

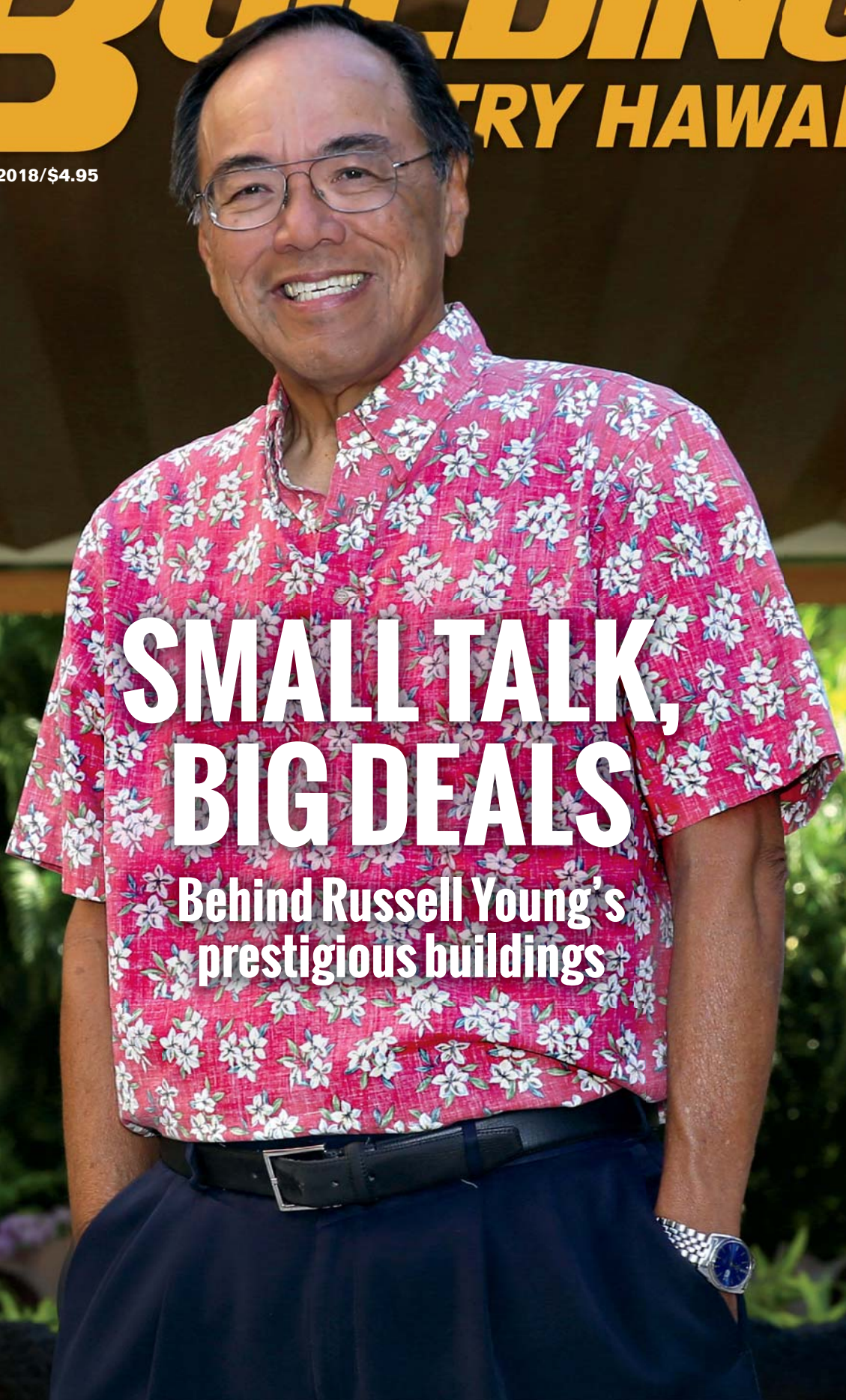
INSIDE: COMPLETE PACIFIC BUILDING TRADE EXPO GUIDE

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The big guns in Hawaii's shipping sector describe how they are updating and expanding their fleets for the completion of the new 84-acre Kapalama Container Terminal.

The new KCT, which is part of the state's Harbor Modernization Plan, is anticipated to be a major game-changer in the Islands' shipping and transportation sector. George Pasha of The Pasha Group tells Assistant Editor Brett Alexander-Estes that the KCT "will provide the space and infrastructure to meet the Hawaii shipping industry's current and future needs, provide additional space to perform emergency response efforts and consolidate cargo operations."



Russell Young

Also in this issue, Contributing Editor Don Chapman sat down with Russell Young, president of Albert C. Kobayshi Inc., for an exclusive interview. An icon of Hawaii's construction business for many years, Young shares his thoughts on the industry's present and future.

Maintaining a full workforce has never been more difficult than in today's construction industry. In this issue, unions and trade associations discuss the various ways they attract and train workers.

Permitting remains a hot-button topic among builders who continue to see their projects getting bogged down in red tape. A new coalition of construction-related businesses, headed by Marshall Hickox, president-elect of BIA-Hawaii, has joined the fight in pushing for a faster permitting process.

Also in this issue we take a look at the new technology that contractors and architects are employing to make the building process more efficient and cost-effective.

And be sure to check out the 36-page special section inside for a complete list of activities and seminars scheduled at this year's Pacific Building Trade Expo. 🏠

A hui hou,

David P. T.

david@tradepublishing.com

Setting It Straight

A picture in the October issue was inadvertently identified as Gordon Ogi. We regret the error.

BUILDING INDUSTRY HAWAII

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hoists. Small, yet having 30' of telescopic boom.

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So we got for rent: this thing.



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Russell Young, president
of Albert C. Kobayashi Inc.
Photo by Nathalie Walker
Design by Ursula Silva



COMING IN DECEMBER


Building Industry Hawaii offers a look Inside the BIA-Hawaii and a Building Industry Review and Forecast. The coverage will include an update on the latest in **Painting and Finishing** and a preview of **Hot Products for 2019**.

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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.

NOVEMBER 1**Electrician Continued Competency: License Renewals Course**

Scheduled quarterly, this Associated Builders and Contractors Association Inc. Hawaii Chapter (ABC Hawaii) course is open to ABC members and any licensed electrician in the state of Hawaii. Course satisfies the state's continuing education requirements for Electrical Journey Workers IAW HRS section 448E-8.5.

Contact ABC Hawaii at 845-4887 for additional information and/or to sign up for the next available class.

NOVEMBER 1**CAPS II Design/Build Solutions for Aging and Accessibility**

Offered by the Building Industry Association of Hawaii (BIA-Hawaii). Instructor Curt Kiriū shows how to integrate input from occupational therapists and qualified health care professionals in the design and remodeling of Hawaii homes for owners aged 50+. Various credits available.

8 a.m.-5 p.m. BIA-Hawaii, 94-487 Akoki St., Waipahu. Register and get more information at biahawaii.org or contact Barbara Nishikawa at bln@biahawaii.org or 629-7505. Fee: BIA-Hawaii members \$300; nonmembers \$400; \$200 through available ETF funding.

NOVEMBER 1**Casino Night**

ABC Hawaii presents its third annual Black Jack, Roulette and Craps jamboree. Enjoy a buffet dinner, two complimentary drinks per guest, big-ticket prize drawings and more.

5:30-9 p.m. Honolulu Country Club, 1690 Puumalu St. For registration form and more information, go to abchawaii.org. Fee: one complimentary invitation given to each member company; \$75 per each additional guest. Sponsorships available.

NOVEMBER 2, 9, 10, 16, 17**Construction Safety Hazard Awareness Training For Contractors Course**

Designed specifically for contractors, this General Contractors

Association of Hawaii (GCA of Hawaii) 40-hour course provides the additional certification for a Site Safety & Health Officer (SSHO) as stated in the NAVFAC UFGS 1.6.1.1.1, and covers the major revisions to the EM385-1-1. Industry and/or academic prerequisites. Certification provided after successful testing.

7:30 a.m.-4 p.m. (daily). GCA Conference Room, 1065 Ahua St. Register by Oct. 19 at gcawaii.org. Fee: GCA members \$500; nonmembers \$750. No refunds after Oct. 19. Replacements accepted.

NOVEMBER 3**CAPS III Details and Solutions for Livable Homes and Aging In Place**

Offered by BIA-Hawaii. Instructor Curt Kiriū presents design techniques, innovative products and best practices that CAPS professionals can use when installing products and creating livable spaces for owners aged 50 and over. Pre-requisites: CAPS 1 and II. Various credits available.

8 a.m.-5 p.m. BIA-Hawaii, 94-487 Akoki St., Waipahu. Register and get more information at biahawaii.org or contact Barbara Nishikawa at bln@biahawaii.org or 629-7505. Fee: BIA-Hawaii members \$300; nonmembers \$400; \$200 through available ETF funding.

NOVEMBER 5-8**OSHA 2045 Machinery and Machine Guarding Standards**

Offered by BIA-Hawaii and UC-San Diego's OSHA Training Institute. Four-day course covers various types of common machinery, machine hazards, machine safeguards and related OSHA regulations and procedures. Various credits available.

8 a.m.-4 p.m. (daily). BIA-Hawaii/CTC Pacific, 94-487 Akoki St., Waipahu. Register at osha.ucsd.edu. For more information, go to biahawaii.org, call (800) 358-9206 or visit oshatraining@ucsd.edu. Fee: \$765. No refunds after Oct. 22.

NOVEMBER 7**General Membership Luncheon Meeting**

A presentation ("Economic Outlook Housing & Development") by Hawaii economist Paul Brewbaker, a legislative review by BIA-Hawaii President Dean Uchida and voting for BIA-Hawaii's new Board of Directors and 2018 member awards are on the agenda at this popular membership luncheon.

11:30 a.m.-1:30 p.m. BIA-Hawaii, 94-487 Akoki St., Waipahu. Register online at biahawaii.org by Nov. 7. Fee: BIA-Hawaii members \$45; nonmembers \$55.

NOVEMBER 15

2018 Housing Summit Turnaround: Solutions to Hawaii's Worsening Housing Crisis

BIA-Hawaii's fourth annual Housing Summit will present strategies for Hawaii's builders and other stakeholders to reverse the state's housing deficit in 2019. Speakers and panelists include national experts who will present pathways to increasing Hawaii housing supply at all price points. Breakfast included.

8 a.m.-noon. Pomaikai Ballroom, 735 Iwilei Rd. Register online at biahawaii.org or contact Benedict Juliano at cah@biahawaii.org, or call 629-7511. Fee: BIA-Hawaii members \$95; nonmembers \$125; walk-ins \$135; student \$40.

**NOVEMBER 7, 14, 21, 28;
DECEMBER 5, 12**

Colorado Energy Office Wednesday Webinars

Every Wednesday, the Colorado Energy Office hosts a series of free energy webinars at <https://attendee.gotowebinar.com/register/>. Webinars also offer various industry credits.

NOVEMBER 10, 24; DECEMBER 8

AIA Architectural Walking Tour of Honolulu

On every second and fourth Saturday of the month, the American Institute of Architects Honolulu Chapter (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 Nov. 8 (for Nov. 10), Nov. 22 (for Nov. 24) and Dec. 6 (for Dec. 8). For more info: call 628-7243 or go to aiahonolulu.org. Fee: \$15 per person.

NOVEMBER 14

Respirable Crystalline Silica Competent Person

BIA-Hawaii and Lawson Associates Inc. present four-hour training for construction industry employers and staff who must comply with OSHA's Final Rule for Respirable Crystalline Silica. Learn how to detect silica, about its hazards and options for compliance. Certificate available.

7-11 a.m. BIA-Hawaii/CTC Pacific, 94-487 Akoki St., Waipahu. For more info, payment and registration, go to biahawaii.org, to lawsonsaftay.com or contact Lawson & Associates at 441-5333. Fee: BIA-Hawaii members \$99 plus tax and registration/online ticketing fee; general admission \$124.

NOVEMBER 14

2018 Pacific Trade Expo

The 2018 Expo at the Hawaii Convention Center showcases more than 300 local and national vendors, offers networking opportunities and 27 free seminars, and this year is part of the three-day 2018 Hawaii Design Symposium. Includes hosted lunch, pau hana cocktail reception



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and prizes. Accredited seminars and public workshops held on Nov. 14 and 15. Co-produced by the Honolulu chapters of the American Institute of Architects and the Construction Specifications Institute, along with presenting sponsor HonBlue Inc.

Free admission for AEC industry professionals and contractors. Expo badge required for entry. Register at pacificbuildingtradeexpo.com. For more info, contact Barbie at barbie@pacificbuildingtradeexpo.com.

NOVEMBER 15

NAWIC General Membership Meeting: "Trailblazers"

Hawaii "trailblazers" including building industry leaders Laura Ayers and Cathy Camp plus attorney Brandee J.K. Faria and City Council member Kymberly Pine are featured at this National Association of Women in Construction dinner meeting and forum.

5 p.m. (networking); 5:30 (dinner); 6 p.m. (meeting). Honolulu Country Club, 1690 Ala Puumalu St. To register, go to nawic114@yahoo.com or www.nawic-honolulu.org. Dinner fee \$40.

NOVEMBER 16

First Aid/CPR Class

GCA of Hawaii presents First Aid/CPR training.

7:30-11:30 a.m. GCA Conference Room, 1065 Ahua St. For more info, to download registration form and to remit payment, go to gcahawaii.org. Attendees will be confirmed via email. Fee: GCA of Hawaii members \$85; nonmembers \$120.

NOVEMBER 17

Scaffold (Tubular Welded Frame) - Competent Person Level Course (8 Hour)

BIA-Hawaii and Lawson Associates Inc. present an eight-hour course that covers the OSHA 1926 Subpart L. Scaffolding Standard with a focus on Tubular Welded Frame supported- and mobile scaffolding. Topics include capacity, platform construction, criteria for supported scaffolds, fall protection and more.

7 a.m.-3:30 p.m. BIA-Hawaii/CTC

Pacific, 94-487 Akoki St., Waipahu. To register, go to biahawaii.org, lawsonsaftay.com or contact Lawson & Associates Inc. at 441-5333. Fee: \$199.

NOVEMBER 30

2018 Design & Construction Industry Holiday Party

This annual gala is sponsored by BIA-Hawaii and the local chapters of the National Kitchen & Bath Association (NKBA), American Society of Interior Designers (ASID Hawaii) and AIA Honolulu.

5:30 p.m. (no-host cocktails/reception); 6:30 (buffet dinner/program); 7:30-10:30 (dancing/celebrating). Koolau Ballrooms, 45-550 Kionaole Rd., Kaneohe. RSVP by link only at biahawaii.org. Sponsorships available. Fee: \$80 per person. Free parking.

DECEMBER 3-6

OSHA 500-Trainer Course in OS&H for the Construction Industry

Offered by BIA-Hawaii and UC-San Diego's OSHA Training Institute. Four-day OS&H trainer course prepares

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students to teach the 10- and 30-hour Outreach classes. Thorough knowledge of OSHA Construction Standards (CFR 1926) and other documentation is required. Students become authorized trainers after successfully completing written exam. Laptop recommended. Materials provided on first day of class. Various credits available. No online class enrollment.

8 a.m.-4 p.m. (daily). BIA-Hawaii/CTC Pacific, 94-487 Akoki St., Waipahu. For more information, go to biahawaii.org or osha.ucsd.edu. To register, call (800) 358-9206 or email oshatraining@ucsd.edu. Fee: \$765. No refunds after Nov. 26.

DECEMBER 11, 13, 15, 18, 20

40-HR 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). BIA-Hawaii/CTC Pacific, 94-487 Akoki St., Waipahu. To register, go to 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.

JANUARY 2019

240 Electrical EJ Compliance Program

Electrical workers who complete ABC Hawaii's 240-hour academic course that complies with HRS section 448E-5(b) can then be licensed by the Board of Electricians and Plumbers as a journey worker electrician to perform electrical work. To register, applicants must have credible and documented work experience of a minimum of 8,000 hours and a minimum of four years full-time or its equivalent in the trade under the supervision of a journey worker or supervision electrician.

Classes meet evenings, twice weekly, for one calendar year beginning in January. Contact Ken at 845-4887 for additional information and for an application that is due on Dec. 1.

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Agency Awards During 2018 Surpass \$1.5B

Nine government agencies awarded construction contracts worth \$117,377,450 in September, down from inordinate volume in the same month last year (\$586,652,158) but strong enough to remain on track to set a new record high.

After nine months, agency awards total \$1,524,874,460, up nearly 40 percent from \$1,094,287,265 during the first three quarters last year. The

record volume for agency awards during a single year—\$1.67 billion—was set in 2016.

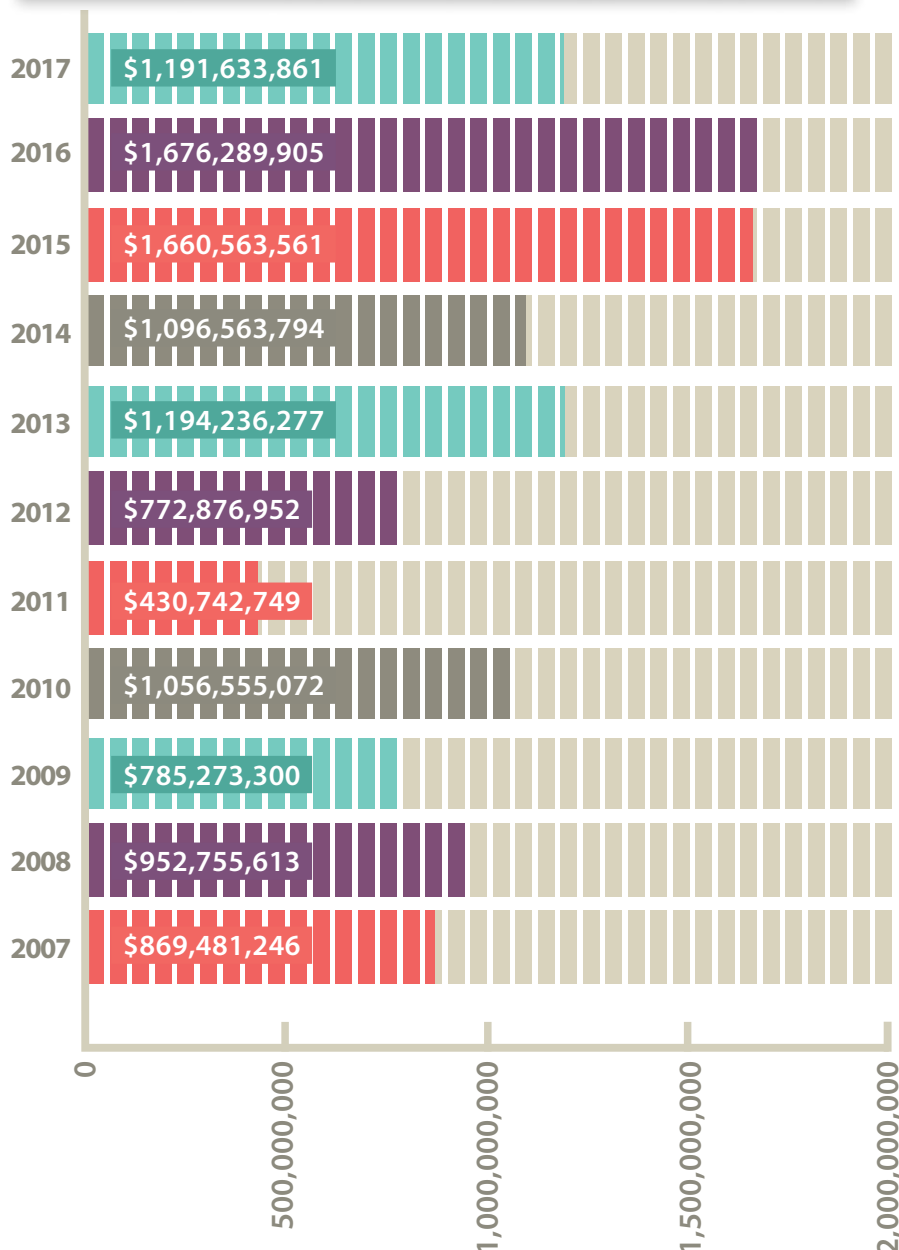
September contracts valued at nearly \$81 million were awarded by the U.S. Army Corps of Engineers. Just over \$69 million of the total awards was allocated for work on Oahu.

Nordic PCL Construction Inc. landed the largest award of \$41,476,374 for work on the F-22

Fighter Alert Facility at Joint Base Pearl Harbor-Hickam. The next biggest award of \$20,157,000 went to Pagoda-Broadway JV One LLC for drainage and electrical lines at the Pohakuloa Training Area on the Big Island.

Alan Shintani Inc. won a \$10,689,000 job for repairs to Building 2091 at Schofield Barracks.

AGENCY AWARDS FOR 12 MONTHS



2017: \$1,191,633,861
 2016: \$1,676,289,905
 2015: \$1,660,563,561
 2014: \$1,096,563,794
 2013: \$1,194,236,277
 2012: \$772,876,952
 2011: \$430,742,749
 2010: \$1,056,555,072
 2009: \$785,273,300
 2008: \$952,755,613
 2007: \$869,481,246

AWARDS BY AREA

| | |
|--------------|---------------|
| Oahu | \$69,383,168 |
| Hawaii | 32,393,363 |
| Kauai | 9,163,371 |
| Maui | 6,437,548 |
| Total | \$117,377,450 |

AWARDS BY AGENCY

| | |
|-------------|---------------|
| CORPS | \$80,972,124 |
| DAGS | 17,061,803 |
| DOE | 12,064,794 |
| DLNR | 4,895,801 |
| UH | 1,193,830 |
| HPHA | 654,719 |
| DOD | 393,861 |
| DHHL | 128,000 |
| HCDCH | 12,518 |
| Total | \$117,377,450 |

Oahu

Nordic PCL Construction Inc. \$41,476,374
FY16 MCAF KNMD 043004, F-22 Fighter Alert Facility, Joint Base Pearl Harbor-Hickam (JBPHH)

Alan Shintani Inc. 10,689,000
FY18 Repair Building 2091, Schofield Barracks

Kiewit Infrastructure West Co. 3,562,750
FY18 OMAF PN QZSK 160003, Repair Kaala Road, Mount Kaala Air Force Station

Brian's Contracting Inc. 2,506,950
Liliha Public Library, Miscellaneous Repairs and Improvements

Brian's Contracting Inc. 1,721,000
Washington Middle School, Bldg. C Renovate Cr to Recording Studio

Ted's Wiring Service Ltd. 1,193,830
Upgrade Metering, Phase III, University of Hawaii at Manoa

Index Builders Inc. 1,167,700
Diamond Health Center, Building and Site Improvements

StarCom Builders Inc. 1,114,000
Aliiimoku Hale, Building Improvements, Phase 2

Pacific Power Electrical Contracting LLC 1,113,593
Maemae Elementary School, Electrical Upgrade

Road Builders Corp. 925,000
Kapolei Middle School, Parking Lot Improvements

Brian's Contracting Inc. 740,000
Kalanimoku Building Parking Lot G, Install Parking Lot Security Gates and Related Improvements

Wasa Electrical Services Inc. 697,400
Lunalilo Elementary School, Electrical Upgrade, Phase 2

Commercial Sheetmetal Co. Inc. 654,719
Upgrade to Ventilation Systems at Various Public Housing Projects

Ralph S. Inouye Co. Ltd. 627,000
Manoa Elementary School, Playground Improvements and Upgrades

MEI Corp. 542,027
Kaaawa Elementary School, Renovate Administrative Portable

Island Wide AC Service LLC 185,863
Repair HVAC for Buildings 1785 and 1788

Island Wide AC Service LLC 183,036
Building 1898, Chiller Repair Replacement

SEPTEMBER'S TOP 10 CONTRACTORS

1. Nordic PCL Construction Inc. (1) \$41,476,374
2. Pagoda-Broadway JV One LLC (1) 20,157,000
3. Alan Shintani Inc. (1) 10,689,000
4. Isemoto Contracting Co. Ltd. (1) 8,991,413
5. Curtin Maritime Corp. (1) 5,087,000
6. Brian's Contracting Inc. (3) 4,967,950
7. Kiewit Infrastructure West Co. (1) 3,562,750
8. Healy Tibbitts Builders Inc. (1) 3,244,950
9. Castaway Construction & Restoration LLC (1) 3,137,269
10. Shioi Construction Inc. (1) 3,106,400

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

Sunshine Landscape Co. 128,000
Waimanalo Flood Drainage Channel Clean-Up

Wasa Electrical Services Inc. 46,002
Leilehua High School, Gym Fan Installation

Covenant Painting LLC 42,300
Repair Peeling Paint, Kekuanaoa Building, 4th and 5th Floors

Society Contracting LLC 29,144
Kuhio Elementary School, C7-C8 Renovation

JS International Inc. 24,962
HIARNG Structures 609, 182 and 1766 Demo and Abatement

Fonua Masonry & Concrete Pumping Inc. 12,518
Reconstruction of Damaged Perimeter Wall at Kealanani Avenue Adjacent to Ihee Place, Villages of Kapolei

Maui

Castaway Construction & Restoration LLC 3,137,269
Maui High School, Weight Training and Wrestling Facilities, Kahului

MEI Corp. 2,499,440
Molokai Public Library, Meeting Room Addition, Kaunakakai

Goodfellow Bros. Inc. 680,880
Kihei Boat Ramp, Maintenance Dredging

Maxum Construction of Hawaii LLC 119,959
Kula Elementary School, Install Water Filtration System

Hawaii

Pagoda-Broadway JV One LLC 20,157,000
FY18 North Drainage, Secondary Electrical Lines and Telecommunications, Pohakuloa Training Area (PTA), Island of Hawaii

Isemoto Contracting Co. Ltd. 8,991,413
Hilo Counseling Center and Keawe Health Center Improvements

Healy Tibbitts Builders Inc. 3,244,950
Kawaihae Small Boat Harbor (South) Boat Ramp and Loading Docks

Kauai

Curtin Maritime Corp. 5,087,000
Nawiliwili Small Boat Harbor, Phase II Maintenance Dredging

Shioi Construction Inc. 3,106,400
Waimea Canyon Middle School, Covered Playcourt

American Marine Corp. 969,971
Maintenance Dredging at Waikaea Boat Ramp, Kapaa

LOW BIDS

The companies below submitted the low bids in September 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

Alan Shintani Inc. \$10,689,000
FY18 Repair Building 2091, Schofield Barracks

StarCom Builders Inc. 1,406,000
John A. Burns School of Medicine Central Plant Building, Partial Reclad and Exterior Wall Repairs, University of Hawaii

Construction Engineers LLC 857,380
Ala Moana Regional Park, Ewa Bathhouse Improvements

United General Contracting Inc. 801,573
Kailua High School, Miscellaneous R&M FY16

MEI Corp. 620,567
Honolulu Zoo, Cheetah Roof

Kaikor Construction Associates Inc. 318,830
Waipahu Street Bridge No. 2, Guardrail Replacement

Air Conditioning Concepts LLC 134,987
Roosevelt High School, Bldg. A, Install AC, Phase 2

CC Engineering & Construction Inc. 48,100
Anuenue School, Bldg. A, Room 25, Replace Section of Covered Walkway

Acme Mechanical LLC 24,638
Pearl City High School, Stadium Locker Room, Replace Water Heater

Maui

Jacobsen Construction Co. Inc. 19,633,334
Maui County Service Center, Kahului

Hawaiian Dredging Construction Co. Inc. 2,173,000
Kahului Drainline Repairs

Hawaii

MEI Corp. 1,453,863
Naalehu Elementary and Intermediate School, Miscellaneous R&M FY15

Kauai

Apply-A-Line LLC 807,600
Installation of Enhanced Pavement Marking and New Milled Rumble Strip at Various Locations

Ritz-Carlton Unveils DIAMOND HEAD TOWER

ACK completes Phase 2 of The Ritz-Carlton Residences, Waikiki Beach

BY DAVID PUTNAM

PHOTOS COURTESY THE RITZ-CARLTON RESIDENCES

Care to book a stay in a luxury suite where prices go as high as \$8,000 a night? Swim in one of the Islands' two highest infinity pools? Relax in a spa or ogle gourmet offerings at Dean & DeLuca?

The Ritz-Carlton Residences, Waikiki Beach





The Ritz-Carlton Residences feature an infinity pool in both towers.

Contractor Albert C. Kobayashi Inc. (ACK) recently completed work on the \$197 million Phase 2 of The Ritz-Carlton Residences, Waikiki Beach for California developer Pacrep LLC. The 245-unit Diamond Head Tower connects to the 307-unit Ewa Tower which opened in the summer of 2016.

ACK began work at the 432,000-square-foot Phase 2 site in November 2015 and wrapped in July. On Oct. 15, the hotel/condominium debuted, an event that included Herve Humler, president and chief operations officer of The Ritz-Carlton Hotel Co. LLC.

“The owner, operator, architect and consultants and subcontractors have all expressed how pleased they are with the final result, almost to the point of sounding surprised.”

—Deron Matsuoka

Deron Matsuoka, senior project manager, and Roberta Hsu, project manager, headed up the job for ACK.

“The owner, operator, architect and consultants and subcontractors have all expressed how pleased they are with the final result, almost to the point of sounding surprised,” Matsuoka says.

Designed by Guerin Glass Architects, the completed resort’s towers offer a *mauka* (mountain) to *makai* (sea) view. According to the resort, “the exterior front reflects the ocean, sky and wind and the exterior back reflects the mountains and Honolulu’s urban metropolis.



Deron Matsuoka

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A three-dimensional, modern interpretation of traditional Hawaiian *kapa* (bark cloth) design covers the first three floors of each tower."

Visitor rates at the 552-unit resort—which has studio, one-, two-, three- and four-bedroom residential accommodations and penthouses in both towers—start at \$525, and reportedly only two ownership units in the second tower remained available to buyers in mid-October. For a penthouse suite, buyers shelled out around \$20 million, according to online realtor postings.

The Diamond Head Tower includes 10 meeting spaces and a boardroom, a movie theater, five restaurants, a fitness

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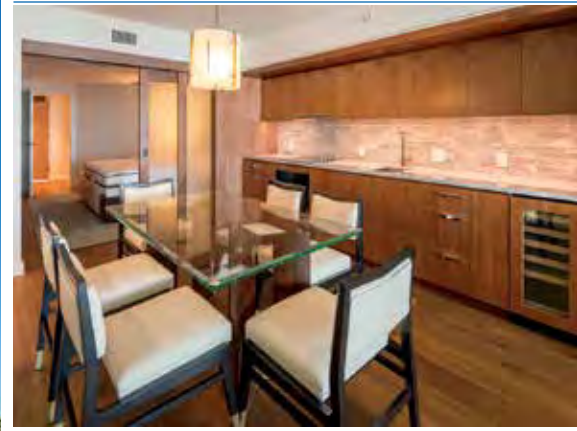
"We would like to thank Albert C. Kobayashi, Inc. for the confidence and opportunity to work on the Ritz Carlton Residence Phases 1 and 2, Drywall and Finish Carpentry scopes. It is among the most challenging tasks in our 39 years of being in the construction industry. We look forward to working with you in future projects. Congratulations to all teams for a successful project completion."

Ritz Carlton Residences 1 & 2





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The interior of the rooms at the resort

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center and the 22,000-square-foot Lau'ula Park. In early 2019, the resort plans to open a new dining venue at the Diamond Head Tower pool deck, along with an Island Country Market by ABC Stores on the ground level.

Among the challenges ACK faced during construction, says Matsuoka, was "a particularly complex structural concrete design and building shape—radius slab edges, rotating building footprints, atypical floor plates—including a structural steel cantilever/overhang connected to the 27th floor."

Job specs and tasks for ACK included:

- sitework grading and utilities
- drilled pier foundations
- concrete structure (post-tensioned slabs)
- structural steel
- glazing façade
- interior finishes (wood flooring, stone, carpet, paint, wallcovering, cabinets, appliances, etc.)
- mechanical
- plumbing
- functional specifications



The units offer spacious bathrooms

- electrical systems
- landscaping and hardscaping

Adding to the scope of the job was connecting the two towers. Matsuoka cites some of the challenges: "The tie-in to the existing structure of the first phase—the first eight floors are a shared podium—and working next to a continuously operating hotel; coordinating 24/7 access to the ENV pump station which shared egress points with the job site; long lead times for high-end finishes including natural stone, wood flooring, ornamental metal fabrications, bronze accents and custom millwork."

Both Matsuoka and Hsu point to a couple of eye-catching features in the tower. "Structurally, the cantilever at the 27th floor and the general building shape and outline," Matsuoka says, "but the family pool and eighth-floor amenities—meeting space, concierge/reception, BLT Bar and Grill—have received a considerable amount of positive feedback."

Residents and guests will also likely find comfort in the tower's

2,900-square-foot infinity pool and private cabanas equipped with SMART televisions and day beds.

In the end, Matsuoka says, the collaborative effort by ACK's project team was key to the job's success.

"Everyone was able to keep the owner's interest at the forefront of the project and balance the construction quality with the design aesthetic, while still keeping schedule and budget concerns a priority," he says. 🏠

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The Oahu Homebuilders Coalition held a rally on Oct. 18 at Honolulu Hale in support of a bill that aims to expedite the residential permitting process.

New Coalition Tackles Permitting

Building leaders rail against layoffs and business lost due to city's inaction

BY BRANDON BOSWORTH

Waiting up to a year for the City and County of Honolulu's Department of Permitting and Planning to issue permits for remodels, additions and new construction has many local contractors "scared for their livelihood."

"Companies are laying off employees, subs and suppliers are seeing a reduction in business and people are choosing not to rebuild or remodel because of the duration it will take from the time they decide it might be something they'd like to do," says Marshall Hickox, president of



Marshall Hickox

Homeworks Construction. "It's hard to get motivated when you are told from planning to completion could be

two years. While the economy is great, now people are scared to forecast out risk for 24 months."

"The risk to the sustainability of our contractors and other small businesses, to homeowners' ability to get financing for a new home or remodel, and to the viability of our economy is enormous," says Gladys Marrone, CEO of Building Industry Association of Hawaii (BIA-Hawaii). "Not to mention the trickling-down impact on our communities when everything comes to a grinding halt and people aren't working."

These circumstances have led Hickox, president-elect of the BIA, to form the Oahu Homebuilders Coalition — Permitting Now. Hickox



Gladys Marrone

says the goal of the coalition is "to provide a single unification for all the industry organizations to come together and tackle the most serious of issues affecting single-family home builders, supporting trades and suppliers of the industry."

"We have been working for years to try and resolve this issue through BIA. We really felt, after several meetings with Department of Permitting and Planning staff and then several more with the mayor and DPP staff, nobody took the severity of this problem seriously enough," he says. "It's a massive toll on our industry. It was several months ago that it was decided we must go public with a message."

"And we needed a coalition that could reach out beyond BIA. We want AIA Honolulu, ABC Hawaii and all other industry organizations who understand we have to come together

with a common message. In reaching out we have found many have tried as unsuccessfully as we have to ask for permit reform and a faster permitting process.”

“The efforts by the OHC and BIA are similar in that both are working toward increasing the quality of life for our residents through advocacy and raising awareness,” Marrone says. “I do expect many members of BIA to join this effort, especially since permitting impacts everyone across the board, even if the OHC may have other issues to focus on in the future.”

**“The new coalition won’t just include people in construction, but homeowners, suppliers and anyone affected by this issue.”
—Rodney Kim**

Companies joining the coalition include HK Construction, Complete Construction, Graham Builders and Atlas Construction.

“We got involved with the coalition through the BIA,” says Rodney Kim, vice president of Atlas Construction.

“It’s a way to get more people involved. BIA is made up of volunteers from our industry. The new coalition won’t just include people in construction, but homeowners, suppliers and anyone affected by this issue.”

Kim counts his own company among those negatively impacted by the slow permitting process. “Last year we would sometimes use double the number of carpenters on a job just to keep them employed,” he says. “We still had to lay off 31 people. That’s 31 families that will need help, putting a strain on the social safety net.”



Rodney Kim

BIA-Hawaii Housing Summit Set for Nov. 15

The Building Industry Association of Hawaii will hold its fourth annual housing summit on Nov. 15 to tackle how the construction industry and others can spur change to help ease the state’s housing shortage.

Titled the “2018 Housing Summit Turnaround: Solutions to Hawaii’s Worsening Housing Crisis,” the BIA-Hawaii event will be held from 8 a.m. until noon at the Pomaikai Ballroom at Dole Cannery.

Speakers include Dennis Hanberg, director of the Pierce County (Wash.) Planning and Public Works, and R. Chris Lightburne of Development Planning & Financing Group Inc.

For more information and to register, contact Benedict Juliano at cah@biahawaii.org.

To get its message out, the coalition held a rally Oct. 18 at Honolulu Hale in support of Bill 64, which expedites the permitting process for one- and two-family dwellings. About 100 people attended.

Hickox says the new coalition will produce legislative recommendations to BIA’s Government Relations Committee, which writes BIA’s bills.

“Those recommendations would be based on input and fact-gathering from the Oahu Homebuilders Coalition (OHC) reaching out to other organizations for guidance and input on specific issues related to home builders,” Hickox says.

“BIA does an amazing job of supporting and promoting all aspects of construction, from residential to commercial to infrastructure and transit-oriented development. It just so happens the permitting issue at hand, the issue which was the catalyst of OHC’s formation, is one that affects all of BIA’s

members, meaning those that are not specifically residential builders, severely in one way or another.”

The coalition is already making recommendations to the BIA based on research done in other areas of the country.

“Last month, Gladys Marrone and I toured a department of permitting and planning in Washington state which has pared their permitting process down to several weeks,” Hickox says.

“My contention is we want to be a part of the solution, yes, but it’s the Honolulu DPP, city council and the mayor’s job to figure out how to make sure we are not one of the worst in the nation for permitting times. All of our suggestions have been dismissed as ‘tried that,’ or ‘that won’t work.’ ”

“The permitting process has to be simplified,” Kim says. “BIA has looked at this and done the research. Almost every other county in our country has a simpler permitting process. That’s the way it should be.” 🏠

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Fatal Falls on Jobsites Exceed One Per Day

Citations continue as hazards aren't 'adequately addressed'

BY RANDY HALL

Why does OSHA dedicate so much time and energy to fall protection? The answer is simple but alarming. Falls continue to be the leading cause of death in construction.

According to the Bureau of Labor Statistics, there were 384 fatal falls out of 991 total construction fatalities recorded in 2016. And since some con-

One of the most hazardous worksites for concrete contractors is a bridge project—where the pace of work is fast and getting faster.

tractors haven't adequately addressed these hazards, inspectors issued more than 7,500 citations for violations of two regulations (Fall Protection and Fall Protection Training Requirements, 1926.503).

Fall protection citations topped the 2017 Top Ten list of most-cited OSHA violations.

For this reason, OSHA and various partners, including the National Institute for Occupational Safety and Health, the National Occupational



Research Agenda, OSHA-approved state plans, state consultation programs and the National Safety Council, work together to encourage those in the industry to refocus efforts on jobsite safety by identifying fall hazards and recognizing the importance of fall prevention.

Every day, concrete workers are at risk from falls on jobsites. And these risks lurk in every phase of concrete construction. OSHA suggests that any person working at six feet or more above lower levels is at risk for serious injury or death from falling, so they require employers to provide fall protection and the right equipment for the task to protect these workers.

There are three common jobsite conditions in the concrete industry where workers can be exposed to potential fall hazards:

- Foundation installation
- Bridge construction
- Aerial Work Platform (AWP)

1. Standing firm for foundation safety

Seven years ago, OSHA revised the regulations to require stricter standards for fall protection safety in residential construction. Concrete contractors responded by taking a harder look at safe access when working on below-grade foundations. These worksites are often full of potential hazards such as wet conditions, unstable ground and elevated work stations.

The Concrete Foundation Association (CFA) offers resources to help members develop a thorough fall protection safety training program. The kit outlines the challenge of the preparation, education and maintenance necessary to protect members' number one capital investment—their people.

CFA Executive Director Jim Baty says, “our kit explains the OSHA regulations found in 1926.501. Specifically, CFA developed the kit to provide relevant OSHA regulations, letters of interpretation, example plans, a draft plan framework, educational presentations and research so that a contractor can develop a fully compliant plan more quickly.”

2. Bridging the gaps in fall protection

One of the most hazardous worksites for concrete contractors is a bridge

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Always know your fall distance and select proper equipment to meet the fall clearance.

A is for **Anchorage Point**: commonly referred to as a tie-off point, the structure that supports the fall protection system, such as an I-beam. The Anchorage connector is used to join the connecting device to the anchorage point such as an anchor strap.

B is for **Body Harness**: worn by the worker to connect him/her to the fall protection system

C is for **Connecting Device**: attaches to the D-ring(s) of the body harness to join the worker to the anchorage connector such as a self-retracting lanyard

D is for **Descent/Rescue**: refers to the rescue plan of a fallen worker, which is a critical element of any fall protection program. Suspension Trauma Straps and Winch Systems are often used in the Descent/Rescue plan



Assessing Hazards

This table provides examples of the site assessment process when using AWP's to demonstrate the required analysis of a job-specific hazard so an assessment can be performed by a qualified person.

| HAZARD | RISK | CONTROL MEASURE |
|-------------------------------------|------------------------------|--------------------------------|
| Boom lift struck by another vehicle | Ejection from platform | Restrict work area around base |
| Climbing on platform mid-rail | Loss of balance causing fall | Training and fall restraint |
| Over-reaching | Loss of balance causing fall | Training and fall restraint |
| Uneven ground | Ejection from platform | Training and fall restraint |

project—where the pace of work is fast and getting faster. On many projects, post-tensioned element forms are positioned every 24 hours.

The Federal Highway Administration focuses specifically on fall protection on its projects, which include most, if not all, bridge projects. Contractors are

required to provide personal fall arrest systems (PFASs) for their employees. These systems include a harness for each worker who needs to tie off to the anchor. Contractors must make sure the PFASs fit, and regularly inspect them for safe use.

...continued on page 62

An aerial photograph showing the Kapalama Container Yard in Honolulu. The foreground features a large, mostly empty dirt lot with some construction equipment. To the left, there are several large industrial buildings with solar panels on their roofs. In the background, a busy harbor area is visible with numerous colorful shipping containers stacked on barges and ships docked at the pier. The surrounding city of Honolulu is visible in the distance.

KAPALAMA'S BIG DIG

Harbor upgrades and new fleets
bolster Hawaii's ocean trade

BY BRETT ALEXANDER-ESTES

As Kiewit Infrastructure West lays in new utilities at the Kapalama Container Yard, leading shippers are also beefing up their fleets in anticipation of improved Honolulu Harbor facilities.


But TOTE Maritime, a would-be newcomer, is no longer eyeing a Harbor berth. Tyler Edgar, a TOTE spokesperson, confirmed in October that “TOTE was unable to find a facility in Honolulu for our operations, and therefore we are no longer pursuing expanding our service to Hawaii.”

TOTE last year was in position to add Hawaii to its domestic route once new Harbor facilities are up and running. But in January, TOTE reportedly did not renew its letter of intent with Philly Shipyard for new containerships, indicating the carrier was reconsidering its Hawaii bid.

More Space, More Service

Meanwhile, Hawaii's established shipping companies—Matson, Pasha Hawaii, American President Lines, Young Brothers and others—are looking forward to the extra elbow room promised by the state's Harbor Modernization Plan.

Currently, vertically stacked containers and separated chassis at the cramped Kapalama yard add delays of 30 to 40 minutes, says Kane McEwen, vice president of operations at DHX and DGX, a delivery service. To relieve congestion, the Plan expands the yard and deepens the wharf, and in January broke ground as the Kapalama Container Terminal (KCT), a four-year Hawaii Department of Transportation project.

An aerial photograph showing a large-scale construction project in a port area. A massive, flat, brown dirt area occupies the center-left, with some construction equipment visible. To the right, a large white cargo ship is docked at a pier, surrounded by numerous shipping containers. In the foreground, a row of large, white, cylindrical oil storage tanks is visible, along with a road and some smaller industrial buildings. The water is a deep blue, and the background shows more industrial structures and a city skyline.

Kiewit has completed demolition and grading at KCT, and is currently installing infrastructure and other Phase I improvements.
PHOTO COURTESY THE IMAGE GROUP

“The new 84-acre, state-of-the-art Kapalama Container Terminal being constructed ... as part of the state’s \$448 million Harbors Modernization Plan will provide the space and infrastructure to meet the Hawaii shipping industry’s current and future needs, provide additional space to perform emergency response efforts and consolidate cargo operations,” says George Pasha IV, president and CEO of The Pasha Group.



George Pasha IV

Phase I

KCT’s two-phase project begins with “landside” upgrades in Phase I, followed by “waterside” improvements in Phase II. Kiewit Infrastructure West Co. is general contractor on Phase I, with a contract valued at \$163 million.

As of October, says Kyle Nakamura, Kiewit project manager, Kiewit has completed demolition and



Pasha Hawaii’s M/V Marjorie C. enters Honolulu Harbor.

PHOTO COURTESY PASHA HAWAII

grading. Construction of drainage and utility systems are ongoing, he says, as are construction of project perimeter retaining walls and surcharging landside operational areas.

In early 2019, Kiewit will begin the “continuous concrete pour to construct the hardened cargo yard,” he says. “Completion of Phase I is anticipated in late 2020. We anticipate that there may be some overlap between completion of Phase I (landside) and mobilization of Phase II (waterside) construction activities.”

Phase II

Calls for bids on Phase II (Wharf & Dredging) will be advertised sometime between late 2018 and Spring of 2019, says Carter W.S. Luke, engineering program manager at HDOT’s Harbors Division.

Luke says the division intends to advertise “a comprehensive and complete bid package” that includes waterside development, an 85-acre cargo yard and a new truck gating system. “The costs for this waterside phase are estimated at \$240 million,”

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Heavy equipment is delivered by Pasha Hawaii's M/V Jean Anne, a dedicated roll-on/roll-off vessel.
PHOTO COURTESY PASHA HAWAII

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he says. Construction is slated to start in late 2019 or early 2020, and is expected to wrap in 2022.

Full Speed Ahead

Matson Inc., the Islands' top ocean carrier handling approximately 70 to 80 percent of the state's cargo volume, will spend \$60 million on a new facility when it moves to Piers 51, 52 and 53 and a continuous 130-acre terminal on Sand Island. Matson in June also christened the *Daniel K. Inouye*, reportedly the largest containership built in the United States.

The *Daniel K. Inouye* is set for Hawaii delivery later this year, and early next year will be joined by *Kaimana Hila*, its sister ship. In 2019 and 2020, Matson will also inaugurate two new Kanaloa Class ConRo vessels.

"All four will be dedicated to Hawaii service, connecting our three West Coast ports...Seattle, Oakland and LA/Long Beach with our Hawaii hub at Sand Island," says Vic Angoco, senior vice president Pacific at Matson Inc.

Angoco points out that Matson is currently operating from four different locations around Honolulu Harbor.

Phase II Bid Package

In late 2018/spring of 2019, says Carter W.S. Luke, engineering program manager at HDOT's Harbors Division, the division will advertise for bids on KCT's Phase II Wharf & Dredging project. The bid package includes:

- Waterside development needed to support two containership berths for a maximum of 1860 linear feet
- An 85-acre cargo yard equipped with state-of-the-art energy-efficient lighting
- A new truck gating system that will integrate mainland and interisland container operations
- A scheduled late 2019/early 2020 start

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“Our terminal expansion and modernization project will go a long way to improving overall efficiency and, ultimately, service to our customers,” he says.



Vic Angoco

Pasha Hawaii, the state’s second-largest carrier, is likewise expanding its fleet as it prepares for its future move to the upgraded Kapalama Container Yard.

The *George III* and *Janet Marie*, two new Ohana Class vessels fueled by liquefied natural gas (LNG), are scheduled for Hawaii delivery in 2020. The *M/V George III*, the first of two new LNG containerships, is currently being built.

Pasha Hawaii’s *M/V Jean Anne* and the *M/V Marjorie C.*, dedicated roll-on/roll-off and combination RORO vessels, respectively, will continue their “current service offering in 2019,” Pasha says.

American President Lines, while not officially expanding its fleet or



Young Brothers’ new 123-foot ocean-towing tug, the *Kapena Jack Young*
PHOTO COURTESY YOUNG BROTHERS LIMITED

its routes, is reportedly developing it strategies for 2019 as the Singapore-based carrier continues to offer weekly Aloha Express transport from Asia to Hawaii and back.

Young Brothers’ four new Kāpena Class ocean-towing tugs, earmarked for 2018-2019 delivery, are arriving on schedule. “After a 26-day journey from Louisiana, the *Kapena Jack Young* arrived at its homeport of Kaunakakai, Molokai on September

17,” says Chris Martin, director of terminal operations for Young Brothers Ltd.

Like the *Kapena Jack Young*, the firm’s three other inbound tugs are powered by state-of-the-art EPA Tier IV emissions-compliant exhaust gas recirculation engines. All are slated to be complete in early 2019, and will be used for inter-island service.



Chris Martin

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“Our terminal expansion and modernization project will go a long way to improving overall efficiency.”
—Vic Angoco

All new Matson, Pasha Hawaii and Young Brothers vessels meet new environmental regulations that will go into effect in 2020.

Cast Off!

Shipping volume is solid for Hawaii carriers this year.

“Construction ... appears to remain strong, as evidenced by the steady shipments of oversize cargo and construction equipment delivered to Hawaii by ... *M/V Jean Anne* and



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M/V Marjorie C.,” says Pasha.

Martin says that during the first nine months of 2018, “Young Brothers is showing a 1 percent increase in cargo volumes compared to the same period of 2017.”

Matson, says Angoco, expects “volumes to remain steady, with 2018 coming in about the same as 2017.”

Prices, however, are starting to rise. “Shipping costs have been relatively stable,” Angoco says, “but escalating fuel costs have driven overall increases this year.”

“Shipping costs are increasing due to the economic environment we are in—low unemployment and increased benefits and wages to retain qualified employees,” says Martin.

However, the synergy of the new KCT and current economic prosperity point to more profitable operations ahead.



Young Brothers ships cargo of all kinds, interisland, between Oahu and Neighbor Island ports.

PHOTO COURTESY YOUNG BROTHERS LIMITED

“For Young Brothers, the improvements to Honolulu Harbor through the Harbor Modernization Plan will help relieve container congestion on the roads and create more operational space. Truckers will now be able to move containers from one pier to the next faster, and with ease,” says Martin.

“The University of Hawaii Economic Research Organization’s most recent state update noted that while ‘economic expansion has slowed along several dimensions, the fundamentals underpinning the local economy look favorable,’ ” Pasha says. “Two of Hawaii’s top economic drivers, tourism and construction, remain strong, and we have seen steady growth in our container, auto and oversize cargo volumes.” 🏠



Young Brothers’ tug tows the *Kaholo*, an auto and roll-on roll-off barge, out of Honolulu.

PHOTO COURTESY YOUNG BROTHERS LIMITED

The Fleet’s (Almost) In

Twelve big new vessels are bound for Honolulu Harbor through 2020:

Matson

The *Daniel K. Inouye* and the *Kaimana Hila*, Matson’s two Aloha Class ships, are 850 feet long with 3,600 TEU (twenty-foot equivalent units). The *Daniel K. Inouye* is scheduled for delivery in the third quarter of 2018, with its sister ship the *Kaimana Hila* slated for first quarter of 2019.



The *Daniel K. Inouye*, Matson’s newest vessel and the largest containership built in the United States

PHOTO COURTESY MATSON INC.

Two new Kanaloa Class ships (ConRo) are built on a 3,500 TEU vessel platform, 870 feet long and 115 feet wide, with enclosed garage space for up to 800 vehicles. Scheduled for delivery in late 2019 and mid-2020.

Pasha Hawaii

“Two new, 774-foot U.S. Jones Act vessels will carry 2,525 TEUs, with a sailing speed of 23.0 knots. The Ohana Class vessels have been named *George III* and *Janet Marie*, in honor of my parents,” says George Pasha IV, president and CEO of The Pasha Group.

“The new vessels will operate fully on liquefied natural gas (LNG) from day one in service, substantially improving the vessels’ environmental footprint,” Pasha says. “Energy savings will also be achieved with a state-of-the-art engine, an optimized hull form, and an underwater propulsion system with a high-efficiency rudder and propeller.”

On Sept. 25, the first steel plates were cut for the *M/V George III*, “the first of two LNG-fueled containerships being built at Keppel AmFELS,” Pasha says.

Young Brothers Ltd.

All four new Kapena Class ocean-towing tugs—the *Kapena Jack Young*, the *Kapena Raymond Alapai*, the *Kapena George Panui* and the *Kapena Bob Purdy*—are 123 feet long, are Damen-designed, and are powered by state-of-the-art EPA Tier IV emissions-compliant exhaust gas recirculation engines.

NAVFAC Pacific Awards Nearly \$180M in New Contracts

Major projects scheduled for Hawaii, Guam, the Pacific

BY BRANDON BOSWORTH

Naval Facilities Engineering Command (NAVFAC) Pacific has recently awarded a number of major multimillion-dollar contracts for work in Guam, Hawaii and throughout the Pacific.

Black Construction Corp. of Harmon, Guam, was awarded an \$82 million firm-fixed price contract for the design and construction of an aircraft maintenance facility and a corrosion control hangar with supporting facilities at Joint Region Marianas, Andersen Air Force Base.

The work to be performed provides for the design and construction of a low-rise airframes shop facility



U.S. Air Force airmen working in a new temporary corrosion control facility at Andersen Air Force Base, Guam. An \$82 million contract was recently awarded for the design and construction of new aircraft maintenance and corrosion control facilities.

PHOTO COURTESY U.S. AIR FORCE

A large advertisement for Goodfellow Bros. featuring silhouettes of construction workers and heavy machinery against a sunset sky. The text is centered and includes the company name, establishment date, slogan, services, website, and contact information.

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with slab-on-grade shallow foundation, reinforced concrete walls and roof, including windows, mechanical, and electrical systems appropriate to Guam earthquake and environmental conditions; and a high-bay corrosion control hangar consisting of two bays—a planned maintenance interval bay and a corrosion control bay.

Work will be performed in Yigo, Guam with an expected completion date of January 2021. The contract was competitively procured via the Federal Business Opportunities website, with five proposals received.

GHD Setiadi Kaula AE Joint Venture of Honolulu received a \$40 million indefinite-delivery, indefinite-quantity architect-engineering for architect-engineer services. Work will be performed at various Navy, Marine Corps, Air Force and other government facilities in the Pacific area of responsibility, including Guam and the Northern Marianas Islands, Australia and Hawaii.

The work to be performed provides for architect-engineer services for base infrastructure and other civil design/engineering services. The term of this



Apra Harbor on Naval Base Guam will be the home of a new Waterfront Headquarters Building. PHOTO COURTESY U.S. NAVY

contract is not to exceed 60 months, with an expected completion date of September 2023. The contract was competitively procured via the Navy Electronic Commerce Online website, with eight proposals received.

An indefinite-delivery, indefinite-quantity contract with a maximum amount of \$40 million was awarded to Element Environmental LLC, a

small business in Aiea, for architect-engineer services in support of the Department of Navy's Environmental Restoration Program within the Pacific area of responsibility (AOR).

The work to be performed provides for conducting environmental and safety-related studies at various locations under the cognizance of the NAVFAC Pacific AOR. The services may include

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the preparation of analytical studies, reports and management plans; technical evaluations; permit applications, preliminary engineering designs; cost estimates and supporting documents for corrective projects; and performing monitoring, testing and inspection actions.

All work on this contract will be performed at various Navy and Marine Corps facilities and other government facilities within the NAVFAC Pacific area of responsibility including Hawaii, Guam and other Department of Defense locations within the Pacific AOR.

The term of this contract is not to exceed 60 months, with an expected completion date of September 2022. The contract was competitively procured via the Navy Electronic Commerce Online website with four proposals received.

“For the Marines to effectively execute amphibious operations, a fully capable waterfront facility and associated infrastructure are essential”
—Capt. Dan Turner

Contrack Watts Inc. of McLean, Va., received a \$17.9 million firm-fixed price contract for the construction of a new Waterfront Headquarters Building at Apra Harbor on Naval Base Guam (NBG). The contract supports the Defense Policy Review Initiative and is funded by the Government of Japan as part of the two nations’ International Agreement.

“For the Marines to effectively execute amphibious operations, a fully capable waterfront facility and associated infrastructure are essential,” says Officer in Charge of Construction (OICC) Marianas Commanding Officer Capt. Dan Turner. “The award of

this contract marks yet another critical step forward in the Marine Corps relocation to Guam and it is another excellent example of the tremendous financial investment by our Government of Japan partners toward our shared national defense interests.”



Capt. Dan Turner

The scope of work for the facility includes reinforced concrete with pile

foundations, and components such as exterior walls, windows, roofing, mechanical and electrical systems appropriate for Guam’s earthquake and weather standards. The contract also contains a planned modification for furniture, fixtures and equipment. Work will be performed at Apra Harbor and is expected to be completed in April 2019.

This contract was competitively procured via the Federal Business Opportunities website, with two proposals received. 🏠

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ACK Moves with the Market

Under Russell Young, Albert C. Kobayashi Inc. thrives as a company hard to typecast

BY DON CHAPMAN
PHOTOS BY NATHALIE WALKER

Russell Young, the only president of a top Hawaii construction company who has also been a golf pro, would like you to know a couple of things about the general contracting company he heads, Albert C. Kobayashi Inc. (ACK).

For starters, “we’re the local boys—we have no place to go, we’re going to be here,” he says from the company’s offices in a Waipahu business park. “You can bring in anybody else, they’re going to come in from the Mainland, do the job, and if anything goes wrong they’re not going to be here to help you.”

Also, “people think we’re big. We’re small, even though we do big jobs. We hit our peak the last three,

four years, and had, I would say, the biggest, most prestigious jobs. I’m bragging. We did Park Lane, we did Anaha for Howard Hughes, we did the two towers for The Ritz-Carlton—all at the same time.”

He’s talking small in terms of employees, which today number “about 70 salary-wise, about 100 hourly-wise, but we’ve gone up to 500. We’ve been very busy the last few years.”

Busy enough to rank No. 2 in *Building Industry Hawaii*’s most recent list of Hawaii’s Top 25 Contractors, with more than \$355 million in reported revenues last year.

Young says his company’s smaller scale is deliberate. “We can move when the market turns; that’s how we got into condominiums. First condo

we did was Hokua, high-end. We’ve been doing that for the past 10 years or so.”

Kobayashi is a company that is hard to typecast. “We did a lot of University of Hawaii work—the whole UH-West Oahu campus, did a lot of buildings at UH-Manoa and Hale Mahana (the university-area student apartments that opened this school year),” he says. “We’ve done a lot of work for both public and private schools, Punahou, Saint Louis, Kamehameha. We move around.

“I didn’t want to get too big. I want to keep our people.”

He’s especially talking about a



Russell Young, president
of Albert C. Kobayashi Inc.

cadre of young engineers from prestigious schools around the country. They include Young's eldest child Michael, who after Iolani, earned his bachelor's from MIT and his master's from Stanford. He was named company vice president last year.

"I'm training him to take over," Young says, adding with a chuckle, "I'm old already."

But not, after 42 years with Kobayashi, so old that he can't appreciate a culture where 20- and 30-something engineers can take a 30-minute break at 5 o'clock to play competitive video games, then return to their work for awhile.

"You hear that young people today don't really want to work, but we have a good group of young people,"



Young says. "I want to keep them together. And they all get along."

Another thing keeping people around is that the company is employee-owned with an Employee Stock Ownership Plan.

"With the ESOP, when the company makes money," Young says, "everybody makes money."

ACK, by the way, is a totally separate company from The Kobayashi Group, which does development.

An Early Start

Young knew from an early age that he wanted to be an engineer.

"Like most engineers, my strength is math," he says, "so it's just a

matter of going into math or science."

His math skills were honed at Iolani, which he attended on a 50 percent scholarship. "My dad was a civil servant, and he and my mom started investing in rental apartments, that's how they paid for me to attend Iolani."

He would graduate from UH-Manoa with a degree in civil engineering.

"After that, I went to work in construction," he says. "I didn't want to sit behind a desk and draw. Even now when we hire young kids, I tell them if you want to be an engineer you have basically two choices: Stay behind a desk and draw and design and go to a lot of meetings, or go

Russell Young offers his take on ...

The Safety Challenge:

"Safety is one of the toughest things to do, not only for us," Young says. "But we have men and women in the workforce and you want them to go home in one piece. It was a problem as we got into high rises, it's a little more risky. Some of the workers are pushing because you want production, because if you have production you have a better chance of making money. But you definitely don't want somebody to get hurt—that screws everything up."

"We have a safety plan and try to make sure everybody follows the plan. If they don't, we can lay them off. If you get hurt, there's something wrong, either you screwed up or the superintendent or foreman didn't do it properly."

The Market Forecast:

"I've been through it many times, the market goes up and peaks, it goes down, six to 10 years," Young says, gesturing with his hands. "It peaks again, it goes down. But this time it went up and instead of going all the way

down it stayed here (in between).

"There are developers out there looking and asking, if we build it can we sell it?"

"Because we're small, we can move to whatever is available for construction. We did hotel work in Waikiki—Moana, Ilikai, Outrigger Waikiki—then changed to building houses. West Loch was a thousand homes, and a lot of Kapolei homes, not single-family. That was the market. After that we did some hospital work, then restaurant work, retail."

"Right now, we're negotiating a lot of jobs. We're fortunate, those three big jobs, we did a lot of design-assists. Previously, the market was bidding, the lowest bidder gets the job. Now on the bigger jobs they go design-assist. First you have to get selected, go through a process—what have you done, who do you have on your team, what can you do for us, can you give us the best product for the cheapest price? We're fortunate, we got better at making presentations and better at building."



Russell Young and his son Michael, the company's vice president.

into construction doing field work. I couldn't see myself behind a desk.

"I went to work for our competitor, Hawaiian Dredging. I call it the University of Hawaiian Dredging" (because so many young engineers have trained here).

He left Hawaiian Dredging to take a job on Kauai building the Kiahuna golf course. "I was the construction manager, and I'd never golfed before," he says.

The course architect was the legendary Robert Trent Jones Jr.

"Every three months or so, Robert Trent Jones Jr. would come by with his top people, and we would tee it up," Young says. "I was about a 30 handicap, my boss was even worse than me, he was like 36, and Jones and his people were all scratch. It was still just dirt, with mounding, tee and green areas. What do bad golfers usually do? Slice the ball. Jones would have his people down the fairway, and when I sliced a ball, they'd put flags in the ground where it landed. Why? That's where Jones would plant trees."

On subsequent visits, Jones would find Young's game had improved: "Sometimes you hit it straight," he noted.

Young's scores improved because "every day at lunch I'd play nine holes with the controller. With our own golf

carts, we could play nine holes in an hour. What a lot of fun. Weekends, I took my wife Amy down and she learned to play."

And this is where his work as a golf pro comes in.

"We were about to open the golf course, but the golf pro was having a hard time (arranging to move from the Mainland)," Young says. "My claim to fame is, I was the golf pro at Kiahuna for the first month."

Adapting to Changes

Apart from the golf, Young says, "moving to Kauai was one of the best things. I not only learned construction, I learned the business side. Being the only local person there, I had to do the politics—get the zoning approvals and permits, I even had to negotiate deals with the banks, they'd tell me what to do and what we could borrow at what interest rates."

They lived through Hurricane Iwa and might still be on Kauai, but Amy had such a difficult labor during Michael's childbirth, for their next child she insisted on returning to Oahu. "She said I'm coming home with or without you," he recalls. Which would lead him to Kobayashi.

"I came in as an estimator and

eventually became chief estimator," he says. "A.C. Kobayashi at that time was a mom-and-pop operation, very small. The biggest jobs were doing homes, then we did renovation of some rooms at Turtle Bay. Then we got the Hilton Hawaiian Village master plan for some renovations."

As the company grew, so did Young's responsibilities.

"When I was first with Kobayashi, I was fortunate to have graduated from the right school, the University of Hawaiian Dredging. They taught me how to price a job and how to run a job. Once or twice a week I would drive more than 100 miles—I'd go from here, out to the North Shore because we were doing work at Turtle Bay, then on around because we were doing a couple of subdivisions in Kaneohe, Hokene, then around to Hawaii Kai, we were doing Queen's Gate and some others, then back to town. It was a lot of fun. And we grew from there."

Today, when Young drives around Oahu and sees so many buildings he worked on. "it's a good feeling. I can say I was part of building this," he says.

But some buildings evoke different thoughts. "We bid on that job and didn't get it," he says. 🏠



TRADES NEED AN INFUSION

As skilled workers age and retire, shortages loom in Hawaii's building industry

BY BRANDON BOSWORTH

Across the United States, many skilled tradespeople are approaching retirement. According to researchers at The Conference Board, in some trades, such as electricians, around 40 percent of workers are 45 years old or older. How hard will it be to replace them?

IBEW Local 1186 represents a wide variety of electrical workers.
PHOTO COURTESY OF IBEW LOCAL 1186

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"It can sometimes be hard to find young people who actually want to do manual labor," says



Jonathan Young

Jonathan Young, Associated Builders and Contractors of Hawaii (ABC Hawaii) president and CEO. "It's not considered glamorous. But it's better than getting

a \$60,000 degree in astrophysics and working as a fry cook because you can't find a job in your field."

Young's observations about manual labor echoes a report in The Wall Street Journal that younger workers are avoiding jobs that require a specific skill set but not necessarily a college degree, creating shortages in a variety of occupations associated with the construction industry.

"Across the board everyone is hurting for journeyman-quality labor."
—Mel Silva

These shortages have real world impacts. For example, a recent Remodeling Market Index (RMI) survey by the National Association of Home Builders asked remodelers about availability of labor in 15 specific occupations. More than half of remodelers reported shortages in 12 of the 15 categories, with the most widespread reported shortages found in the three categories of carpenters. Over 70 percent of remodelers reported shortages of bricklayers and masons, drywall installers and concrete workers. In addition, 82 percent cited the cost and availability of labor as a top concern.

"Across the board everyone is hurting for journeyman-quality labor," says Mel Silva, business manager and financial secretary at Bricklayers and Allied Craftworkers (BAC) Local 1 Hawaii.



Mel Silva



ABC Hawaii embraces an "earn while you learn" philosophy.

PHOTO COURTESY ABC HAWAII

"We've had an influx of workers from Las Vegas coming over to work on projects. Last year, we had about 200 come over. We just had to bring eight guys in for a project on Lanai."

How to lure new workers to these occupations? Young says skilled trades offer advantages over the university route. "With us, you earn while you learn," he says. "You enroll and become a registered apprentice. Everyone is working." Thanks to the Davis-Bacon Act, Young says "lots of apprentices are probably paid more than they should be."

Plus, the skilled trades aren't all about just manual labor anymore.

"Things are changing," Young says. "For example, we used to regularly bend pipes by hand. Now there are machines to bend them for us. Most skilled workers have some technical knowledge. They often use very high-tech machines. It helps the kids enjoy the work more. They grew up with technology."

"New technology has definitely had an effect on the electrical trade in the same manner new technology has impacted any other field of work," says Mimi Sroat, director of the Hawaii Electricians Training Fund. "There is higher usage of mobile technology both in the field and in the classroom. With the ready availability of information at the fingertips of an apprentice, there is



very little excuse for not taking initiative to seek answers."

"It is in everyone's best interest to become more computer savvy," says James Niino, apprenticeship coordinator at Honolulu Community College. "In regard to related instruction, most curricula now include PowerPoint



James Niino

presentations, web-based materials, etc., and instructors are required to be computer literate and able to utilize multimedia classroom equipment. The college

provides computer training opportunities for instructors and our IT department supports our instructors with on-the-spot classroom computer and equipment assistance."

Recruiting and Training

To attract new blood to the trades, unions and training organizations are constantly reaching out to potential apprentices.

"We participate in many career fairs for various age groups," Sroat

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• TOP TRAINING

Local 675 apprentices are accepted only after a rigorous testing and selection process. Each apprentice undergoes a five-year program consisting of 10,000 work hours plus ten semesters of related classroom instruction coupled with manipulative, hands-on training which also earns credit toward a college Associates Degree. Local 675's commitment to excellence also extends to all course instructors and trainers. Each instructor is required to complete a five-year national trainers' program conducted by the United Association. This training not only covers the basics of the trade but also training in emerging industry techniques, equipment, and skills.



• NATIONALLY RECOGNIZED APPRENTICESHIP PROGRAM

The superior quality of Local 675's training program was nationally recognized for "Outstanding Achievement in Apprenticeship Training." A blue ribbon selection committee drawn from the U.S. Department of Labor, the Bureau of Apprenticeship Training, the National Association of State and Territorial Apprenticeship Directors, and The Federal Committee on Apprenticeship, chose the Plumbers and Fitters Local 675's apprenticeship program as one of only three honored nationally across all industries for excellence in providing apprenticeship training.



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Honolulu Community College features training in fields such as carpentry. PHOTO COURTESY HAWAII DEPARTMENT OF EDUCATION

says. “Our training coordinators also visit classes at various schools to give a formal presentation on what the trade and electrical apprenticeship entails. From time-to-time, we also work with schools to visit our training center during which we do presentations and activities with the students.”

“We send our education director, Ken Wilson, to schools and career fairs on military bases,” Young says. “We’re running ads to provide information on the trades.”

“Our students are already apprentices in apprenticeship programs,” Niino says. “The different trade training programs conduct their own outreach and recruitments. However, a representative from our office does go out into the community (such as the DOE, private schools, various organizations and agencies) to present general informational sessions on apprenticeship.”

BIA is “seeing some strong growth” in its Certified Aging in Place Specialist (CAPS) Courses. — Beau Nobmann

Honolulu CC’s Apprenticeship Program currently offers 21 apprenticeship programs covering 30 different trades. Niino says “based on the number of inquiries that we receive year after year and anecdotal information on the number of applications received during trade program recruitments, it appears that the most popular programs are the state licensed trades—electrician and



ABC Hawaii held its 2018 apprentice graduation ceremony this summer.

PHOTO COURTESY ABC HAWAII

plumber and also elevator constructor and refrigeration technician.

“Our fall 2018 schedule of classes includes over 400 classes. These include courses in trade specific knowledge and skill areas, health and safety, blueprint reading, technical math, electrical and plumbing codes, journey worker refreshers and upgrades and much more.”

Niino adds that “it is important to note that apprenticeship courses at HCC are restricted to state-registered apprentices.” He says the Hawaii Carpenters Training Program (carpenter and drywall installer) has “by far the largest number of apprentices.”

The Building Industry Association of Hawaii (BIA-Hawaii) is retooling and updating its education programs. “For 2019 we are looking to bundle our training programs in a more focused manner,” says Beau Nobmann of Hilo Building Supply and chair of BIA-Hawaii’s



Beau Nobmann

Education Committee. “We have created three training tracks with core industry specific classes: Construction Administration & Sales, Management & Field Supervisors and Complete Construction Professionals.

“Each track has a core class offering geared towards enhancing and educating them on the more current and important construction practices. Each track also allows room for three to four elective classes that the individual can choose from in order to focus in on additional areas of professional interest.”

Nobmann says BIA-Hawaii is “seeing some strong growth” in its Certified Aging in Place Specialist (CAPS) Courses.

“Based on the aging of the Baby Boomer age group, we are finding that more and more people want to learn and understand how to build, remodel and communicate with clients who wish to have greater independence in their later years,” Nobmann says. “Leading to better quality of life as the more simple life tasks can get increasingly difficult if your living space is not set up properly.”

BAC Local 1 is offering journeyman

upgrade programs to help masons expand their skills. "Due to lack of manpower, certain stone fabrication countertop people are hard to find," Silva says. "We want to help masons be more well-rounded so they can work in more than just one skill area."

The Hawaii Electricians Training Fund "offers the following programs: Inside Wireperson Apprenticeship, Telecommunications/CATV Apprenticeship and Journeyman Skill & Safety," Sroat says.

"Our journeymen receive continuing education, in addition to safety training for both journeyman and apprentices. From the training standpoint, our goal is to instill in our apprentices that safe work practices are critical for both the apprentice and to the apprentice's family."

ABC Hawaii adds new classes regularly. 2017 saw it introducing a Continued Competency Program for licensed electricians. The course focused on changes to the 2014 National Electrical Code (NEC) and satisfied state continuing education requirements for electrical journey workers.



Ken Wilson

introduced this year include spray painting and project management programs. Wilson describes the latter as "a higher level program for already qualified journeymen and managers." The six-week program cover the entire project management process from start to finish.

Meeting the Demand

What type of people are drawn to these training programs? "Our typical student has always been the individual and companies that value knowledge and education," Nobmann says. "That thirst for knowledge and growth is more a mind set and personal compass for each individual. Their mindset is not bound by age or status, rather it becomes a common core belief of those who understand that if you are not

"It turned out well, and a good number of individuals got their continuing education credit," says Ken Wilson, ABC Hawaii's education director.

New programs

constantly learning and changing you will be quickly left behind."

Demand for skilled tradespeople looks strong for the near future.

"IBEW Local 1186 represents members from electrical contractors, cable TV, electrical supply houses, alarm shops,

telecommunication companies and various other sectors," says Kimberly Lehano, IBEW Local 1186's director of marketing and public relations. "The

boom in construction steadily increases and will continue the trend at least for the next few years as development continues in Kakaako, Ala Moana, Waikiki and in other parts of Hawaii."

However, Young warns that "some pundits see a correction in 2020." He points out that Hawaii construction is in its 10th year of a boom, and that "things can't go on like this forever. We'd like to see things continue, but we might start seeing cracks in the dam in 2019." 🏠



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The home's new rooftop ipe deck
PHOTO COURTESY OLIVIER KONING PHOTOGRAPHY



The original roof had deteriorated.
PHOTO COURTESY WHITESPACE ARCHITECTS



Home Run

Barnett Construction, WhiteSpace Architects and the client team up on a stunning renovation

BY BRETT ALEXANDER-ESTES

“Can you improve my 60-year-old house?” That was the first question put to general contractor Michael Barnett and project architect Phillip K. “Pip” White in 2017 when a client decided to renovate his mid-century Honolulu home.

The 5,700-square-foot project was challenging, but a good fit with Barnett Construction Inc. and WhiteSpace Architects, who have a successful record of collaboration.

The client’s next question was a little tougher: “Can you keep the original building intact?”

At that point, Barnett and White realized the client

wanted a new home—and a showcase for the work of the building’s designer and first owner, award-winning Island architect Howard M.Y. Wong.

“The original residence was very well-designed for the lifestyle of the 1960s,” says White. “Any architect would have appreciated the clean lines of the original home and the simple, but robust, structural design.”

Barnett, White and the client decided to join forces. The client and his family enthusiastically contributed to the design

process, White says, and with all hands on deck—including Elyse Takashige, White’s fellow project architect—the \$1.2 million renovation got underway.



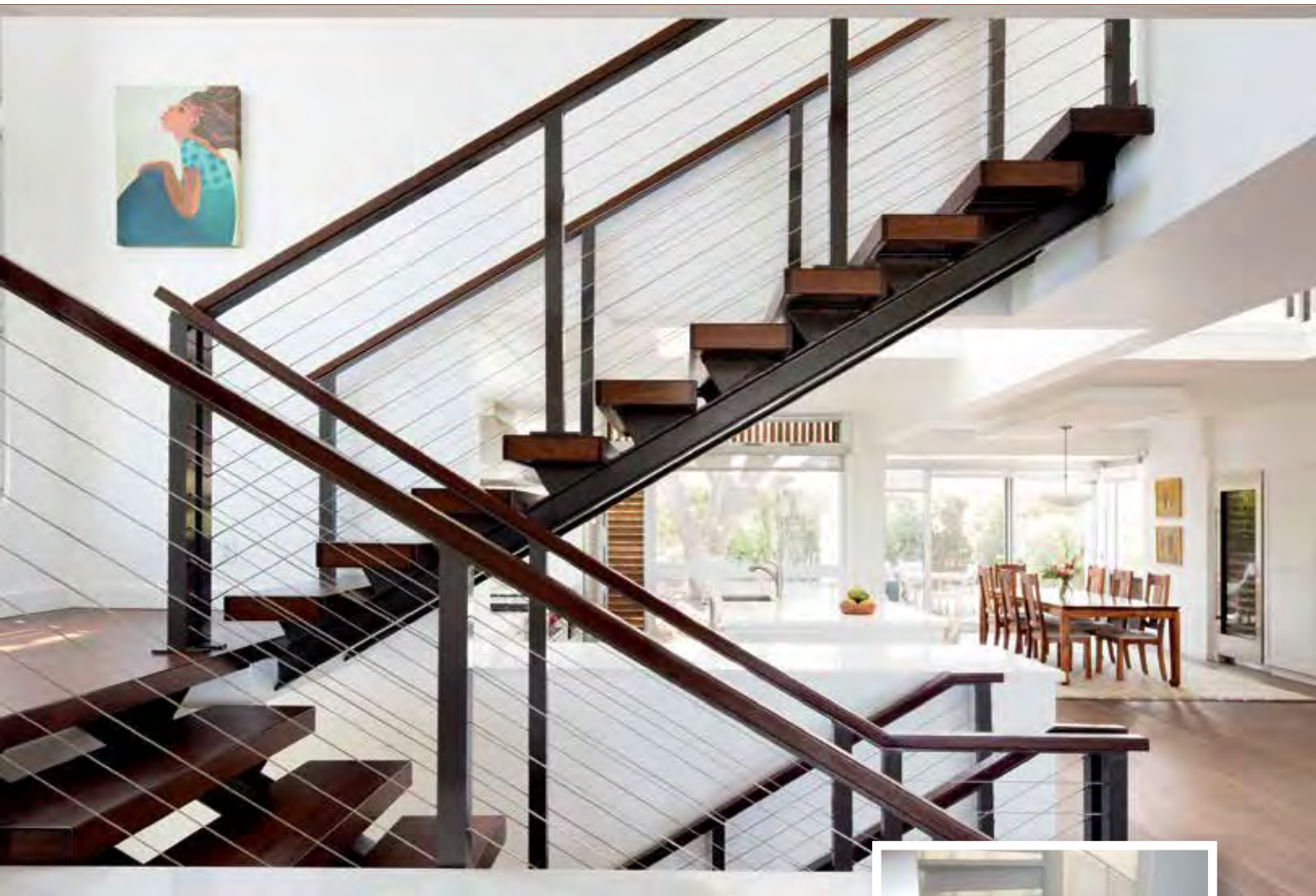
Michael Barnett



Pip White



Elyse Takashige



The new custom-built staircase and open floor plan PHOTO COURTESY OLIVIER KONING PHOTOGRAPHY

What did you see during the initial walk-through?

WHITE: The house has three levels: lower level (first), main level (second) and upper level, which exits onto the roof deck. The existing house had five bedrooms and 18 total rooms.

BARNETT: The entire house was concrete block or poured walls. Each floor and ceiling is a six-inch concrete slab.

How was the new design developed?

WHITE: WhiteSpace worked collaboratively with the owners to maintain the existing design aesthetic, while creating a more open floor plan for contemporary living.

How did the original house shape the design?

WHITE: The existing structure and materials played an instrumental role

in the development of both the design and our selection of finish materials.

The owners also requested a unique shower combination for the master bath that features a deep *furo* for soaking, adjacent to an open shower in one large enclosed area.

What did you do first?

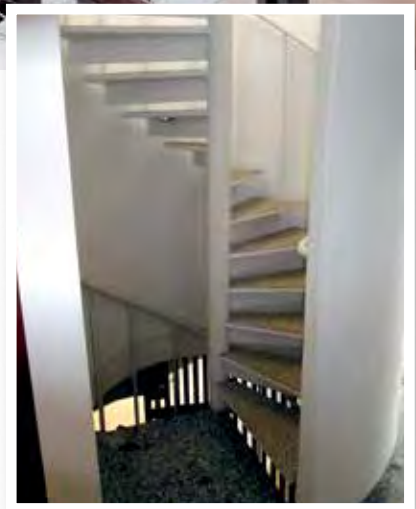
BARNETT: Marked out concrete block walls and floors for demo.

WHITE: The home's interior was completely gutted.

Were there structural or other issues?

BARNETT: This building consisted of (concrete) structural beams, steel posts, and concrete that in many areas could not be chipped or cut.

WHITE: Challenges that typically plague any kind of a renovation: water intrusion, rust on the steel structural members, spalling concrete, code



The original staircase PHOTO COURTESY WHITESPACE ARCHITECTS

upgrades, alternate roof deck and roofing details.

BARNETT: Creative measures were integrated to do a “work around” solution.

What were your next steps?

WHITE: Structural repairs completed and the re-roofing was done.

COLLABORATION: GENERAL CONTRACTORS & ARCHITECTS

BARNETT: Leveled concrete floor throughout the house.

How did you stage the build-out?

BARNETT: Replaced a dated kitchen with a modern contemporary kitchen in a new location.

Replaced a weathered roof with an ipe deck with a matching railing cap and undermount LED lighting.

Tiled the decks to the concrete on the main floor.

Removed the spiral staircase.

Was the new staircase installed easily?

WHITE: (It) was designed to be modern and open. (It required) structural changes to catch the new edge of the floor opening as well as the bump-out in the exterior envelope.

What was your biggest challenge?

BARNETT: Concrete, re-leveling, spalling and implementing and



The new contemporary kitchen with Boen Oak flooring

PHOTO COURTESY OLIVIER KONING PHOTOGRAPHY

installing finishes with the structural requirements in mind.

WHITE: We wanted to avoid adding drop ceilings. It was a major challenge to disguise the (new) plumbing and electrical lines, and we had to be strategic in where we added minimal furring to accomplish our design goals.

How did you meet this challenge?

WHITE: We met regularly on-site to discuss particular areas and issues, then worked through options together.

BARNETT: (With) everyone's willingness to keep an open mind related to the structural challenges, while not sacrificing the design intent.

What subcontractors did a standout job?

WHITE: We were particularly impressed with the work of Floor Coverings International, the tile subcontractor. Our client's final tile selections were extremely detailed, but



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The renovated den with newly finished deck
PHOTO COURTESY OLIVIER KONING PHOTOGRAPHY

they did a great job with installation. They also worked with us to come up with some of the finishing details.

What is the new home's standout feature?

BARNETT: Main-level open floor plan, including the central stairway.

WHITE: The main living space. One of our client's main goals was to open up the kitchen to the view. We worked diligently ... to solve numerous issues and deliver the right balance of open view from kitchen to lanai, while also separating the kitchen, dining and living spaces.

When the project wrapped in 2018, was the client satisfied?

WHITE: The client was very pleased. They are "really happy with our new home."

BARNETT: Comments we heard from everyone: "What a difference from old to new. This rooftop deck is amazing—we will have our friends and family up here to enjoy the sunset." 🏠

Stairway to Heaven

Arc Designs Hawaii LLC began the stairway by fabricating two steel landings mid-height of two floors. Double I-beam stringers rose into a portion of the enclosed rooftop.

Project GC Barnett and the client then reviewed the stair treads, originally designed to continue the new Boen Oak flooring used in the rest of the house.

"We presented our in-house fabricated sample stair tread box made of 3/4-inch solid ipe," Barnett says. "We joined all five sides and offered multiple finishes." The client liked walnut-stained treads, so these "were fastened onto the welded tread cleats," Barnett says. "Solid ipe railing cap finished the top, and stainless steel cabling tied it all together—voila!"

The new stairway leads to spectacular rooftop views and open spaces on the way up. "It's breathtaking," Barnett says.

The client's reaction? "These stairs are absolutely beautiful."



The new stairway rises three levels to the roof.
PHOTO COURTESY OLIVIER KONING PHOTOGRAPHY



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High-Tech Tools

The VDC program Revit, lauded at Keahou Place, also supports Hensel Phelps' airport project

BY BRETT ALEXANDER-ESTES

Rough-and-tumble jobsite pros, looking to save time and money, are getting to know pointy-head Virtual Design Construction programs inside and out.

Hawaiian Dredging Construction Co. Inc., one of the Islands' largest contractors, recently utilized Revit, a typical VDC program, to transfer a working model to the build-out of Keahou Place. James Abeshima, Hawaiian Dredging's senior project manager on the Kakaako job, says the model helped coordinate field staff and subcontractors and performed clash detection.

Revit can also aid in tasks ranging from site usage to concrete formwork operations, says Chris Baze, Building Information Modeling (BIM) manager at Hawaiian Dredging. And since Revit allows simultaneous response by all team members, it often improves productivity and profit margins.

At the Daniel K. Inouye International Airport Mauka Concourse Expansion, Hensel Phelps is also using VDC to aid in construction.

"VDC was implemented at the start of the project, and will be used all the way until construction is complete," says Angelo Lago, VDC manager at Hensel Phelps. "We make sure that our models stay up-to-date while construction progresses."

Still, many GCs are reluctant to tackle VDC and related design technologies. According to an analysis by *Construction Dive* of the yet-to-be released *JBKnowledge 2018 ConTech Report*, while GCs like drones, smartphones and tablets, they see design technology as a mixed bag offering few practical benefits.

Thank the Architects

Tight jobsite teamwork is spurred by the rapid evolution of design tools. "Technology is developing faster than

it ever has in the past, and that is particularly true in the profession of architecture," says Ma Ry Kim, architect and principal at Hawaii design firm G70 and executive managing partner of design and development for Thoroughbred Hawaii.

Over the last two decades, Kim says, Hawaii architects moved from computer-assisted design, a 2D drafting program, to Revit. Revit "allows the user to design a building (and) its components in 3D, keynote the model with 2D drawing elements, and use a database that has collected and organized information from the base model itself."



Ma Ry Kim

Structural Strength

Frank Humay, vice president at Baldrige & Associates Structural Engineering Inc., a Hawaii structural engineering firm, says "analytics"—that is, hand calculations combined with "3D finite element analysis programs"—were



Frank Humay

critical in determining the load path on Hensel Phelps' \$75 million Schofield Behavioral Health/Dental Clinic project.

"As part of the DOD antiterrorism requirements, the Schofield project must be designed to avoid progressive collapse," Humay says. "This includes ensuring that the building remains standing in the event that an exterior load-bearing member is removed."

Humay says the building exterior consists of load-bearing precast concrete walls approximately 30 feet long





Hawaiian Dredging recently used Revit to transfer a working model to the build-out of Keauhou Place
PHOTO COURTESY HAWAIIAN DREDGING CONSTRUCTION CO. INC.

and one story tall.

“For the progressive collapse avoidance analysis, an entire wall panel is analytically removed from the building,” Humay says. “The remaining structure must remain stable by developing an alternate path for the supported floors above. The innovative approach for our project is to hang the floors below from a precast concrete parapet beam that then transfers the load to the adjacent intact precast wall panels.”

Hand calculations were first used to develop this approach, Humay says, and “once we understood how the structure was supposed to behave, we used a number of different 3D finite element analysis programs to verify our rough hand calculations and generate the final detailed design.”

Emphasizing that engineers must also “verify the reasonableness of any computer-generated output through basic statics (hand calculations),” Humay notes that a “Revit model was used extensively to coordinate the composition of the precast panels with the architect, contractor and precast manufacturer. Through the use of 3D finite element analysis software, we determine the required concrete wall thicknesses, strengths and reinforcement requirements.”

Models in the Boardroom

Developers, who also need to know every square inch of their projects, often review new ventures with 3D printed models.

“Complex and intricate model-making components, such as a façade with multiple curvatures, folds and perforations, or a structure with twisted and weaving elements, can now be produced easily and efficiently

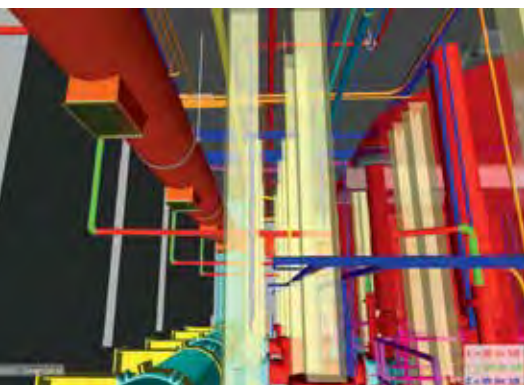


Image shows the result of effective coordination. Hensel Phelps established clearance zones (shown in yellow and red) for a plant's lifting eyes and swing crane.

IMAGE COURTESY KRWWT/PH/ENSEL PHELPS



RJ Models' 3D printed model of Tokyo's new National Stadium designed for the 2020 Summer Olympics
COURTESY RJ MODELS



RJ Models installs a Kaohsiung Port Terminal 3D printed model, scaled 1:150.
COURTESY RJ MODELS

with 3D printing,” says Ray Cheung, founder and director of RJ Models, a Hong Kong-based 3D model manufacturer. “This allows geometries created by designers ... to be presented to their client.”

The firm's models are printed from files created in BIM, SketchUp, Rhino, 3D Max, 3D AutoCAD, Proe, Solidworks, Ug, Magics and other programs. Cheung says the 23-year-old company has produced models for “world-renowned architects such as Foster + Partners, Zaha Hadid Architect, KPF, SOM and OMA.”

Contractors frequently use 3D printed models as well. “3D printed models ... can discover the potential of certain issues that may occur in the project well in advance,” Cheung says. “This ... offers very good value for the money.”



Ray Cheung

Changing at Warp Speed

“Parametrics, or generative design, a completely new way to design a 3D shape,” is increasingly replacing Revit in Hawaii's university design studios, says Kim. Rather than first visualize a shape and then calculate its measurements, she says, a designer “sets the ‘parameters’ of a shape and uses algorithms to define its final outcome.”

But there's even more change afoot. “Today, we see an explosion of 4D technology, which takes 3D digital programs into the dimension of real time,” Kim says. “Lumion and Enscape, visualization programs used by several firms and universities in Hawaii, provide powerful ways to ‘walk through’ a 3D model. Like an optimized video game, the program allows the user to add moving people, landscape, entourage, lighting, water, materials and more to models created in compatible 3D programs such as Revit, SketchUp, and Rhino”—with live-time added as a bonus.

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The LAANC & VDC

VDC is often paired with UAS (drones), which now can receive near real-time airspace authorizations via the Federal Aviation Administration's recent Low Altitude Authorization and Notification Capability ruling.

The LAANC "alleviates the burden of asking the FAA for drone airspace authorization, and speeds up other aspects of the authorization process," says Michael Elliott, owner and general manager of Drone Services Hawaii. "Previous to the ruling, it has taken nine months to a year on average to receive FAA drone airspace authorization."

Hensel Phelps is using a UAS on the DKI International Airport Mauka Concourse project, but hasn't yet incorporated the LAANC into its construction schedule.

"Due to the fact that the Mauka Extension project requires specialized considerations for flying our UAS on an operating Class B airport, to date we have not utilized LAANC at that location, though we intend to in the very near future," says Mark Blacklin, lead VDC engineer at Hensel Phelps. "We are hopeful that as the LAANC system grows and improves, it becomes more and more effective, thus enabling the continued safe operation of UAS in the national air space."



Michael Elliott



Mark Blacklin



Hensel Phelps sUAS team receives flight clearance from DKI International Airport's tower for HP's Mauka Concourse project.

PHOTO COURTESY HENSEL PHELPS

"It has completely changed the way that design is processed and presented," Kim says. "4D programs allow the designer to explore every corner of the building or space as if it is a tangible object, observing the relationship of the built space to the movement of the sun."

Tomorrow's Projects

Island contractor organizations like the Building Industry Association of Hawaii and the General Contractors Association of Hawaii often provide training in design technology. In August, for example, GCA offered two BIM seminars tailored for contractors.

Hawaii builders need to stay on top of new tech, but they do have

time to catch their breath. "In Hawaii, parametric design is currently more prevalent in the university design studio than it is in practice," says Kim, noting that the "limitation of construction methods and materials ... is creating a gap between what is produced in schools and what can be built in the real environment."

Elsewhere, however, it's a different story. The *JBKnowledge 2018 ConTech Report*, according to the analysis by *Construction Dive*, claims that 32 percent of its national building industry respondents say they believe augmented, virtual and mixed reality technologies will provide their firms with a strategic advantage. 🏠



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Lobby in the future Halepuna Waikiki by Halekulani
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Hawaiian Dredging Heads Halepuna Project

Hawaiian Dredging Construction Co. Inc. broke ground in October as general contractor on the approximately \$60 million Halepuna Waikiki renovation.

The new Halepuna Waikiki by Halekulani, a venture by Halekulani

Corp., will include 288 guest rooms and suites in an upscale boutique hotel on the site of the current Waikiki Parc Hotel on Kalia Road, and will complement the Halekulani, its sister property across the street.

“We are delighted to add this new

and unique brand and hospitality experience to our evolving Halekulani portfolio,” says Peter Shaindlin, chief operating officer of Halekulani Corp.

The Halepuna Waikiki project is scheduled to wrap in Fall 2019.

Northern Marianas Re-join NCARB

The Northern Mariana Islands Board of Professional Licensing has re-joined the National Council of Architectural Registration Boards (NCARB). The Board of Professional Licensing regulates the practice

of architecture, engineering, land surveying and landscape architecture.

Island licensure candidates are now eligible for NCARB services, and NCARB-certified architects can apply for a reciprocal license in the commonwealth.

The Northern Mariana Islands Board is now also a member of NCARB's Region 6, which is comprised of Alaska, Arizona, California, Colorado, Guam, Hawaii, Idaho, Nevada, New Mexico, Oregon, Utah and Washington.

BIA-Hawaii Seeking Disaster Training Partners; HHC Tops Awards

A \$250,000 grant for the development of Pacific disaster training has been awarded to the Building Industry Association of Hawaii. BIA-Hawaii is currently seeking partner organizations to assist in the development of the new Occupational Safety and Health Administration-awarded program, funded through a Susan Harwood Training Grant.

The new program will provide disaster cleanup and recovery training in areas affected by recent catastrophic storms, including Guam, the Commonwealth of the North Mariana Islands and Hawaii.

BIA-Hawaii will provide training to identify possible occupational health and safety hazards for workers, supervisors and employers conducting site response and cleanup in these three Pacific areas. Training will also identify hazards and conditions that may result from a natural disaster. Three to five individuals will be assigned for on-site training and support.

Organizational partners will support the program by contributing to project planning, coordinating community partnerships and sharing expertise. Interested partners can contact Lesley at lesley@gwandc.com

or 457-7100.

• The Howard Hughes Corp. received multiple honors for its work on Ward Village at the BIA-Hawaii and the National Kitchen & Bath Association Aloha Chapter (NKBA Aloha Chapter) Building Industry Design & Construction Gala.

HHC won in the categories Overall Grand and Grand Award New Commercial, Grand Award Residential Details. HHC was among more than two dozen award-winners at the Oct. 12 event recognizing Hawaii architects, builders, contractors and designers at The Modern Honolulu.

HART Begins Resurfacing Kamehameha Highway

Road and Highway Builders LLC (RHB) began Phase 1 of the Honolulu Authority for Rapid Transportation's (HART) Kamehameha Highway resurfacing and roadway reconstruction/improvement project in Pearl City in early October.

Phase 1 of the project, which is expected to be completed by the end of the year, includes the section of the highway between Kuala Street and Kuleana Road—from the Pearl Highlands Center to the area fronting Hawaiian Electric Company's Waiiau power plant.

The scope of the work includes pavement resurfacing with full-depth reconstruction, cold planing (the surface removal of a paved area in preparation for repaving), repaving, installation of pavement markings and striping, roadway signs, curb ramps, drainage, traffic signal loop detectors, retaining walls, fencing and bus shelters.

RHB is expected to use multiple crews on a Sunday-Friday schedule to complete Phase 1.

Phase 2 includes the roadway from



The Hōaeae (West Loch) station is furthest along, nearing 83 percent complete, according to the Honolulu Authority for Rapid Transportation. HART says that close behind are the Keoneae (UH-West Oahu), Pouhala (Waipahu Transit Center) and Halaulani (Leeward Community College) stations.

the Waiiau power plant toward Aloha Stadium. It is scheduled to begin early next year, with completion set for some time in the fall.

Meanwhile, HART and the City & County of Honolulu on Sept. 28 issued Part One of its request for

proposals (RFP) soliciting a public/private partnership (P3) to complete the City Center Guideway and Stations, the Pearl Highlands Transit Center and Garage and a long-term operations and maintenance agreement for the Honolulu rail project.



Thomas Shieh is joined by friends, associates and his parents at the groundbreaking ceremony on his new medical facility.

PHOTO BY MAR-VIC CAGURANGAN

5M to Build Women's Medical Facility on Guam

5M Construction Corp. has begun work on a two-story, privately owned medical facility in Guam's Tamuning medical zone.

The clinic is owned by obstetrician-gynecologist Thomas Shieh, a Hawaiian native who has been practicing family and maternity medicine

on Guam for 22 years.

"The standard of care for women is getting higher and higher," Shieh says. "In order for me to provide the high standard of care I want for my patients, I need to build my own clinic to make sure that the space is good enough for my use, for my patients

and staff."

Designed by Setiadi Architects, the 9,000-square-foot clinic is on Carlos Camacho Road, across from Shirley's Coffee Shop, next to Paradise Smiles Dental Clinic. Shieh held a groundbreaking ceremony on Oct. 13.

HDR Paces 2018 CANstruction

HDR took top honors in the 13th Annual AIA Honolulu CANstruction competition held at Pearlridge Center in October. HDR's "Dragon Ball – 'C'" was judged Best Original Design.

"Comic-CAN," this year's contest theme, featured giant cartoon characters built entirely from cans of food. Judges from the American Institute of Architects Honolulu Chapter, the event's co-sponsor, and KHON-TV selected winners from seven teams of design and allied industry professionals. Other winners included:

Structural Ingenuity and Most Cans: WATG, "Norman Osborn v. Green Goblin," based on the "Spiderman" characters

Best Use of Labels: AECOM/Hensel Phelps, "Cansformer," based on the "Transformers" characters

Best Meal: Bowers + Kubota Consulting, "Poppin' the Lid Off of Hunger," based on the "Teenage Mutant Ninja Turtles" characters

These winning sculptures will compete with other local winners at the international level—where they will be built with new cans of food. The approximately 4,400 cans of meat, soup, prepared meals, vegetables and fruit used in Honolulu's competition are donated to the Hawaii Foodbank, and distributed to Hawaii's needy.

AIA Honolulu, alongside title sponsor Riggs Distribution Inc., presents the annual competition in Hawaii. CANstruction is also sponsored by Pearlridge Center, C & S Wholesale Grocers and HONBLUE/Jet Graphics.



"Dragon Ball – 'C,'" CANstruction 2018 Best Original Design

PHOTO COURTESY AIA HONOLULU

\$2B Minneapolis Rail Lures Lone Bid

Only one bidder remains for the \$2 billion Minneapolis-area Southwest Light Rail Transit (LRT) project, according to the Star Tribune.

The project involves a 14.5-mile extension of the Metro Green Line from downtown Minneapolis to the suburb of Eden Prairie, Minnesota.



The Metro Green Line

According to reports, one of the two joint ventures remaining did not meet a deadline agreeing to a pushed-back award date. The team of Lunda Construction and C.S. McCrossan submitted the low bid of \$799 million, while Ames Construction and Kraemer North America bid \$812 million.

The Metropolitan Council, the operating agency and authority behind the Southwest LRT, gave both teams until Sept. 28 to agree to a delay in the award process, but Lunda/C.S. McCrossan was the only one to respond. Because the council did not hear back from Ames/Kraemer, it declared that team's bid "no longer valid."

The new deadline for the award is Nov. 15. The November deadline represents the third time the agency has pushed back the award date.

Bot Built to Install Drywall

Japan's Advanced Industrial Science and Technology Institute (AIST) has built a humanoid bot prototype, the HRP-5P, reports Engadget.com.



The humanoid bot HRP-5P



The Houston Astrodome was opened in 1965.

The robot combines environmental detection, object recognition and movement planning to install drywall independently, including hoisting boards and fastening them with screwdrivers. According to AIST, the HRP-5P has numerous joints that flex to degrees people are unable to. It also can correct for slips and is capable of fields of view beyond that of a human worker's.

The robot is meant to tackle the "manual shortages" Japan is facing.

Fluor JV Lands \$14B LNG Canada Project

LNG Canada has awarded the joint venture of Fluor Corp/ and Japan-based JGC Corp. a \$14 billion contract to build a liquefied natural gas export facility in Kitimat, British Columbia.

Site work is scheduled to start before the end of the year. Fluor and JGC will provide engineering, procurement, fabrication and construction services to the project, which includes building two trains, or independent liquefaction units, with the possibility of a future expansion to four.

According to JGC, the plant will operate at the lowest carbon-intensity of any large-scale LNG facility in the world. LNG Canada—a Shell-led joint venture that includes Petronas, Mitsubishi Corp. and Korea Gas Corp.—expects to start processing at the export terminal in the mid-2020s.

Rodeo Postpones Work on Astrodome

The annual Houston Livestock Show and Rodeo has delayed the start

of a \$100 million renovation project on the city's historic Astrodome, reports the Houston Chronicle.

The project will have to wait until early next year after the rodeo, which is scheduled to take place at the neighboring NRG Stadium.

Harris County Sports and Convention Corp., which owns the side-by-side Astrodome and NRG Stadium, both part of NRG Park, said the logistical challenge for construction crews to work while the rodeo is going on next door would be too much. In addition, abatement crews are scheduled to start work soon on removing the remaining asbestos from the old sports venue. That process is expected to take a year.

Salini Impregilo to Build \$15B Texas Rail

Italian firm Salini Impregilo will lead civil construction on Texas Central Partners' approximately \$12 billion to \$15 billion Dallas-to-Houston high-speed rail system.

The contractor has constructed approximately 4,000 miles of rail internationally, in Australia, Europe, Asia and the Americas. Under a limited notice to proceed, the contractor, through its Lane Construction Corp. business unit, and the project's design-build team will start initial engineering and design of the project's civil infrastructure. Salini/Lane will perform all work to the top of the rail, which includes viaducts, embankments and drainage. Texas Central is waiting on final environmental review from the Federal Railroad. 🏠

Mao-Tamasese Joins Armstrong

Paula Mao-Tamasese has joined Armstrong Builders as accountant. She will prepare project projections and manage accounts payable, as well as assist with other financial tasks.

Previously, Mao-Tamasese worked as a bookkeeper at Hawaii accounting firm ECA LLP, and as a senior peer educator in the University of Hawaii at Manoa Financial Literacy Program. She

earned her bachelor's in accounting and management information systems at UH-Manoa.

Bowers + Kubota Adds Three

Bowers + Kubota

(B+K), a Hawaii architectural and engineering firm, has added three new staff members.

Lynne Nakamura joins as program manager on the firm's Tripler project team.

Karen Friess joins as project administrator on the firm's Hilo Dept. of Transportation team.

Darret Nishikawa joins as IT manager.

G70 Promotes Two

Two staff members at G70, a leading Hawaii design firm, are now associates.

Steven Doo, a licensed civil engineer and civil engineering project manager, will direct and oversee planning and design projects. Doo is a co-chair of



Steven Doo

the Hawaii State Infrastructure Report Card with the American Society of Civil Engineers, and has been with G70 for nearly three years. He holds a bachelor's degree in engineering from the University of Hawaii-Manoa.

Barrie Morgan, a senior environmental planner, has more than 20 years of experience and specializes in terrestrial and marine resources. Morgan is the vice-chair of the Kailua Urban Design Task Force, and has been with G70 for nearly five years. She holds a bachelor's degree in environmental conservation from UH-Manoa.



Barrie Morgan



Darret Nishikawa



Lynne Nakamura

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During the installation of bridge deck forms (either wood or stay-in-place corrugated metal), all workers must be protected from falls six feet or greater in height by means of PFASs, safety nets, guardrail systems, or other means meeting the requirements of Part 1926 Subpart M. If the contractor can demonstrate that using one of the conventional fall protection systems described in Subpart M would create a greater safety hazard or is infeasible (e.g., impossible to construct or would prevent the performance of the required work), an alternate system may be used. The contractor must develop and implement a written fall protection plan meeting the requirements of 1926.502.

When structural elements are initially connected, workers exposed to moving members are required to tie off only if they are not exposed to a greater risk

from the moving member. "Initial connection" is defined as that period during placement or removal of structural members when the member is supported by a crane or other lifting device.

Because falls from structural members are a serious and clearly recognizable hazard, fall protection for all steel or concrete beams and other structural elements must be in place prior to erection. This provides fall protection for workers involved in the initial erection and in subsequent operations until the deck forms are in place. This fall protection must consist of PFASs, safety nets or other means meeting the requirements of Part 1926 Subpart M.

3. Using aerial work platforms safely

Concrete contractors are increasing their use of Aerial Work Platforms

on projects. AWP's make it possible to install anchors, apply repair materials and perform testing on existing and new structures.

The primary fall protection system on AWP's is the guardrails that surround the platform. Where needed, secondary systems may be required by the manufacturer. Some secondary systems such as restraining harnesses and lanyards on boom lifts are now mandatory. 🏠

This article originally appeared at whitecap.com and is being reprinted with permission. The author developed the HD Supply White Cap Resource Center to provide informative content for contractors. He can be reached at Randy.Hall@hdsupply.com.



Women's Impact Glove

Designed specifically to fit the female hand, the Women's Impact Glove by SeeHerWork features metacarpal, knuckle and finger protection pads strategically placed along the back of the hand. The gloves also incorporate touchscreen fingertips, terry cloth pad thumb to wipe away sweat, synthetic

leather second layer in palm and thumb crotch for extra padding and protection, and a pull strap adjuster for better performance, fit and feel. The Women's Impact Glove is available in five sizes, ranging from Extra Small to Extra Large.

www.seeherwork.com

Rotary Hammer

The Hilti TE 6-A22 cordless rotary hammer can deliver 1.8 feet per pound of impact energy and a no-load rpm of 1,050 rpm. Weighing just over 8 pounds, the tool runs on Hilti's 22-V lithium-ion battery platform. It has

an optimum drilling and hammer drilling depth of 1/4 inch to 5/8 inch in concrete. The rotary hammer can also be used

for corrective chiseling in masonry and brick. The Hilti TE 6-A221 is compatible with the TE DRS-6-A dust removal system, which is fully compliant with OSHA regulations for silica dust exposure.

www.hilti.com



Cordless Cable Stapler

The DeWalt 20V MAX Cordless Cable Stapler was designed for residential wiring applications. It features a built-in cable guide to properly drive staples over cables without damaging them. A center-mounted LED light helps to eliminate shadows and illuminate the work area in low-light conditions. Maximum initial battery voltage (measured without a work-load) is 20 volts; nominal voltage is 18. The DeWalt 20V MAX comes with a belt clip that can be attached to either side of the tool.

www.dewalt.com



Compact Loader

The most compact unit in the Takeuchi track loader lineup, the TL6R has a width of 5 feet, a height of 6 feet 5.8 inches and weighs 7,480 pounds with a canopy and 7,780 pounds when equipped with a cab. Powered by a 2.4 liter, 65.2 horsepower engine, this machine features a maximum lift height of 9 feet 6.4 inches, and a rated operating capacity of 1,841 pounds. The TL6 features a newly designed cabin with an overhead 5.7-inch color multi-information display and backlit rocker switches that control a variety of machine functions. A cab with swing-out door, heat and air conditioning are available.

www.takeuchi-us.com



PacRim Safety and Health Conference

The 15th annual Biennial Pacific Rim Safety and Health Conference was held Oct. 9-10 at the Sheraton Waikiki Hawaii Ballroom. The event is hosted by the American Society of Safety Professionals (ASSP) Hawaii chapter.



Jim Ciandella, Melanie Charbonneau, Robyn Ishihara



Joaquin Diaz, Zoe Williams, Linda Peavy



James Decker, Brandy Voipe, David Guinn, Mark Gordon



Noble Noah, Brandon Tom, Ryan Fukuda, Chris Capulong



Derek Ain, Tom Dempsey, Eddie Mal



Marlo Valdez, Eric Spicher, Monica Wise, Dan Hacker



Bob Peterson, Andrew MacDonald, Charles Brown, Felix Lenchanko



Stephen Grennan, Amanda Hill, Bert Stak



Michelle Paul, Nancy Gurney, Heath Fleshner



Brett Yuhas, Christine Chaplin, Carolyn Aber, Dana Shaffer



Robert Sinclair, David Rios, Daniel Bertubin, Erroll Hooker, Lanky Morrill



Joe Consalvo, Rose Marie Wilson, Jonathan Baijo



LOOKING AHEAD TO 2019:

Preparing a Business Plan and Budget

Now is a good time to evaluate current year achievements and set goals for next year. Assuming you've acted on a strategic plan, next you will need to develop or update a short-term business plan and a budget to support your long-term vision.

While virtually all mid- and large-size contractors prepare business plans and budgets annually, many smaller firms have never undertaken this basic business function. As they say, "if you don't know where you're going, any road will get you there."

Here are the basic steps to prepare a one-year business plan and a budget to support it:

Business Plan

As a contractor, there are many outside interests (banks, bonding companies, owners, etc.) that will review your plan. Be sure to write it in a way that will reassure these parties that your vision will benefit everyone involved.

Assemble the planning team with your strategic plan and mission statement in mind. Prepare an assessment of long and short-range goals (making sure they are measurable), and monitor them throughout the year.

Simplify your business plan so that it fits on an 11-inch by 17-inch sheet of paper, frame it and place it prominently in the office where your team can review it frequently. Distribute it to your employees so they know where you intend to take the company in the next year.

The following subjects should be evaluated and tied to specific strategic measurable goals in the business plan:

- Image and identity
- Customer/industry concentration
- Capital growth and availability
- Organizational structure
- Employee relations
- Key Performance Indicators (KPIs)
- Planned revenue and profit
- Marketing and branding
- Personal development and training
- Expense control
- Cash flow

Transparency is important: Don't be afraid to point out areas where the business has had difficulties, as long as there is a plan for improvement. Be sure to demonstrate how the goals will be measured and how long they will take to achieve.

Budget

It is imperative to have a budget that supports your business plan. Again, many small- and mid-sized contractors proceed without an annual budget, and it is difficult to

image how they calculate their breakeven point and calculate their overhead percentage.

Your 2019 budget begins with your projected annual revenue. This number should include your current backlog plus projected additions in the pipeline. Alternatively, a projection can be developed based upon your last three years of revenue with a percentage increase for the coming year.

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areas where the business
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Many contractor budget templates are available online; however, it may be easier to go back to your profit and loss statement and develop your own. You can project expenses fairly accurately by prorating for 2019 using the previous year's expenses. This also enables you to determine your overhead percentage. Once calculated, you can figure out what it costs to keep your business running yearly, monthly, weekly, daily, and by the hour.

The numbers you come up with, whether sobering or enlightening, can lead to some important questions:

- Do we have the resources available to achieve our goals for 2019 or do we need to adjust?
- Do we plan to add any new employees?
- What will our direct labor amount be in 2019?
- What are our priorities this year, and do we need to add a new line item?
- Have we asked the person with the most influence over each line item if adding to or cutting the amount is necessary/feasible?

While revenue may be the priority, remember, everyone can help the company control costs.

A sound business plan and budget raises the odds of reaching your long-term goals. Leadership teams that revisit and adjust these items consistently can keep the company moving towards continuous improvement. 🏠

Garrett Sullivan is president of Sullivan & Associates 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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