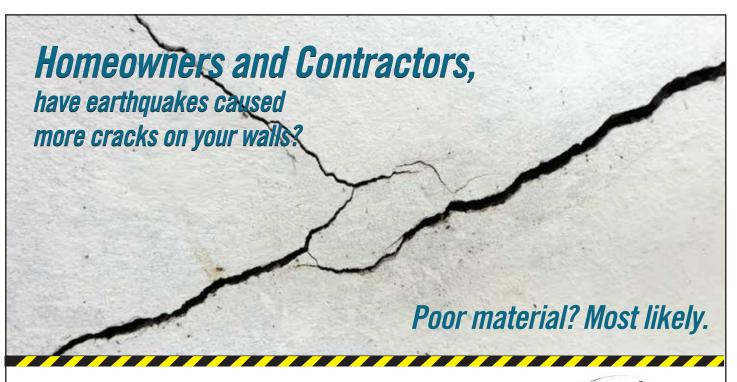
The company also provides solar panel installation for residential homes.

Guam, historically, has been dependent on petroleum products to generate power. GPA's Integrated Resource Plan targets reducing fossil fuel consumption in all sectors by 20 percent from the 2010 level by 2020. Its goal is to produce 25 percent of electricity from renewable sources by 2030.

Guam's first commercial solar PV facility, NRG Energy's 26-megawatt Dandan solar farm, began operating in 2015, serving 10,000 homes.

In 2017, the Consolidated Commission on Utilities cleared the way for 120 megawatts in renewable electricity projects, which are expected to come online in three years.

"Until recently, little renewable energy was available on the island beyond a few solar PV units used for cell phone towers and remote weather stations, solar thermal units used for water heating, and a few small wind generators (less than 5 kilowatts capacity) operated by commercial and residential users," according to the U.S. Energy Information Administration.



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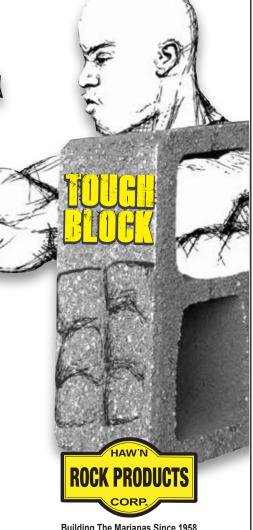
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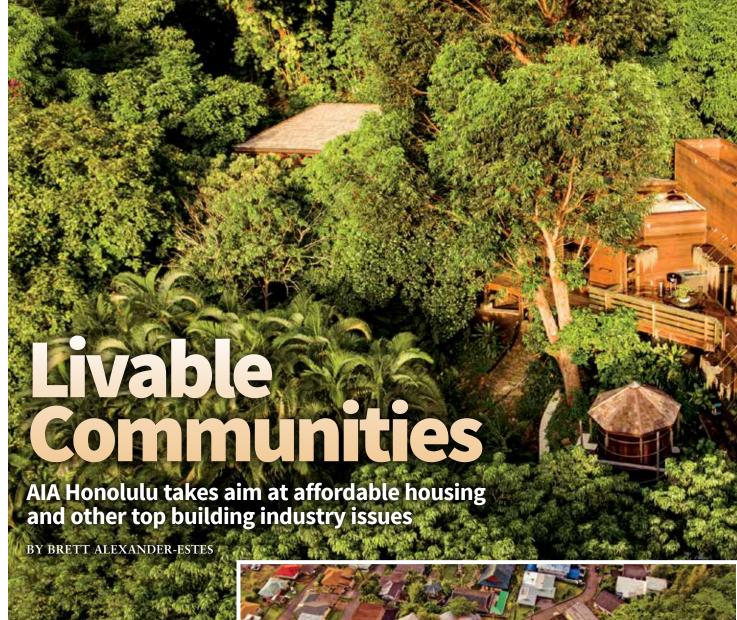
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t the upcoming 19th Annual Pacific Building Trade Expo, Hawaii builders will scope out the latest industry trends. And this year, as part of the 2018 Design Symposium, the Expo may also be a catalyst for change.

The Design Symposium and Trade Expo, held on Nov. 13-15 at the Hawaii Convention Center and elsewhere, will showcase the new



Geoff Lewis

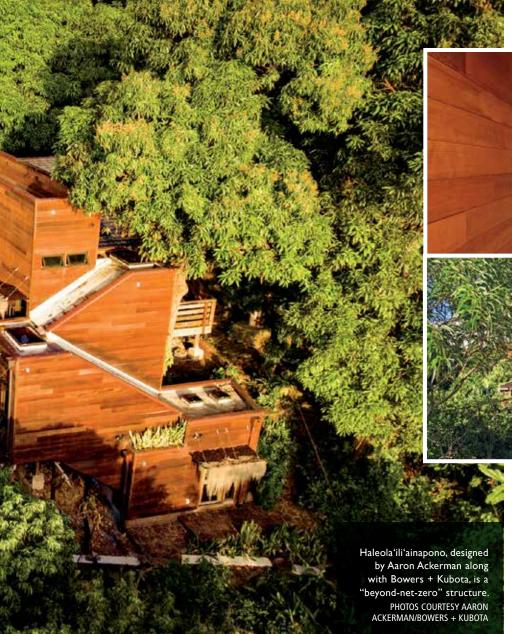
products, services and skills Hawaii builders need for today's market. It will also present "Building Voices: Livable Cities and Communities," a three-day forum exploring ways that



Haleola'ili'ainapono (lower right) is built on a "grayfield" or "economically depressed" site.

builders can shape their industry—and Hawaii—for the better.

"This year's Symposium is the second of four parts put on with the University of Hawaii School of Architecture and the American Institute of Architects," says Geoff Lewis, owner of Geoffrey Lewis Architect Inc. and 2018 president of the American Institute of Architects Honolulu Chapter (AIA Honolulu). The Symposium, he says, is "an opportunity to realize real change for our communities, and make strides to



(top) Reclaimed redwood inside Haleola'ili'ainapono; a required fire access stair is designed to minimize solar heat gain.

solve issues facing Hawaii—like homelessness, affordable housing, resilient design, and good, well-functioning communities."

No One Good Solution

One long-standing issue—affordable housing—has no end in sight.

And the reasons may be "unique in number and magnitude," says Sean Baumes, an architect at WCIT Architecture and a member of AIA Honolulu's Housing Committee.



Sean Baumes

"Land costs are high," Baumes says. "Construction costs are high. Living costs are high"—and Hawaii's

physical and economic resources are limited, infrastructure and housing stock are aging, and climate change and sea levels are mounting.

Which is why, Lewis says, the 2018 Symposium will present leading architects, planners and design professionals from Hawaii, the U.S. northwest and Pacific coast. And why the Symposium might be part of the Expo for the next two years—so that these local, national and "eventually international" participants can develop a range of solutions with city, state and federal Department of Transportation experts.

Groundwork

Meanwhile, AIA Honolulu is addressing Hawaii's housing and other issues through building industry forums, in-house committees, ongoing initiatives and advocacy within Hawaii's public and private sectors.

AIA Honolulu Housing Committee:

"Our mission is to provide leadership, advocacy, and education to the profession and the public in matters related to housing design," says Baumes.

The committee, he says, looks for diverse perspectives that don't necessarily build consensus, but rather "mutual understanding and increased awareness." Baumes says

"There is great potential to do more with less."

—Sean Baumes

representatives from the Hawaii Community Development Authority, the Department of Planning and Permitting and the Department of Design and Construction participate along with AIA members, "so it's a good way to engage current issues."



Haleola'ili'ainapono's potable and non-potable water demands are supplied by rain catchment and water reuse systems.

One hot-button issue in 2018 is accessory dwelling units (ADUs) and related infrastructure.

"There are certainly ADU permits being rejected due to lack of capacity, and projects burdened by integrating on-site power distribution in underserved neighborhoods," Baumes says. "But there is a lot we can do to implement affordability by design within our existing infrastructural networks. California and other states are lightyears ahead of us in terms of energy and water standards, so there is great potential to do more with less."

Sustainability:

Doing more with less is one measure of sustainability, and is built

into many AIA Honolulu projects. Joe Ferraro, chairman of Ferraro

Choi and Associates Ltd. and 2018 vice president of AIA Honolulu, says the National Oceanic and Atmospheric Administration Daniel K. Inouye Regional Center is a good example of



loe Ferraro

sustainability. Ferraro Choi's LEED Gold project on Ford Island uses abandoned aircraft hangars, water harvesting and recycling, and PV and solar thermal systems to save an estimated \$3 million a year in operating costs, according to the NOAA.

Many new Hawaii residential developments also use LEED and other methods to stretch a project's sustainability. Haleola'ili'ainapono, one new Honolulu home, shows just how far sustainability—and energy savings—can go.



Aaron Ackerman

"The goal was undoubtedly to build the greenest house in the world," says Aaron Ackerman, an architect at Bowers + Kubota who designed and owns the Palolo

Valley home. Haleola'ili'ainapono "is designed to operate beyond net-zero

2018 EXPO/Design Symposium

Nov. 13-15

The 2018 Pacific Building Trade Expo is part of the "Building Voices: Livable Cities and Communities" 2018 Design Symposium, held at the AIA Honolulu Center for Architecture and the Hawaii Convention Center:

Nov. 13: AIA Northwest & Pacific Regional Leadership Summit and Annual Meeting (AIA Honolulu Center for Architecture)

Nov. 14: 2018 Pacific Building Trade Expo / 2018 Design Symposium (Hawaii Convention Center)

Nov. 15: 2018 Design Symposium (Hawaii Convention

Center) and AIA Honolulu/ AIA Northwest & Pacific Region Joint Design Awards program, held at Bishop Museum

The 2018 PBT Expo is jointly produced by the Honolulu Chapters of the American Institute of Architects and the Construction Specifications Institute, and presented by HonBlue.



on an annual basis," Ackerman says, and in May won the prestigious World Prix d'Excellence Award for Sustainable Development by the International Real Estate Federation.

By going beyond net-zero, Haleola'ili'ainapono "is probably one of the most ambitious projects in terms of sustainability, and is hopefully a great precedent for others to follow," Baumes says. On the affordability front, Baumes says Kakaako's Ola Ka Ilima Artspace Lofts and Nohona Hale, a micro-unit rental tower, are also breaking new ground.

"We intend this to be a first step." —Joe Ferraro

"Executing progressive projects in terms of sustainability and affordability require creative solutions in a market-driven environment," Baumes says. "So it's encouraging that these might raise the bar, and inspire others to find ways to set higher goals."

First Steps

"ADUs are a good approach, but ADUs alone will not be able to fully reverse the (housing) cost trend," Baumes says. "No single approach will address all of the factors affecting affordability. Closing the gap will take a far more comprehensive set of actions by policy makers, lenders, planners, architects, contractors and owners."

"Bring people together," says Ferraro. The 2018 Design Symposium, he says, is a chance for the building industry and the greater community to "define, discuss, and comment on issues related to urban design.

"We intend this to be a first step in a collaborative program to provide measurable feedback to decision-makers such as the state and city governments," he says. "By combining the Symposium with the 19th Annual Pacific Building Trade Expo, we're hoping to draw a larger audience to not only learn from our sessions and workshops, but also attend the Expo and meet many of the companies involved in various aspects of building the community in which we live."

Haleola'ili'ainapono's pervious driveway absorbs stormwater and refills ground water reserves.

How to Raise a Living Building

Haleola'ili'ainapono, a Palolo Valley home that won the prestigious 2018 World Prix d'Excellence Award for Sustainable Development, broke ground in 2015 on a 6.33-acre "grayfield" lot with "unpermitted structures on it that needed to be remediated," says Aaron Ackerman, an architect at Bowers + Kubota who designed, built and owns the home.

Ackerman, with the backing of B+K, aimed to meet the Living Building Challenge: Raise a functional structure on a brownfield (contaminated) or grayfield (economically depressed) site that operates beyond net-zero on an annual basis:

- 100 percent of energy needs are supplied by on-site renewable resources such as solar and wind.
- 100 percent of potable and nonpotable water demands are supplied by rain catchment and water reuse systems.
- 100 percent of stormwater and wastewater are recycled on-site in the presence of a sewer lateral.
- 100 percent of the carbon footprint associated with construction is offset by a one-time carbon credit purchase.
- An amount of land equivalent to the development footprint of the project is preserved through a land trust that serves as an ecological habitat exchange.
- 75 percent of the entire project is built with materials extracted exclusively from regional construction waste streams. (This has never been attempted

on an LBC project, and was self-imposed.)

Ackerman's resulting threebedroom, two-bath home is approximately 2,200 square feet of interior livable space with an additional 1,000 square feet of outdoor areas, and is substantially complete.

"This was definitely a challenge since there are currently limited on-demand salvaged materials," he says. "ReUse Hawaii was where probably half of the building materials were sourced."

Critical design elements include:

- Building orientation and highperformance envelope design
- Passive cooling strategies that shield the building from southfacing heat gain and direct solar exposure
- Natural ventilation through building openings which encourage stack effect, cross-ventilation and interior air movement
- Enhanced wall and roof insulation with adequate venting and thermal breaks
- Eliminating materials manufactured with toxic chemicals

"Lastly, utilizing what is already existing helps to save costs while minimizing waste," Ackerman says. "Less is more in a Living Building."

See how Ackerman and
Bowers + Kubota met The
Living Building Challenge at
livingbuildingchallengehawaii.com.



Will New Rules Mean STRONGER BUILDINGS

Pending code changes could make Hawaii more hurricane-resistant

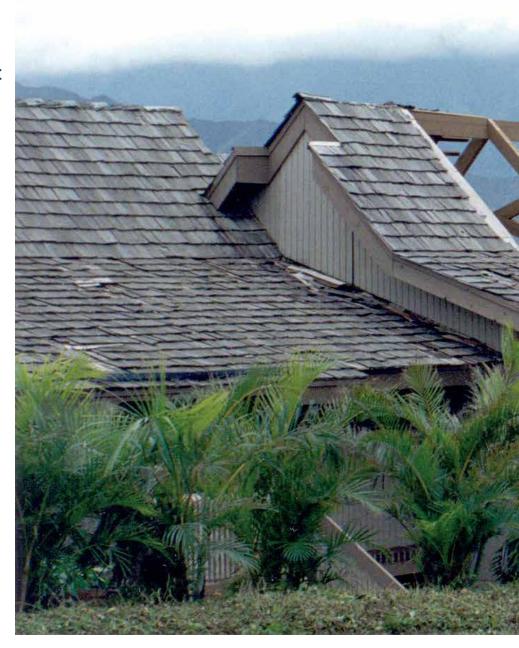
BY BRANDON BOSWORTH

he last major hurricane to hit the Islands was 1992's Hurricane Iniki, which did more than \$3 billion in damage in 2017 dollars. Thanks to new building codes adopted in 2003 and 2006, since then "Hawaii buildings have been progressively updated to deal with hurricanes," says Jim Reinhardt, president of Architectural Diagnostics Ltd. and a member of the Hawaii Building Code Council.

The possible adoption of new codes could make Hawaii properties even more hurricane-resistant.

"The state is in the process of approving the 2012 International Building Codes," he says. "It's passed out of the code council and now goes to the attorney general, Small Business Association and various agencies. The question is whether or not Hawaii will adopt the 2015 codes instead of the 2012 codes. A memo from Federal Emergency Management Agency stated that the agency wants everyone to be on the most current code."

Reinhardt says one important reason to adopt the new codes is because communities not meeting FEMA's standards for construction could have issues getting or even maintaining insurance.





"I hope they adopt the updated codes," says Elijah DeLaGarza, president and CEO of Roofing Solutions, "but if there's no enforcement it's a



moot point. Eighty percent of the roofs I work on are not installed properly to code."

DeLaGarza worked in South Florida in the aftermath of Hurricane Andrew, and was

Elijah DeLaGarza

impressed by the state's reaction to the storm that destroyed more than 63,500 houses, damaged more than 124,000 others and caused \$27.3 billion in damage.

"Florida enacted stringent roofing requirements. You had to prove you understood what you were installing and show how roofing materials were assessed and tested. It was very intensive," he says. "Roofers had to file affidavits attesting to the work they did, and there were four different inspections. Inspectors didn't mess around, and would fail you in a heartbeat."

The Florida construction industry took the extra regulations and red tape in stride. "The only guys who had a problem with it were already doing substandard work under the table," DeLaGarza says.

If Hawaii adopted and enforced similar policies, he says it would help,



The large missile impact test for hurricane-resistant glass shoots a two-by-four traveling at 50 feet per second into a window.

not hurt, local contractors. "It would solidify the construction market and reduce the number of bad contractors. It would get rid of the riffraff."

Darbi Krumpos, project manager at consulting firm Trinity | ERD, suggests possible changes to Hawaii codes. "The recent changes to the wind-load requirements in ASCE (American Society of Civil Engineers) 7-15 'Minimum Design Loads for Buildings and Other Structures' have been



Darbi Krumpos

adopted in many jurisdictions but not Hawaii," she says.

The current Hawaii "code has no quality criteria to test newly installed roofs for performance. The industry needs to

adopt a simple list of good practices that should be implemented on every roof to better resist hurricane winds and damage from blowing debris."

Reinhardt says a key to preparing properties for hurricanes is understanding wind maps, which show the path of winds as they blow through a region. The importance of wind maps is recognized by the building codes.

"Wind maps reflect differences in wind patterns due to things such as ridges and valleys," he says. "The 2003 building codes included an early version of wind maps, and the 2015 codes had a further upgraded version. Wind maps are quite precise in their applicability and result in accurate building requirements."

The building codes currently in place in Hawaii "incorporate hurricane resistant roof structures that are a part of the entire structural system of the building," says David Miyasaki, an architect at Armstrong Builders.



Floridians work on a roof damaged by Hurricane Andrew.
PHOTO COURTESY FEDERAL EMERGENCY MANAGEMENT AGENCY





"Many types of roofing such as metal and tile offer hurricane-resistant features that can be specifically requested. They often cost more than the nonhurricane-resistant choices and are not required by the building code, so aren't incorporated by many people yet."

The latest codes address residential safe rooms, which Miyasaki says is of particular benefit to Hawaii homeowners. Hurricane safe rooms "provide an enhanced protection area within the dwelling that is designed and constructed to withstand wind pressures, windborne debris impacts and other forces that occur during a hurricane event."

Installing a basic hurricane safe room on an existing structure is not difficult, Reinhardt says.

"You take an interior room and beef it up with an extra layer of plywood. You put in a better door," he says. "The room wouldn't look any different, and it's not that expensive."

Roofs remain vulnerable for many

Gerry Peters

Hawaii homes.
"It's important to know when wind hits a wall and goes up the eaves and loosens the roof," says Gerry Peters, founder and president of HPS Construction

Services Ltd. "We heard anecdotally after hurricanes Iwa and Iniki that when the roof gets loose the walls bend and flex, especially in single-wall homes, and windows pop out."

Fortunately, when it comes to preparing for hurricanes, he says "every



Hurricane Iniki resulted in more than \$3 billion of damage. PHOTO COURTESY FEDERAL EMERGENCY MANAGEMENT AGENCY

building in Hawaii can be hurricanehardened, a little or a lot."

One tool he cites for hurricane hardening is the Hawaii Plantation Tie (HPT) developed for single-wall homes by Simpson Strong-Tie Co.

"We started working on it about 10 years ago," says Tim Waite, senior territory manager for Simpson Strong-Tie. "We make about 20 or 25 different hurricane ties, mostly for new construction projects. It's really difficult to find the right tie for Hawaii's plantation-style single-wall homes. Contractors were struggling to create their own, testing them in their garages. We decided to make our own."

The goal was to meet the Hawaii Wind Resistive Devices (WRD) required minimum of 400 pounds of allowable uplift. "We went through

about nine different prototypes before we got to our target," Waite says.

The resulting HPT is only sold in Hawaii.

"We don't make a lot of money off it. It's more of a public service project. At least 700 homes have already been retrofitted with the ties," Waite says, noting that the ties along with professional installation would run about \$2,000.

According to Guy Akasaki, president and CEO of Commercial Roofing & Waterproofing Hawaii Inc., there are other ways to retrofit roofs to

make them more hurricane resistant, such as resecuring perimeter edge flashing, putting adhesive under the edges of clay or concrete tiles and resecuring loose wood shakes with



Tim Waite

proper length fasteners.

For roofing on new construction projects, he says, "the approach to the building is going to vary based on the bare building envelope being concrete, steel or wood to determine the guiding elements to install hurricane resistant assemblies."

Akasaki adds that "most commercial roofs blown off in hurricanes" results from wind getting under the edge flashing. "It is the insidious wind uplift—where wind passes over the roofing assembly—that can cause major uplift, exacerbated by the height



of the building, height of the parapet wall and the length and width of the building."

When it comes to types of roofs, Akasaki says "shake roofs held up fairly well during Hurricane Iniki,



Guy Akasaki

because the wind uplift just blew through the gaps in the shake (secured with proper fasteners)."

When installing a new roof, DeLaGarza says his company first

focuses on the the roof-to-wall connection. "It's a great start," he says. "We also use the right type of plywood for more high uplift resistance and #30 felt in overlapping strands that stands up to rain for 60 days." When replacing a roof on an existing home, DeLaGarza says "it's important to check for bad wood and termite damage."

Krumpos says pressure equalized or vacuum systems are being used more frequently on Island roofs. "These systems seal the substrate below the roof from air infiltration and incorporate valves that extract air from under the roof as the wind blows across it," she says. "The reduction in air below the roof surface resists the suction created by the elevated wind speeds. The harder the wind blows the more the roof is capable of resisting the uplift forces.

Windows also continue to be a potential weak spot for many homes, but companies are making better glass to minimize the risks. "One of the biggest developments is hurricaneresistant glass," Reinhardt says. "Hurricane-resistant glass is built to stand up to strong winds and to offer greater protection from debris. We

can deal with wind through design, but not stuff flying around."

"We see a lot of manufacturers working to upgrade their product lines to be hurricanerated," says Trisha



Trisha Egge

Egge, vice president of Maui Windows and Doors. "The Hawaii building code states that windows need to be

Building a Hurricane Safe Room

The Hawaii Department of Commerce and Consumer Affairs offers guidelines and requirements for construction of a new hurricane safe room:

- the maximum occupancy of the safe room is eight persons and a minimum of 15 square feet of floor area must be provided per person, up to a maximum of 120 square feet
- the safe room must have two exits: one inward-swinging door and one impact-resistant operable window
- the space must be ventilated with two operable, impactresistant vents providing one air change every two hours or 12 square inches of venting per person
- the ceiling/roof must be able to support any probable superimposed dead load from debris that will fall on the safe room, no less than 125 psf; the walls must also be able to support the heavily loaded roof
- the safe room structure should be impact-resistant per requirements of ASTM E 1996 Level D
- the construction of the safe room will require a building permit and the constructed safe room requires an inspection by a certified building inspector

Safe rooms should not be built in flood-prone areas. The safe room should be registered with the Department of Defense and County Civil Defense Agency with its Tax Map Key or GPS coordinates. The owner should also submit a standing waiver of evacuation so that the occupants are allowed to use the safe room during a hurricane instead of being asked to evacuate.

rated for the maximum winds that can be expected in your area, for most of Hawaii that is hurricane-force winds."

One measure of hurricane resistance is the large missile impact test, which Egge says "is an eight-foot two-by-four traveling at 50 feet per second that is shot into the window. The window must maintain its structural integrity as well as prevent air and water infiltration after the impact."

Reinhardt says another option to protect windows are protective custom panels which use a hook system to install. "These would take the place of having to scramble for plywood every time a hurricane hits," he says.

While not expensive, panels have their flaws. "They're pretty simple," Reinhardt says, "but where do you store them? How do you keep termites from getting at them?"

Some areas of weakness are not addressed by current codes.

"There's no viable strength code for garage doors," Peters says, "though

good companies like Raynor put on extra bolts to triple the strength of the door. Just something like that can be beneficial."

Raynor offers garage doors tested and approved by the Florida building code, the Miami-Dade building code and the Texas Department of Insurance.

With new construction being built to more hurricane-resistant standards, the issue remains whether or not property owners will retrofit existing buildings. Peters has his concerns.

"People aren't worried about hurricanes," he says. "They get off-track worrying about nuclear attacks, risking life and property, and can lose everything they've worked for."

He says the state can do more to address the problem and educate the public.

"The government needs to inform the public that there are precautions beyond stacking plywood and stocking up on water and pet food."

DDL to Install Fire Sprinklers at Marco Polo

More older residential high-rises expected to begin retrofitting their buildings, says safety expert

BY DAVID PUTNAM

he fire protection operations chief at Dorvin D. Leis Co. Inc. (DDL), which has been hired to install a \$5 million fire sprinkler system in the Marco Polo condominiums, says the passage of Bill 69 likely will prompt more of Honolulu's older residential structures to retrofit their safety equipment.

The bill, passed by the Honolulu City Council and signed on May 3 by Mayor Kirk Caldwell, relates to

installing sprinkler systems in older residential high-rises.

"Now that Bill 69 has been amended and passed, I do feel there will be plenty more that consider it," says Jason



Jason Blinkhorn

Blinkhorn, fire protection operations manager for DDL, "especially since their alternatives to remain compliant with the bill may be just as expensive." Last July, a seven-alarm fire at the Marco Polo left four people dead and caused more than \$100 million in damage at the 35-story condominium, which was built in 1971.

DDL will begin work on the Marco Polo immediately after the contract is finalized, Blinkhorn says. The scope of the project includes retrofitting 568 residential units and four ground-level commercial units. The cost per unit is estimated to average less than \$8,800 and will be covered by the building's reserve funds.

The Marco Polo currently is not equipped with fire sprinklers. Blinkhorn told *Building Industry Hawaii* that DDL will install a "full NFPA 13 code-compliant fire sprinkler system in all common areas and dwelling units."

According to the National Fire Protection Association, NFPA 13 systems are designed to provide both property protection and life safety.

"Each unit will have sprinkler heads protecting each room,"

Blinkhorn says. "The system will be installed behind an architectural concealment feature called DecoShield. It's like a crown molding that hides the pipe, and only the sprinkler heads protrude from it."

Two-thirds of unit owners in the Marco Polo approved the retrofit of the automatic sprinklers, according to reports. The selection of DDL to perform the job was announced in late March.

Blinkhorn says the Marco Polo structure poses challenges because of the "curvature shape of the building, and the building's age and design. There will be design challenges."

But, he adds, it's not DDL's first such project.

"We have been retrofitting commercial buildings and resorts for a long time," he says. "Some notable fire sprinkler retrofits are the Four Seasons at Manele Bay Resort, and the Four Seasons at Koele Lodge, both on Lanai."





570-unit residential tower to be part of new retail and park development

BY BRETT ALEXANDER-ESTES

oʻula, a 41-story Kakaako residential tower, is expected to break ground in Fall 2019 or later that year, says Todd Apo, vice president of community



Todd Apo

development at The Howard Hughes Corporation (HHC).

The 570-unit Koʻula will occupy the site of the former Marukai Market next to the Ward Entertainment

Center on Auahi Street. The mixeduse tower's entire ground floor will feature commercial venues, and will be the keystone of HHC's Central Plaza, which broke ground in May and is scheduled to open its first section in January 2019. Layton Construction Co. LLC is general contractor for the Central Plaza's first phase.

"Our plan is to be into (Koʻula) sales hopefully by the end of (this) year," Apo says, adding that HHC will first market Koʻula "with owner-occupant sales just to ensure that those who want to live (there) as full-time residents (have) the opportunity to purchase homes."

Koʻula's construction, Apo says, is expected to take approximately 2.5 years. HHC currently has five residential towers in Kakaako that have either wrapped or are in the process of being built. HHC's current Ward Village master plan calls for 16 towers in a 60-acre complex of residential and commercial developments and public parks.

Koʻula, designed by Studio Gang, a Mainland firm, will offer studio, one-, two- and three-bedroom residences ranging from 300 to 1,500 square feet.



Koʻula, HHC's future Ward Village residential tower RENDERING COURTESY THE HOWARD HUGHES CORPORTATION

"Every home will have a lanai space," Apo says, noting that lanais for all units of a residential tower are a rarity in Honolulu, and that Koʻula's lanais will offset the structure's heat gain. Koʻula, like HHC's other Ward Village residential towers, will aim for LEED accreditation.

Together, Apo says, Koʻula and HHC's Central Plaza will create a vital oasis in Honolulu's urban core. Designed to ultimately stretch from a planned rail station at its *mauka* end to Kewalo Harbor—which HHC is also currently redeveloping—Ward Village's Central Plaza will be rimmed by retail and dining venues overlooking an expansive public park.

"As people get to see how the ground level development of a building can make a park area so much more, it's really going to be exciting," Apo

says. "We're creating an area where there's residential, where there's a place where everyone loves to come down, whether it's for the movies, or Dave & Buster's or Big City Diner, and to have this large park right there is going to be pretty amazing."

Koʻula is also designed to expand Honolulu's housing options, Apo says, noting that Waiea, Anaha and Aeo, three other HHC Kakaako residential towers, "are almost 97 percent full. There are just not all that many units left there.

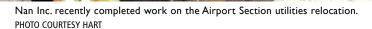
"So while we're in full sales with A'ali'i (a pending HHC residential tower project), the timing pattern of getting the next tower approved and then into sales by the end of the year will be a good dovetail to make sure that there's a good supply of housing overall."

Nan Inc. Lands \$400M Contract from HART for Utilities Relocation

Nan Inc. landed a contract valued at up to \$400 million from the Honolulu Authority for Rapid Transportation (HART) for utility relocation construction in the City Center segment of the rail project.

It is Nan's second utilities relocation job for HART, having recently

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completed work on the Airport Section. Nan also is constructing the West Oahu Stations Group and the Kamehameha Highway Stations Group.

The indefinite delivery/indefinite quantity (IDIQ) contract to relocate utilities for the City Center segment, announced on May 7, has a ceiling of \$400 million for work between Middle Street and Ala Moana Center.

"This work will progress ahead of future guideway and station construction, and clear the path for that work," says Andrew Robbins, HART executive director and CEO. "The guideway and stations construction work will be the subject of a future contract."

The rail's City Center segment covers 4.1 miles through Kalihi, Iwilei, Downtown Honolulu and Kakaako to Ala Moana Center. Eight rail stations are planned to serve the City Center segment.

HHC Tops 2018 Kukulu Hale Awards

The Howard Hughes
Corporation (HHC) was recognized in May as 2018 Developer of the Year by NAIOP Hawaii at the commercial real estate association's 21st annual Kukulu Hale Awards.

HHC's Ward Village, a 60-acre master-planned community that to date includes two completed residential towers and three residential towers and a Central Plaza in the initial building stages, was recognized for its "thoughtful, community-centered development."

Other 2018 Kukulu

Hale award-winning projects include Paiea Street
Development, Keauhou Lane,
Keauhou Place, Park Lane Ala
Moana, The Hawaiian Dredging
Building, The Laylow, Nanakuli
Public Library, Koʻoloaʻula
Phase II, PBS Hawaii and
Punahou School Grades 2-5
Neighborhood Phase 1A.

NAIOP Hawaii is the local chapter of the nation's leading organization for developers, owners and investors of office, industrial, retail and mixeduse real estate.

Anaha, one of HHC's completed towers in the future Ward Village RENDERING COURTESY THE HOWARD HUGHES CORPORATON



Gov. David Ige (back row, fifth from right) and other participants in the East Kapolei Middle School groundbreaking ceremony PHOTO COURTESY HAWAII DEPARTMENT OF EDUCATION

\$59M Kapolei School Project Underway

Nan Inc. has begun work on the \$59 million first phase of the Hawaii Department of Education's East Kapolei Middle School. The new school will be built on 18 acres across from The Salvation Army Kroc Center Hawaii on Maunakapu Street in West Oahu.

East Kapolei's master plan calls for

a 21st century learning campus that will initially accommodate 1,050 students in grades six through eight, with future expansion for an additional 350 students.

The first phase is scheduled to be completed and open for the 2020-2021 school year. The first phase includes an administration building, library, cafeteria, classrooms, a music building and covered and open play courts.

The project broke ground in May with a blessing and ceremonial performances by students from nearby Hookele Elementary School and Kapolei High School.

Phase II of Tumon **Streetlight Project** Completed

The Guam Visitors Bureau has flipped the switch on Phase II of the Tumon Bay Street Rehabilitation Project.

The \$1.8 million project included repair and refurbishment of 325 streetlights on San Vitores Road in Tumon, Guam's tourist district. The lights are now fully operational with more energy-efficient LED light fixtures, GVB officials say. Tourism officials celebrated the completion of the project on April 5.

"This is a great investment into our aging infrastructure and a definitive way of how tourism works for the community," says Nathan Denight,



Tumon had 325 streetlights replaced on San Vitores Road, PHOTO BY MAR-VIC CAGURANGAN

GVB president and CEO.

The project team included Polyphase Inc. and G4S, with AmOrient Engineering tasked as the construction manager. The job was supported by the Tourism Attraction Fund.

Phase 1 of the project was completed in April 2015. The contractors replaced 129 lighting fixtures with LED lights and 47 base plates.

GVB has spearheaded the project following an assessment which determined that Tumon streetlights needed extensive repairs to fix rusty fixtures, old wiring and damaged electrical boxes.

"The safety of our local residents and visitors remains our top priority," Denight says.



Topgolf Hawaii Plans \$50M Upgrade at Ala Wai Driving Range

Topgolf Hawaii, a partnership of The MacNaughton Group, Kobayashi Group and Dallas-based Topgolf USA Inc., has been awarded the job of upgrading and operating the Ala Wai Golf Course driving range.

Topgolf Hawaii will plan, design, finance, construct, operate and maintain the driving range under a proposed 20-year lease agreement with the city. According to reports, Topgolf Hawaii will invest \$50 million to build and operate a more modern version of

the driving range with additional golf-related activities.

Pending lease approval, construction is expected to begin in 18 months. A general contractor has not yet been selected.

"Topgolf Hawaii's proposal quadruples the gross revenue generated at the driving range and significantly improves the financial sustainability of the Golf Course Division," says Guy Kaulukukui, director of the city Department of Enterprise Services.

The driving range reports between \$500,000 and \$600,000 in annual gross revenue, Kaulukukui told the *Star-Advertiser*. He says that under Topgolf's management, yearly revenue could increase to as much as \$2 million. The partnership, according to reports, will pay rent to the city of \$1.02 million per year and 1 percent of gross revenue on sales at the Ala Wai Golf Course.

The facility will include 108 hitting bays, patent-protected driving range technology, food and beverage operations, meeting and event spaces, indoor and outdoor keiki play areas and a rooftop lanai.

"We are committed to tailoring the design to Hawaii's unique place, culture and community—unlike any Topgolf venue in the world," says Craig Kessler, chief operating officer of Topgolf USA.

The proposed entertainment structure will be no taller than four stories. The City and County of Honolulu awarded the project on May 2. The lease requires approval from the Honolulu City Council and the state Board of Land and Natural Resources.



Landscaper Honored for School Projects

Landscape designer Angelica Rockquemore of HHF Planners was one of three individuals recognized nationwide as an Outstanding Leader



Angelica Rockquemore

by the Center for Green Schools at the U.S. Green Building Council (USGBC).

Rockquemore was honored on May 4 for her design and project



Palolo Elementary School's Green Apple Day of Service PHOTO COURTESY HHF PLANNERS

management of two K-5 sustainability service learning projects in Hawaii schools.

Rockquemore is the lead designer and coordinator for two Green Apple Day of Service projects: at Blanche Pope Elementary School in 2016, and at Palolo Elementary School in 2018. She guided each project from design to completion.

Sponsored by her planning

and landscape architecture firm, Rockquemore rallied entire school communities to help the keiki install school garden features and designs. Her design highlights include a lilikoi hale, a water wall, custom weather monitoring station and a closed loop irrigation system to feed *kalo*.

This is the first year the organization presents awards for their annual Green Apple Day of Service volunteer projects.



State Awards 2018 Green Business Winners

Gov. David Ige in May recognized Hawaii's 2018 Green Business Program winners for their exemplary initiatives in sustainable construction and energy use.

The state's Green Business Program assists and recognizes businesses and other entities that strive to save energy, recycle and conserve water.

Ige, along with Department of Business, Economic Development & Tourism Deputy Director Mary Alice Evans, Hawaii State Energy Office Administrator Carilyn Shon and members of the Chamber of Commerce of Hawaii, the Department of Health and the Board of Water Supply presented Hawaii's 2018 Green Business Program Awards to 26 Hawaii businesses and organizations.

The winners and their sustainable initiatives included:

• Hale Koa Hotel: New LED

Gov. David Ige (fourth from right) and other officials present representatives from Hawaii Pacific University at Aloha Tower Marketplace with Hawaii's 2018 Green Business Program Award. PHOTO COURTESY DBEDT STATE ENERGY OFFICE

lighting and an engineering equipment replacement survey.

- The Kahala Hotel and Resort: New compact fluorescents lighting (CFL) and a deep-water well chiller system.
- Marriott Maui Ocean Club: Construction and other waste recycling.
- Hawaii Pacific University at Aloha Tower Marketplace: A 310-kW solar photovoltaic system (PV) with a 20-year power purchase agreement and new LED lighting for Hawaii Pacific University.
- Windward Community College: A 25 percent reduction in electrical costs through retrofitting, energy management and PV panel implementation.

"The recipients of the Hawaii Green Business Program awards have demonstrated that becoming greener and more sustainable not only benefits our environment, it makes good business sense," says Ige. "And by working to reduce Hawaii's reliance on imported fossil fuels they are also helping us reach our clean energy goals."

Honolulu Builders Wraps on Maui Renovation

Honolulu Builders LLC is slated to wrap at the end of June on an approximately \$3.3 million renovation of Leilani's on the Beach, a landmark Kaanapali restaurant that re-opened in May.

The project broke ground in October with WCIT Architecture as designer.

The 5,739-square-foot renovation included major updates to the main dining room and an extension of the lanai for more premium ocean view seating. Leilani's restaurant and bar first opened in 1982, and renovations consolidated the existing multi-level wood structure into "essentially two levels," says Jess Murphy, project manager. "There are some components of the roof that are cantilevered out pretty far, and the view is a lot more unobstructed. Some areas have a 180-degree view of the ocean."

Honolulu Builders worked with WCIT to "give options that meet the design intent," Murphy says. "Much of the new structure was to match up with the old structure, so there was a lot of massive timber" with sapele trim used to match



View of Kaanapali at Leilani's on the Beach PHOTO COURTESY TS RESTAURANTS

the original mahogany accents.

"The goal of our renovation was to honor the Leilani's of yesterday, today and tomorrow by incorporating traditional design with modern comfort," said General Manager Jason Donez. Leilani's on the Beach is owned by TS Restaurants, which operates 13 restaurants in Hawaii and California.

...continued from page 61

by such trade organizations as the General Contractors Association (GCA) of Hawaii, the Building Industry Association (BIA-Hawaii) and the Associated Building Contractors (ABC) of Hawaii as well as by OSHA and the Hawaii Occupational Safety and Health division (HIOSH) of the state Department of Labor and Industrial Relations.

Additionally, the American Society of Safety Engineers (ASSE) Hawaii chapter will host the 15th Biennial Pacific Rim Safety and Health Conference on Oct. 9-10 at the Sheraton Waikiki. Registration for the event, which is themed Ho'okele i ka Maluhia (navigating to safety), is expected to open this month at event.com.

"In our industry, safety training is a continuous, never-ending process," Kalani says. "Initial and refresher training, being aware of new or revised OSHA standards and disseminating that information to our workforce is essential in not only being in compliance with federal and state regulations, but to support our workers in their professional growth and to keep up with the latest technology and advancements in our field."

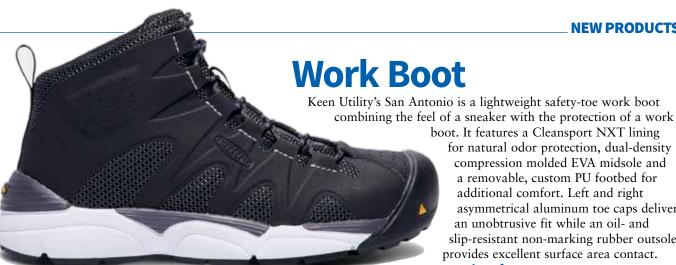
Aldeguer encourages builders "to embrace technology to help with improving your jobsite safety. The fall protection industry is constantly changing with new equipment that can help an organization be safely efficient."

Adds Kalani: "Make sure your workers are trained and have the right equipment to do their job. Don't put off or skimp on training.

"There are multiple components on



every project, from trying to stay within budget, balancing manpower, staying on schedule and, in roofing, weather challenges. However, do not overlook the safety element. Always factor in what you will need to safely do the job."



boot. It features a Cleansport NXT lining for natural odor protection, dual-density compression molded EVA midsole and a removable, custom PU footbed for additional comfort. Left and right asymmetrical aluminum toe caps deliver an unobtrusive fit while an oil- and slip-resistant non-marking rubber outsole provides excellent surface area contact.

www.keenfootwear.com



Multi-Gauge

The Nonconductive Tool Company (NTC) Voltclaw Multi-Gauge tool is non-conductive to 1,000 volts, making it a safer alternative to metal screwdrivers or wire strippers for the grabbing, pulling, pushing and bending of electrical wires. A built-in sliding wire gripper is optimized to tightly grasp on 6-16 gauge wires commonly used in commercial and residential installations. The Voltclaw also features two pull hooks, one on the front and one on the back, to handle both small or larger wires, along with a V-groove for pushing wires back into junction boxes. www.voltclaw.com

Eyewash and Safety Shower

The Speakman Optimus SE-1200 Eye and Face Wash Plastic Bowl Combination Emergency Shower System features a dual aerated emergency eve wash paired cohesively with two individual face pads, delivering full-coverage relief to all affected areas on the face. The Optimus Eye & Face Wash features a yellow

ABS plastic bowl construction attached to a powder-coated steel emergency shower. The Optimus Eve and Face Wash Shower Combination is 100 percent ANSI/ISEA Z358.1 Certified and OSHA compliant.

www.speakman.com



Safety Helmet

The Vertix Best helmet by Petzl America features a chinstrap and an unventilated shell to protect against electrical hazards and molten metal splash. Its six-point textile suspension helps ensure comfort, and its CenterFit adjustment system adjusts the headband and keeps the helmet centered on the head. The helmet meets the requirements of the EN 397 and EN 12492 standards for impact protection as well as the EN 397 and EN 50365 standards for electrical insulation. www.petzl.com

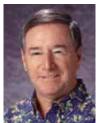
Machida Takes Reins as Gentry CEO

Quentin Machida takes over as president and CEO of Gentry Homes following the May 9 retirement of Robert "Bob" Brant.

Machida, who was senior vice president and chief financial officer, joined Gentry, one of Hawaii's leading residential developers, in 1990.

"I am humbled by the opportunity to lead an incredible team at Gentry Homes," Machida says. "Bob Brant

has been an inspirational leader for our company and mentor to me and many others, and I am proud to continue pursuing our vision of providing quality homes and communities for a better Hawaii.



Sob Brant

"Gentry will continue to exemplify the company's dedication to planning, design, competitive pricing and customer satisfaction."

Gentry Homes is celebrating its 50th anniversary throughout 2018. Over the past half-century, the company has built more than 13,000 homes. Under Brant's leadership for the past 18 years, Gentry expanded its line of new single-family homes and single-family condominiums in the master-planned Ewa by Gentry in Leeward Oahu.

Brant also led the development of single-family homes at Mahinui by Gentry in Kaneohe, the construction of the Kanehili community for the Department of Hawaiian Homelands and the acquisition of land in Kapolei and Maui for future development.

Also during Brant's tenure, Gentry Homes became an Energy-Star partner with the EPA, was recognized by the City & County of Honolulu's Environmental Award for water and energy conservation and won numerous BIA-Hawaii awards, including Grand Champion, Best in Show and Hawaii Built Green.

Lam Joins Hunt as Senior VP

Development veteran Michael Lam has joined Hunt Companies' Hawaii Development division as senior vice president and will oversee the devel-



Michael Lam

opment and asset management of the firm's key Hawaii projects, including Kauai's Kilauea Lighthouse Village, currently under construction.

At Kalaeloa on Oahu, Lam and other Hunt execu-

tives will direct the development and asset management of more than 530 acres of the former Naval Air Station Barbers Point.

Lam brings more than 15 years of real estate development experience in Hawaii and the Pacific Rim. Previously, Lam served as Alexander & Baldwin's investment director, leading commercial property acquisition and disposition efforts. Other past positions include cluster development director for Alexandria Real Estate Equities and Cushman & Wakefield's Asia Pacific associate director.

Lam earned his bachelor's degree in international business from Pepperdine University, and holds master's degrees in real estate development from the Massachusetts Institute of Technology, and in business administration from Cornell University's Johnson Graduate School of Management.

Kinsella Joins ABBAE as Director

Eamonn Kinsella has joined Allana Buick & Bers Inc. as director for business development for the Hawaii division.

Kinsella, who will work out of ABBAE's Honolulu office, brings more



Eamonn Kinsella



Quentin Machida

than 25 years in business development management roles in the architecture, engineering and construction industries.

Lucero Joins G70

Jule Lucero has joined G70 as a senior interior designer working on resort, retail, restaurant and corporate

projects.



Jule Lucero

Lucero previously worked with RIM Architects, Peter Vincent & Associates and Leo A. Daly, and provided interior design for Sheraton Waikiki and the Ala Moana Hotel. Her

interior design work also includes the PGA Golf Club Resort Spa in Palm Desert, the Ojai Valley Inn Spa & Resort and the Hasbro Entertainment project in Burbank.

She was senior designer and project manager for 10 years at interior and architectural firms in California, including M. Arthur Gensler Jr. & Associates Inc. (Gensler).

Three Join Bowers + Kubota

Bowers + Kubota, a Hawaii architectural and engineering firm focusing on construction



Marween Ibanez



management, program management and project development, has hired three new specialists.

Marween Ibanez joins as project

Wayne Lorenzo

engineer for B+K's Kuhio Highway resurfacing project on Kauai.

Wayne Lorenzo joins as IT coordinator.

Henry Wendt joins as PE and



Henry Wendt

senior project manager for B+K's Molokai and Kalaupapa Airports repaving and Schofield Dental Clinic projects.

GCA Appoints Dillon to Building Code Council

The General Contractors Association of Hawaii has appointed **Tyler Dillon,** Layton Construction



Tyler Dillon

Company executive vice president overseeing Layton's Hawaii operations, to the Hawaii State Building Council for a two-year term.

During his 25 years in construction, Dillon has

served as project manager, project executive and vice president on hospital projects and healthcare expansions and renovations in Florida, Georgia, Oregon, Pennsylvania, Texas and Virginia, as well as in Tennessee, South Carolina and Colorado. Since arriving in Hawaii in 2016, Dillon has worked on Big Island, Oahu and Kauai projects.

After joining Layton seven years ago, Dillon branched out into diverse projects including construction of the Faena Forum arts center in Miami, Florida, deemed one of the "25 International Architectural Masterpieces of 2016" by wired.com.

Dillon graduated from Clemson University with a degree in construction science.

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People are exposed to more digital content than ever before.

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As a result, print magazines are dying.

HERE'S WHAT YOU SHOULD KNOW:

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- Seventy-five percent of B2B information seekers rely on traditional media to gain insight relating to their professions, while only seven percent of B2B readers access digital media only.
- Approximately 63 percent of executives trust print media advertising, whereas just 25 percent have faith in online ads.
- Millennials ignore 50% of online ads, while ignoring only 15% of advertising that arrives in the mail.

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NAWIC Gathering

Members of the Hawaii chapter of the National Association of Women in Construction gathered for networking and dinner at NAWIC's membership meeting on May 17 at Gyotaku Japanese Restaurant in Pearl City.



Joan Nacino, Paula Daligcon, Brie Guzman





Leanne Ogata, Michelle Chinen



Kehau Amorin, Ipo Fukuda



Edean Rivera, June Keaton







Amy Mijo, Elaine Swisher



Leslie Cho, Jo Bautista



Lenie Malapit, Danielle Ulmann, Shereese Kalawa



PHOTOS BY LEAH FRIEL

Lisa Choi, Leah Borsting



Jessica Crimmins, Dana Shaffer

Just the Right Information: Budgets, Data and Understanding

nformation" and "communication" are sometimes used interchangeably, but signify different things.

"Information is giving out; communication is getting through."

This quote, from the late newspaper columnist Sydney J. Harris, highlights the challenges facing construction managers in the office as well as in the field. In spite of all the technology available, it is essential for contractors to be certain financial information is provided in the right places to the right people.

To effectively deliver just the right information, it is critical to collect the data and distribute it to the right people. Here are eight Best Practices methods to improve the communication process:

1. Understand Your Internal Customers: External customers are people or companies that pay you. Internal customers are company personnel with whom the accounting department interacts in order to perform more effectively. To determine the precise information needed, conduct two-to-three brainstorming sessions with key personnel. Determine who the internal customers are and what critical information they need to operate at peak performance. Consider these questions when brainstorming:

- What type of financial information will help them perform more effectively?
 - How will they use that information?
- How often do they need the information?
- What format should it be delivered in (electronic or paper, including charts, graphs, trend lines, etc.)?
- 2. Standardize Cost Codes: Budgets should be developed in the format in which the job is going to be built. Equipment and material costs should be located within the particular work breakdown structure. If the work is to be completed in phases, they should be notated separately. Failing to prepare budgets in this manner will result in providing inaccurate information to the field.
 - 3. Error-Proof Data Collection:

Age-old problems require insistence of daily recording of field data, especially labor and material costs. When field costs are not accurately collected, our overall job cost is skewed. Confidence in job costs permits a contractor to be more certain in the amount of riskrelated to profit margin when bidding on future jobs. The key to minimizing recording errors is constant training on the proper way to fill out time sheets and explanation of cost codes for the project. Electronic notepads with time sheets allowing cost codes for the project will minimize errors in lieu of paper recording. Notepads can also be programmed to pull the time sheets every day to ensure daily compliance.

Material purchases by field personnel is another area requiring close attention. Eliminate any type of verbal material commitment for purchasing materials. Establish an authorized employee purchaser whereby supply house is required to record on the order the driver's license, a purchase order and job number before completing the purchase.

The following should be listed on the purchase order as well: item purchased with quantity, job number, cost code and price. Again, training employees on purchase orders on a regular basis not only raises their awareness but vastly reduces the accounting department's tracking of receipts and calling field personnel to check on material purchases.

- 4. Measure Field Performance: The real time measure of field performance is productivity. Each day the amount of work should be measured and recoded for easy access by project managers and estimators. Productivity is defined as quantity installed divided by man-hours (or quantity installed divided by equipment hours). The easiest method is to deploy electronic time cards, which are available in most accounting and third-party packages.
- **5. Tailor Your Communication:** The needs of senior project management are different than those of foremen and the financial information provided to them should be tailored to

their level of financial comfort.

Weekly reporting is always best as it provides time to course-correct any negative trends. A man-hour report is sufficient for foremen, and helpful when reviewed weekly with the project manager. Additional reports could include actual versus budgeted labor hours by activity and labor productivity.

Weekly reports should include job cost performance, cash flow, committed cost by purchase orders and pending change orders.

- 6. Use Graphs and Charts to Relay Important Data: Provide graphs and trend lines with colors such as red, which means over-budget, and green, which stands for under-budget, to highlight important information. Field foreman usually don't want to dig deep into the financial facts on a job. However, these can be quickly conveyed with a graph or trend line.
- **7. Set the Right Tone:** All jobs have issues and by always keeping this thought in the forefront coupled with an attitude of winning will allow for transparency of problems. No one wants or enjoys drama and this can be minimized when the facilitator of the weekly job status meeting conveys a tone of collaborative approach to resolving job problems.
- **8. Knowledge is Power:** Accurate critical financial information provided on a weekly or monthly basis as appropriate is a key factor in the achieving of the planned profit on every job. Constantly endeavor to monitor the accuracy of the data being recorded.

Contractors who implement standard processes for continuous improvement and monitor the delivery of proper information to internal customers will always be poised for continued success.

Garrett Sullivan is president of Sullivan & Associaes Inc., a company that helps contractors clarify, simplify and achieve their goals and vision. Contact him at GSullivan@SullivanHi.com or 478-2564.

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