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A MAGAZINE OF THE AMERICAN INSTITUTE OF ARCHITECTS

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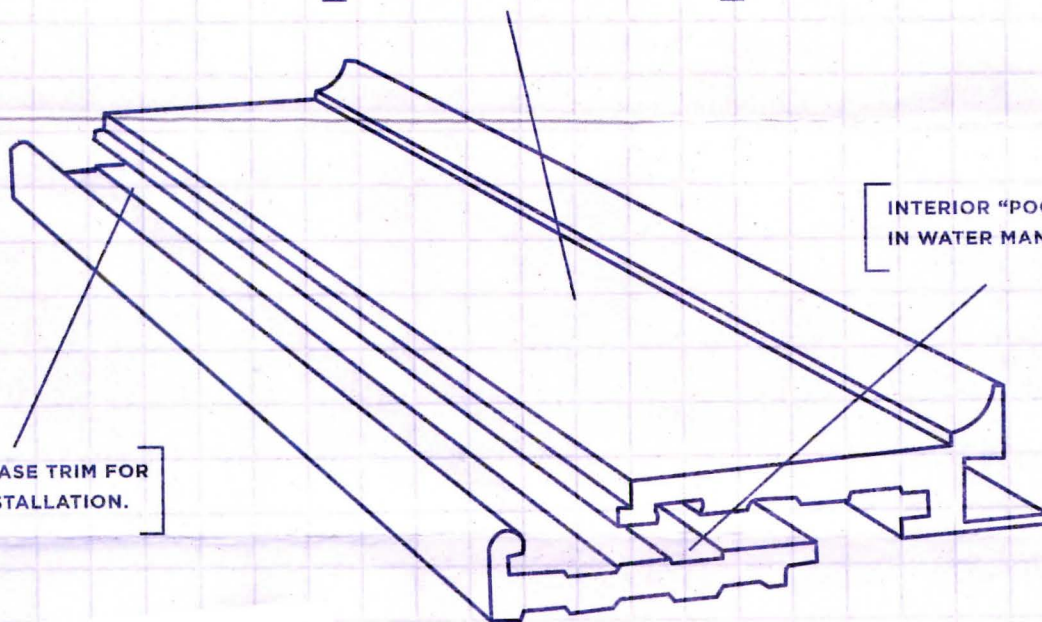


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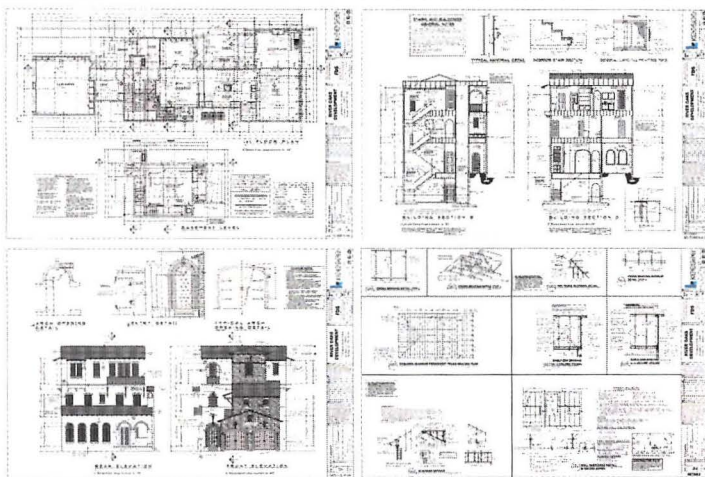


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S. Claire Conroy / Editorial Director / 202.736.3312 / [econroy@hanleywood.com](mailto:econroy@hanleywood.com)  
Pete Morelewicz / Deputy Design Director / 202.736.3331 / [pmorelewicz@hanleywood.com](mailto:pmorelewicz@hanleywood.com)  
Jennifer Lash / Managing Editor / 202.736.3442 / [jlash@hanleywood.com](mailto:jlash@hanleywood.com)  
Meghan Drueding / Senior Editor / 202.736.3344 / [mdrueding@hanleywood.com](mailto:mdrueding@hanleywood.com)  
Nigel F. Maynard / Senior Editor / 202.736.3438 / [nmaynard@hanleywood.com](mailto:nmaynard@hanleywood.com)  
Bruce D. Snider / Senior Editor / 207.322.6232 / [bsnider@hanleywood.com](mailto:bsnider@hanleywood.com)  
Evelyn Royer / Assistant Editor / 202.729.3684 / [eroyer@hanleywood.com](mailto:eroyer@hanleywood.com)  
Cheryl Weber, LEED AP / Senior Contributing Editor  
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Michael Boyle / Associate Publisher / [mboyle@hanleywood.com](mailto:mboyle@hanleywood.com)  
Joanna Mott / Group Publishing Support Manager / [jmott@hanleywood.com](mailto:jmott@hanleywood.com)  
Jeff Rule / Product Director e-Media / 202.729.3539

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#### Editorial and Advertising Offices:

One Thomas Circle NW, Suite 600  
Washington, DC 20005  
Phone 202.452.0800 / Fax 202.785.1974

Volume 15, number 3. *residential architect* (ISSN 1093-359X; USPS 016-871) is published bimonthly (January/February, March/April, May/June, July/August, September/October, November/December) by Hanley Wood, LLC, One Thomas Circle NW, Suite 600, Washington, DC 20005. Copyright 2011 by Hanley Wood, LLC. Opinions expressed are those of the authors or persons quoted and not necessarily those of Hanley Wood. Reproductions in whole or in part prohibited without prior written authorization.

*residential architect* is sent free of charge to qualified readers involved in the residential home design market. The publisher reserves the right to determine qualification criteria. Out-of-field subscription rates are: U.S., \$39.95; U.S. students, \$19.99; Canada and all other countries, U.S. \$49.95; airmail is additional. Single-copy price is \$10.00. For subscription information write to: *residential architect*, P.O. Box 3494, Northbrook, IL 60065-9831. Subscription inquiries and back issue orders: 888.269.8410 / Fax: 847.291.4816. Reprints: Wright's Media, 877.652.5295. Periodicals postage paid at Washington, DC, and at additional mailing offices. Postmaster: Send address changes to: *residential architect*, P.O. Box 3494, Northbrook, IL 60065-9831. This issue is mailed in regional editions. Canada Post Registration #40612608/G.S.T. number: R-120931738. Canadian return address: Pitney Bowes Inc., PO Box 25542, London, ON N6C 6B2.

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Michael Boyle / Associate Publisher, Residential Construction  
Phone 773.824.2402 / mboyle@hanleywood.com

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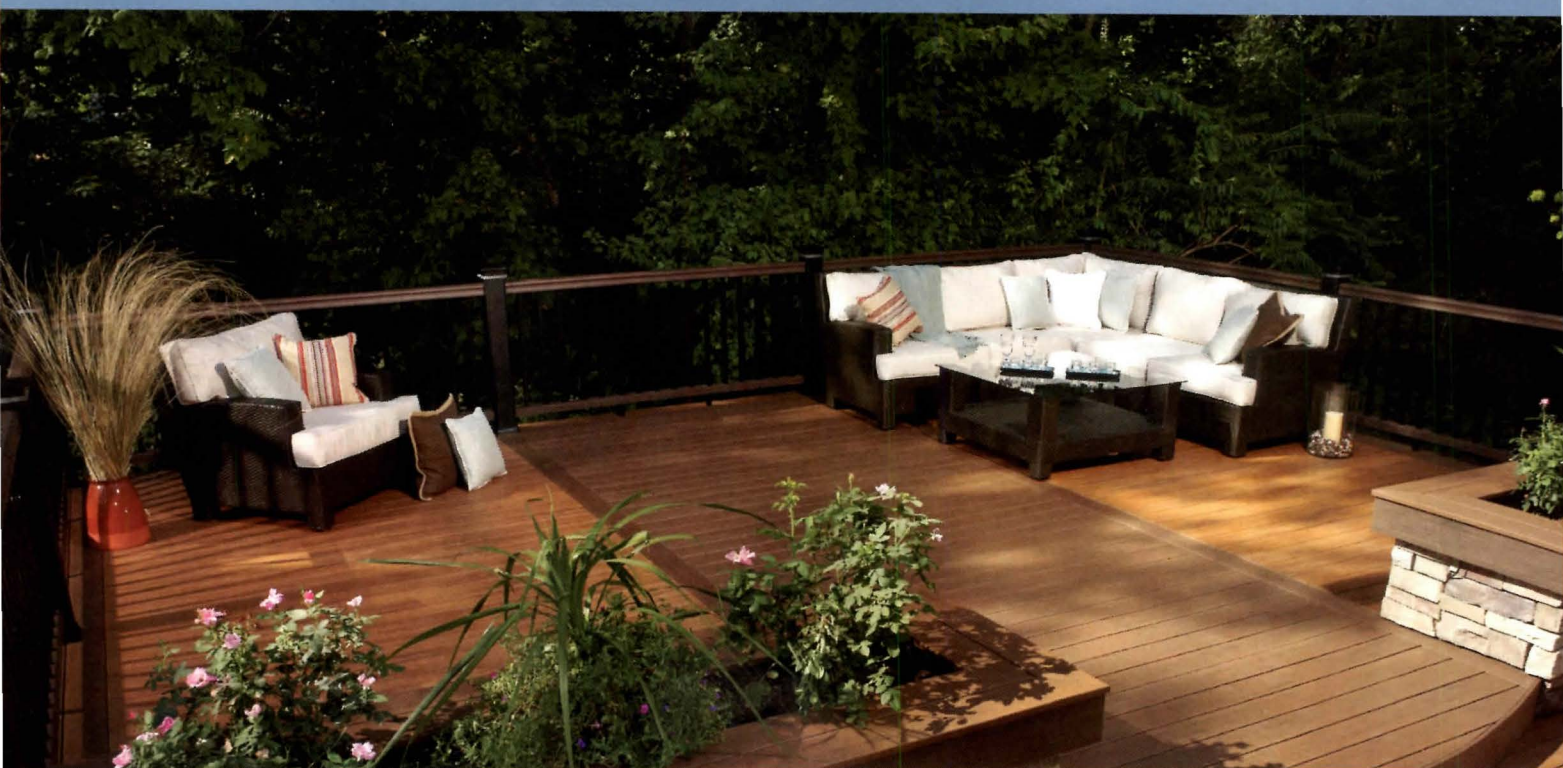
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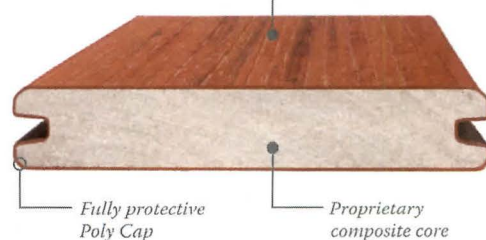


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The kitchen cabinets in this live/work residence (top) are a mix of store-bought, custom, and antique. De Leon & Primmer Architecture Workshop turned abandoned city lots into light-filled office space for its firm (above). Photos: Puliatti Photographic and De Leon & Primmer Architecture Workshop. Cover photo: Mat Szwajkos/Aurora Select

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Enter your best projects in the  
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*By Cheryl Weber, LEED AP*

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# home front

news from the leading edge of residential design.

## shotgun chic

Hurricane Katrina and the ensuing flooding left New Orleans with a significant housing crisis that has not yet been resolved. Rochester, Ind.-based design/build firm Miletus Group, which specializes in prefab and modular systems, has developed a prototype that may help: the Shotgun House Project.



"Katrina's lasting effects have created a massive housing deficit in New Orleans," says Miletus president James B. Guthrie, AIA. "This housing dilemma is exacerbated by labor shortages and the high price of available building materials. Our premise was to

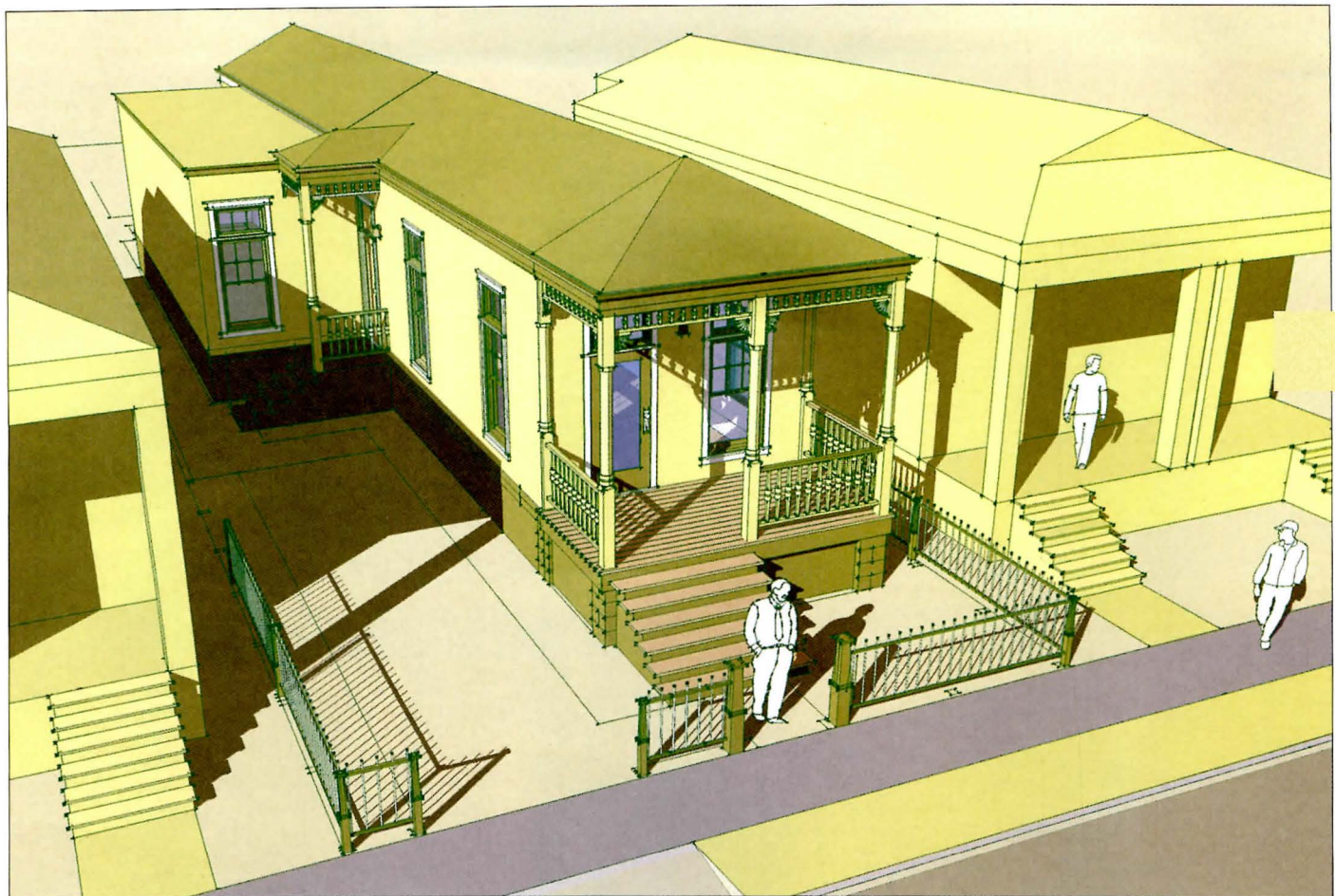
build high-quality and architecturally sensitive homes off site, away from the stresses of New Orleans' building environment."

The model in question is an architecturally sensitive modular shotgun that may come fully intact and ready-for-occupancy or partially unfinished for handy do-it-yourselfers to complete. "[The shotgun] is really an amazing building typology in that the same basic home can be found in every neighborhood of New Orleans, from the richest to the poorest," Guthrie says. The nice thing about the typology, he adds, is its flexibility because the homes can be built as singles (typically 12 feet wide), doubles (24 feet wide as a duplex), and camel backs (a single or double with a second-floor addition). From these forms,

*"these ingenious modular structures are substantial homes, fully compliant with current building codes and fema standards, offering a sustainable, permanent solution to the current and near-term housing needs of new orleans."*

—james b. guthrie, aia





Courtesy Miletus Group

Guthrie adds, there can be many subtle variations.

The first home, which Miletus hopes will achieve a LEED Platinum rating, will be a 24-foot-wide market-rate model on a lot measuring just over 150 feet. Because of this, the firm says it was able to keep with the aesthetic of a traditional single but go a little wider on one side (14 feet), while also having a couple of small rooms (10 feet wide) on the side. The plan can have up to four bedrooms and will measure close to 1,800 square feet.

Costs will vary and will be driven largely by finishes. The shotguns can be built small, simple, and bare bones in the \$125 per square foot range, Guthrie says, or big and embellished for an upscale neighborhood, where the cost could go well over \$200 per square foot.



"These ingenious modular structures are substantial homes," Guthrie notes, "fully compliant with current building codes and FEMA standards, offering a sustainable, permanent solution to the current and near-term housing needs of New Orleans."—*nigel f. maynard*

Recalling the past, this shotgun model home is a near-term housing solution for post-Hurricane Katrina New Orleans.



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## AIA VOICES

THE NAHB'S NEW BOARD CHAIRMAN, BOB NIELSON, CALLS ON ARCHITECTS TO  
ENGAGE THE MORTGAGE CRISIS

*Bob Nielson and the National Association of Home Builders represent more than 160,000 members across the United States. A 25-year veteran home builder from Reno, Nev., Nielson has been on the front lines of affordable housing his entire career. Looking ahead, he thinks residential architecture is poised for some big changes, which will affect both how people live and how architects practice.*

**LIKE OTHER SECTORS, IT WILL TAKE TIME FOR HOUSING TO** rebound as we climb out of this recession. One advantage we have, however, is the design and innovation capability of the architectural community. Our member architects provide invaluable perspectives on design trends and construction both locally and at the national level.

A recent NAHB survey shows some of the changes brought about by the recession. It indicates that smaller homes with lower prices and more green features will dominate the marketplace in the near future. Looking forward to 2015, builders expect homes to average around 2,150 square feet, or about 200 square feet less than at present. Generally, buyers will be looking for flexible spaces that can accommodate changing household configurations. The preferences of the aging Baby Boom generation will be a major factor.

Architects and interior designers also play leading roles in

some of our most visible programs. One initiative is The New American Home, a custom-designed show house constructed annually at the NAHB's International Builders' Show to showcase innovative design. Member architects also serve on our Design Committee, which helps educate builders to improve residential design.

In my view, the most important thing architects can do to help facilitate a recovery is support the NAHB's efforts to restore the flow of credit for acquisition, development, and construction (AD&C) financing to builders, and resolve the problem of appraisals that do not accurately reflect new home values. Largely as a result of the recession, credit for home building has dried up, and the use of foreclosures and distressed sales as comparables has resulted in appraisals that do not reflect a new home's unique qualities.

It is also crucial that everyone in the housing sector supports the mortgage interest deduction and other housing-related deductions in the tax code. Eliminating or reducing these tax measures, as has been proposed, would have a devastating effect on homeowners and the housing market. However, the mortgage interest deduction and other housing-related deductions are likely to be in the crosshairs as Congress moves forward on budget and deficit reduction efforts. *As told to Guy Horton.* **AIA**





PHOTO: BENJAMIN BENSCHNEIDER

## Rolling On

### A centenary storefront is transformed into an accessible live/work space

BY BRENNEN JENSEN

**TYLER ENGLE, AIA, VIEWS THE 1,600-SQUARE-FOOT SEATTLE** storefront he renovated in 2007 as live/work space for real estate developer John Kucher and his wife, Tina Jacobsen, as a “little jewel box”—reimagined in a “scrappy and concise way.”

At first blush, the erstwhile drugstore would seem to have offered little for an architect to engage. It’s essentially a box. But there were some challenges to coming up with a design. For one, Kucher is in a wheelchair, so the space needed to be accessible. He also had a large collection of modern art to accommodate.

“Perhaps the biggest challenge was privacy,” Engle adds.

“You have a storefront facing the street that’s only 8 feet from the curb.”

For the owners, flexibility was an important factor. “We really wanted a space that was good for the two of us but could also accommodate a dinner party for eight or a big party of 40,” Jacobsen says.

Seattle’s Tyler Engle Architects PS met these challenges head on, and the so-called scrappy redesign won the 2010 AIA/ HUD Housing Accessibility–Alan J. Rothman Award.

The circa 1916 storefront, erected in the leafy Madrona neighborhood, had been awkwardly subdivided into offices sometime during the 1960s. Kucher bought it in 1985 and renovated it to serve as his company’s home base. In 1990, he decided to work and live there, unceremoniously turning one of the offices into a bedroom and preparing meals on a kitchenette tucked in the rear. But when Kucher, a widower, proposed to Jacobsen in 2006, the bride-to-be found the impromptu bachelor pad a clumsy fit for the sociable lifestyle they would pursue together. The kitchen, for starters, was barely functional and lacked counter space. This wasn’t a home so much as an office suite with a bed in one corner.

Engle’s redesign was driven by three concepts. First, the main 18-foot-by-25-foot living space was centered beneath a sizable 8-foot-by-12-foot skylight to give it the feel and





function of a traditional courtyard house.

"The skylight was already in place but had a 1980s-cute zigurat opening," Engle says. "We cleaned it up and splayed the opening to reflect light downward, and used the opening as the center of the courtyard space." He then worked with Kucher and Jacobsen to design the wall space around some of the large modern paintings in his collection. The bedroom and full bath at the building's rear sport clerestory windows to tap into the "courtyard's" daylight. A flush-mounted pivoting door can completely seal off this domestic area when entertaining.

Several ideas were exchanged for the new kitchen (including keeping it at the building's rear) before Engle developed the concept of combining the kitchen and a powder room into a "service core," the dimensions of which suggest a shipping container. This "container" was then positioned between the storefront windows and the courtyard space to act as a privacy-enhancing buffer. It is clad on both sides with horizontal ipe boards, selected both for their warm color and their evocation of an exterior surface. Between this wooden wall and the front windows are a small office for Jacobsen and an entry hall/vestibule.

"It dissolved the line between inside and outside," Engle says. "With this exterior siding material you feel like you don't really enter the house until you pass through the wood."

To provide partial concealment of the now front-and-center kitchen, Engle's third major concept was placing steel plates on either end of the bar island and the main cooking area to function as "blinders." Guests entering the living room pass by the kitchen without noticing it. Meanwhile, as hostess, Jacobsen loves the configuration. "I never miss the action," she says.

What of the accessibility requirements? These were handled with kid gloves. A new polished, charcoal-tinted concrete floor was laid, perfect for wheelchair mobility. The bathrooms feature

Engle combined the kitchen and a powder room into a "service core," the dimensions of which suggest a shipping container.

pocket doors to maintain interior maneuvering room. The master bath also sports his-and-her sinks mounted at appropriate levels within a concrete counter.

"The whole idea was to accommodate without making a big deal about it," Engle says.

And this is just the way Kucher, injured in an accident as a young man, wanted it. By his own admission, he is in a "kind of denial" about his condition and didn't want physical reminders of it in his home.

A potential problem spot was Kucher's office in the rear corner of the building, where the demands of the elevation required the floor to be a few steps up from the main level. An interior 1:12 ramp would have been overtly noticeable and likely cut into the living room. Kucher deems motorized lifts as "slow, loud nuisances." The solution was simple: Kucher "commutes" to work by going out the front door and around the side of the building, where the sloping sidewalk serves as a ramp to a steps-free exterior office door. The trip even provides mental benefits, helping him separate work from home life.

"Our focus was not merely accessibility," Engle says. "It was to provide a flexible space for a couple who has a great art collection to live and entertain." **AIA**

# AIAPERPECTIVE

THE BIG BAD WOLF AT OUR FRONT DOORS

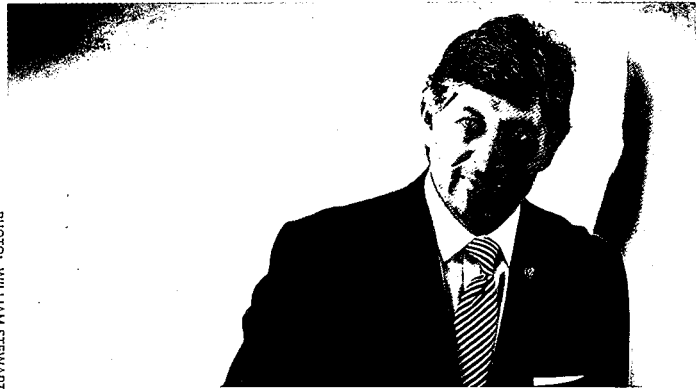


PHOTO: WILLIAM STEWART

**JUST WHEN YOU THOUGHT THE CHALLENGES** FACING architects whose practice is residential design couldn't get worse, along comes a confounding variable—the weather. This past winter, communities as far apart as Berlin, Germany, and Berlin, N.H., endured major disruptions. Even Chicago's public schools had to close, something longtime residents of the Windy City could not recall. The culprit? Record cold and snow.

Last May, Nashville saw some of its worst floods in history, and earlier this year great swaths of Australia resembled inland seas, as normally meandering rivers burst their banks. What once were called 100-year events clearly seem to be happening with disturbing regularity across the globe. Seen from one perspective, more severe weather is an argument for the flexibility and convenience of working at home. After all, if you don't have to go to an office, you avoid nightmarish commutes when the weather turns sour while the environment reaps the bonus of less pollution as the family car sits idle in the garage.

On second thought, what about the obvious fragility of our nation's electrical grid, brought down again and again by the increasing ferocity of storms? Working at home is not an option if the power is out and you're up on the roof feverishly shoveling snow to keep the roof from collapsing under the weight of a snowpack it wasn't designed for.

If work at home is truly to replace or compete with the traditional office, bold action is called for on a number of fronts. For the nation's utilities, bold action means an unprecedented investment in a reliable and efficient national power grid, equally secure from the acts of nature and terrorists. For government, bold action means collaborating with the design and construction industry to draft building codes that anticipate, rather than react to, natural disasters.

The contribution of architects is of a different sort. Confronting climate change represents a unique opportunity to expand an understanding of sustainable design to embrace the concept of survivability. It means designing structures that maintain critical life support in the face of what are no longer extraordinary weather conditions.

Will factoring survivability into the design of America's homes cost more? Probably so. Yet, once lower insurance premiums and the efficiencies of reduced energy consumption kick in, homeowners are likely to see real savings. **AIA**

Clark D. Manus, FAIA, 2011 President



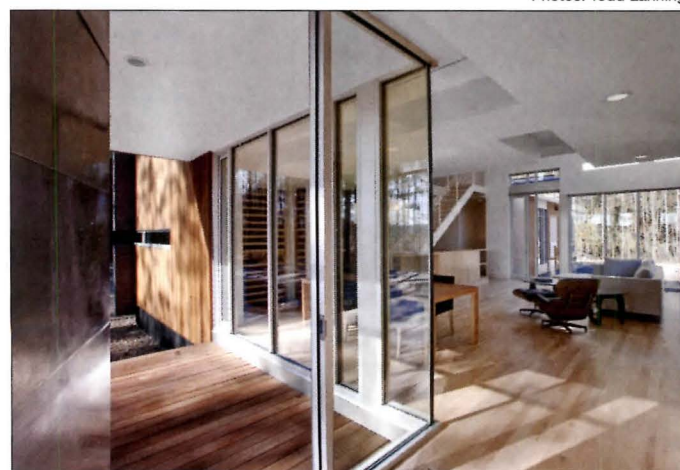
# leading light

a new family home sets an example for its community.

The design/build architects of Raleigh, N.C.-based Tonic Design are big on the synergies afforded by their way of producing buildings. Interweaving design and construction creates opportunities for improvisation, says principal designer Vincent Petrarca. "It's like jazz." The LEED for Homes-certified GREENville House in Greenville, N.C., demonstrates the power of such synergies, not only between design and construction, but also between modernism and sustainability.

The owners envisioned the house as an alternative model for their architecturally conservative community, Petrarca says. They favored modernist design,

"and they had researched solar and geothermal from the beginning." They also planned the house as a long-term family residence, and one of their requirements—children's bedrooms on the second floor—influenced the building's pinwheel-like footprint. The two-story section "creates a lot of shadow," Petrarca notes. To maximize solar exposure, "the building stretches away from itself," Petrarca and project designer Katherine Hogan developed a system of aluminum rooftop "trays" that support photovoltaic and solar thermal panels and turn down at the roof's edge for window shading. (Solar thermal collectors supply the house's hot water; when completed, the photovoltaic array is projected to meet 60 percent of its electrical load.) The house's low-maintenance shell combines brick-, red cedar-, and zinc-cladding in an interlocking composition that blurs tra-



Rooftop "trays" constitute mounting brackets for solar panels and shading devices for windows (top). Narrow wings provide natural light, views, and ventilation (above), and clerestory glazing emphasizes the height of the living area (left).

ditional distinctions among foundation, walls, and roof.

Features such as sustainably harvested woods, a geothermal heat pump HVAC system, and rainwater harvesting presented a learning opportunity for subcontractors unfamiliar with LEED—or with the EPA's Energy Star and Indoor Air Plus programs, with which the project also complied.

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Photos: Todd Lanning



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# k + b studio

## bath: containment strategy

Like the house's kitchen, the Wood Block Residence master bath "treats the casework as a block that can define programmatic spaces," says architect Lisa Chadbourne.

White lacquer cabinets describe a hook shape in plan, separating the bath from the master bedroom and enfolding a dressing room that is open to the bathing area. A toilet compartment serves as the boundary between the bath and the house's public areas. With doors opening on both sides, it doubles as a powder room. "It's not a large house, so sharing the powder with the master is an efficient way to handle them," she explains.

The cedar-paneled ceiling flows uninterrupted from the kitchen, broken here by a skylight large enough to afford a view of the Pacific Northwest's "drama of changing cloudscape," Chadbourne says. Below the ceiling plane, Chadbourne and partner Daren Doss, AIA, maximized reflected light with a white-on-white palette of acrylic cement floors, acrylic cement plaster walls, lacquered cabinets, and stone-composite counters.—*b.d.s.*

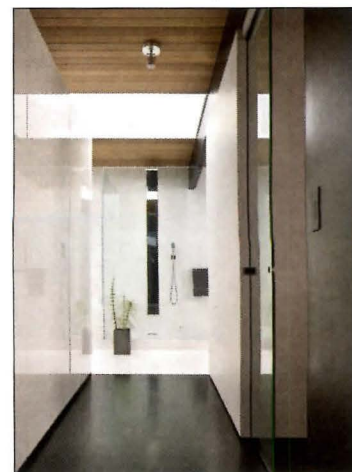


White wall surfaces, cabinetry, and counters maximize reflected daylight. A cedar ceiling ties the bath to the house's public areas.



Photos: Benjamin Benschneider

**resources:** cabinets: Boloni; countertops: Caesarstone; flooring: Milestone; paints/stains: Cabot, Sherwin-Williams; plumbing fittings: Vola; plumbing fixtures: Dura-vit, Hastings, Newform; skylights/roof windows: Crystalite





## products

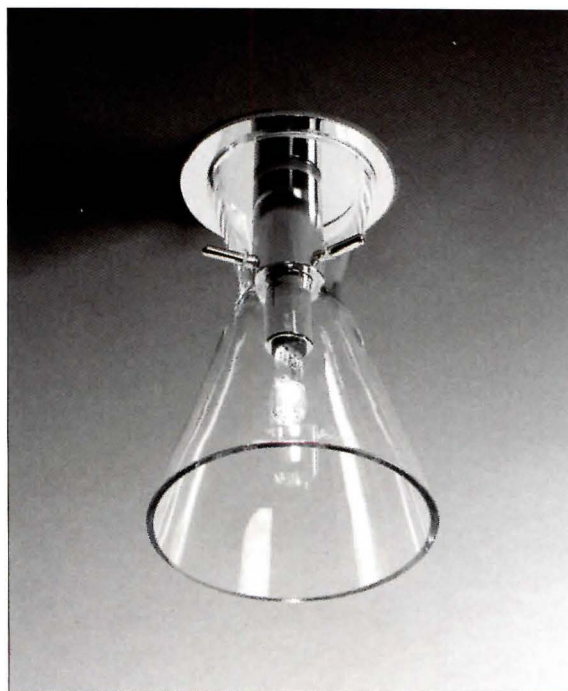


### spring showers

A large square showerhead tops off the DreamLine shower column, which boasts the amenities of a home spa in a clean-lined aluminum panel. Using the three-position diverter, bathers can direct water flow to six adjustable body massage sprays, a multifunction hand shower, or the self-cleaning 7-inch overhead rain shower. A built-in thermostatic valve keeps the water temperature from fluctuating, and all visible plumbing fixtures come in a chrome finish. Bath Authority, 866.731.8378; [www.dreamlineshowers.com](http://www.dreamlineshowers.com).

### high light

The Memory XXS spotlight, designed by Lucio de Majo, emits direct and indirect light, diffusing rays through a clear glass shade anchored to the ceiling by a chrome base. The lamp measures 2.8 inches in diameter, 4.3 inches in length, and holds a 12-volt halogen lamp with a 2,000-hour life, the firm says. A suspension version drops the light 72.8 inches from the ceiling. de Majo Illuminazione, +39.041.57.29.617; [www.demajoilluminazione.com](http://www.demajoilluminazione.com).



—by evelyn royer



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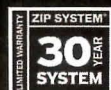
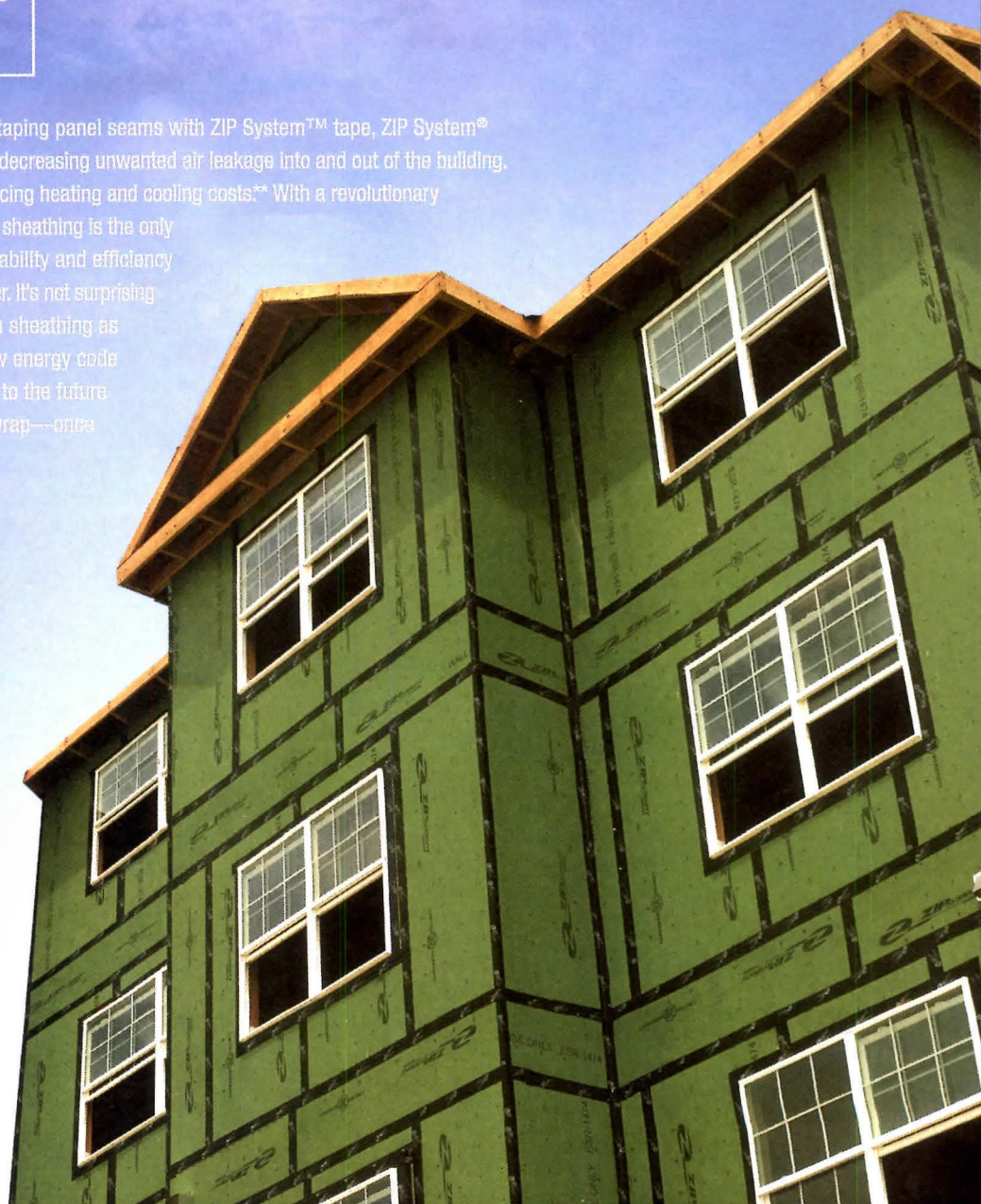


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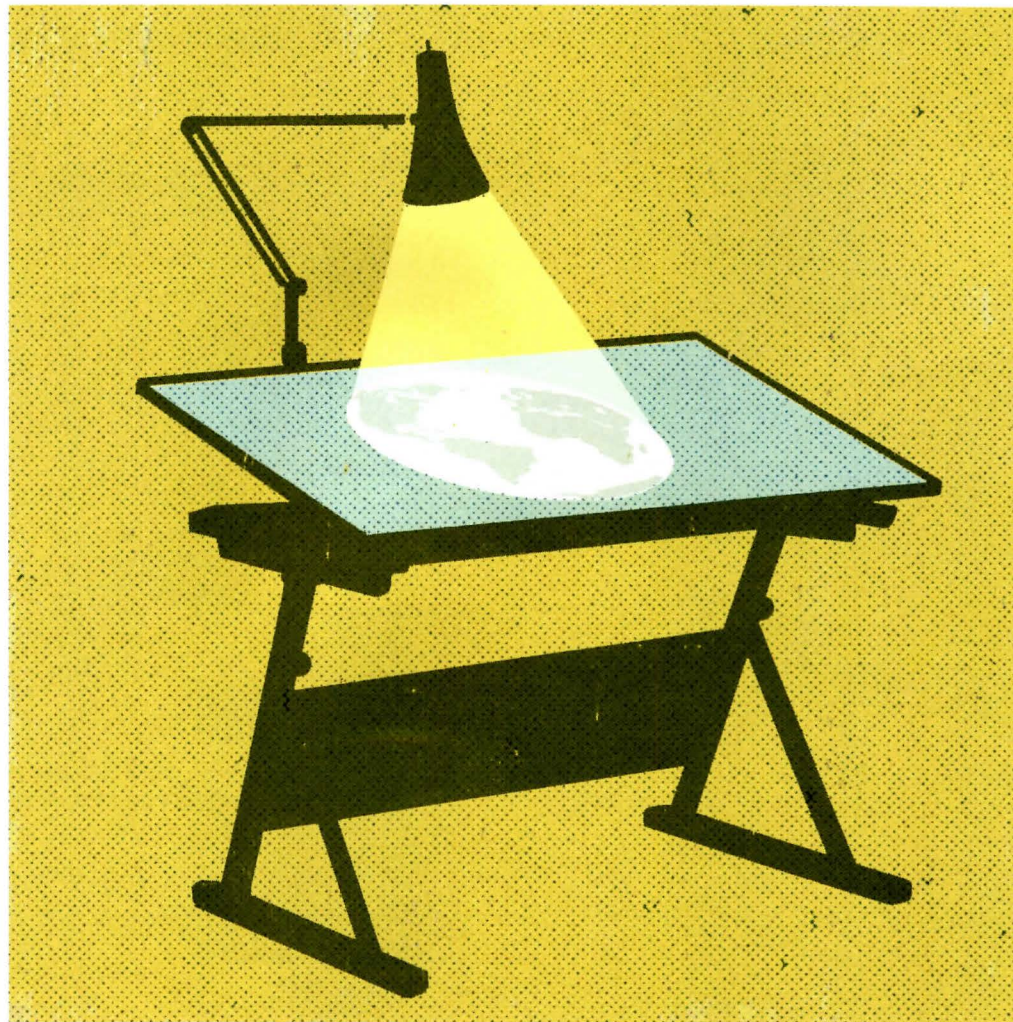
# shedding borders

with the economic recovery stuck in low gear, u.s. architects are looking overseas for commissions.

by cheryl weber, leed ap

**t**he call to Seattle architect Jim Olson, FAIA, in 2004 came out of the blue. It was a Hong Kong businessman wanting to commission a lavish villa for him and his wife. How did they find him? As Olson, founding partner of Olson Kundig Architects, tells it, the couple had spent a year researching architects independently of one another. At the end of that year, both had bookmarked an Olson-designed house in San Francisco. "Publications seem to be a very important part of our getting noticed outside the U.S.," Olson says. "One was an international magazine, another was a book of architect-designed houses. The other was a Midwest Airlines magazine the husband happened to see on a plane."

From that project came other Hong Kong commissions, and then Korean clients began calling. One was a large architecture firm asking Olson Kundig to collaborate on a design competition entry, which subsequently won. Among the firm's current work in Asia are two prototype houses for a high-end residential development, an office building, and a cultural facility. The



Dan Page

timing was fortuitous. "Our clients in Korea and Hong Kong were going strong in 2009 and 2010," Olson says, while the American economy languished.

By plan or by chance, Olson Kundig is among a growing number of small to mid-sized firms whose work in other countries is helping to sustain them as our own economy struggles to its

feet. Some are quietly capitalizing on the international relationships they've been building for decades. Others are tapping into construction sprees in China, India, and the United Arab Emirates that began in the mid-2000s. Although large offices have long cultivated global relationships, it's only relatively recently that residential building booms abroad have

opened a pipeline of opportunities for smaller U.S. practices—just in time, too.

## an open door

"It's been the thing that saves us through this period; otherwise our staff would be down to bare bones," says Jeffrey Heller, FAIA, president of San Francisco-based Heller Manus Architects.

*continued on page 25*



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## practice

The firm made its first foray into Asia in 2004, when Heller was invited to give a talk in Seoul, South Korea. After the conference he hopped over to Shanghai and was astounded by what he saw: a vast construction landscape of modern villas and flashy high-rises, fueled by the migration of hundreds of millions of people from farms to cities.

"In 2004, the U.S. economy was going great; we had no reason to go to China, but what was happening was clearly historic, and I was determined we'd get engaged," says Heller, who, along with CEO and current AIA president Clark D. Manus, FAIA, heads an office of 20 to 30 employees. Heller networked his way to the first commission. A Chinese-American architect he'd known in San Francisco introduced him to the large architecture office in Shanghai that continues to be Heller Manus' main partner there. Last year, two-thirds of the firm's work was in China, where it has one full-time employee.

Not only is there plenty of construction in China, but much of it is fast-tracked, compared with the grinding pace of entitlement and financing that plagues U.S. projects. Heller blames bureaucracy as much as the Great Recession for choking off stateside commissions, especially in California. "It takes from three to six years to get projects done here, whereas in China

*continued on page 27*

## the china connection

From its San Francisco base and a Shanghai satellite, Heller Manus Architects does more than half of its work in China. But, says principal Jeffrey Heller, FAIA, business dealings are a lot more complicated than in the U.S. Donna Li, a senior partner at the AllBright Law Office, Shanghai, which helps Heller Manus navigate the bureaucracy, offers this advice for firms with their eye on China.

*What major challenges do American architects face when doing business in China?*

Business dealings in China face far more supervision and government control than in the U.S. American firms who want to set up a China office must apply to the Chinese authorities for approvals, or face severe fines for doing unpermitted business. Tax and foreign currency controls are the other major issues, and have a direct impact on profitability—even for architects without offices there. Only after the relevant tax is paid can money be exchanged from renminbi to U.S. dollars and wired out of China.

*What kinds of contracts should be in place?*

Usually a retainer agreement between an American architect and the Chinese client will suffice. Due to the differences in language and legal systems, AIA contracts need to be localized and translated before use. American architects may also need to adopt their clients' contract documents, which are required in certain regions.

*What legal recourse does an American architect have if something goes wrong?*

You can bring a case of contractual breach to a competent People's Republic of China court. If the retainer agreement contains an arbitration clause, the architect can submit the case to an arbitral tribunal either inside or outside China. Compared to courts, arbitral tribunals are generally regarded as more convenient and efficient. A number of arbitral tribunals in China, such as the China International Economic and Trade Arbitration Commission, have adopted English as a working language.

*Any cultural differences related to business we should know about?*

There are few, actually. In our experience, Chinese clients usually respect architects' ideas more than American clients do, which gives architects more freedom to experiment.—c.w.



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## practice

things are accomplished in one-quarter the time," he says. "That's having an enormous impact on the profession. In my view, they've found a path to success that we've lost. They're where we were in the 1950s and 1960s."

That's good news for many out-of-work firms. But why hire foreigners, when the Chinese could do the work quickly and for less money? What clients want, many say, is big-concept, abstract thinking, which they associate with a Western approach. What's more, often that translates to dream commissions that leave budget issues oddly out of the picture, offering architects an artistic freedom

they haven't experienced since they were students.

One example of how different business dealings in Asia are from the typical American commission is Ehrlich Architects' work on the Taipei Towers in Taiwan. The Culver City, Calif., firm was asked to design the exteriors of five residential buildings ranging from 12 to 20 stories.

"The client requested a modern, uplifting design for this up-and-coming area," says Ehrlich principal Takashi Yanai, AIA, "and we wanted to bring our Southern California indoor-outdoor sensibility to the project. It was clear the developers were focused on achieving very high per-

*"it takes from three to six years to get projects done here, whereas in china things are accomplished in one-quarter of the time."*

—jeffrey heller, faia

square-meter prices rather than just bottom-line goals. Sales targets often entered into the design discussion, but construction costs rarely did."

That's because labor is less expensive in that part of the world, and U.S. architects are valued for their creativity, not their project management skills, says David Jameson, FAIA,

who runs a small firm in Alexandria, Va. He's designed three houses in Dubai and is working on a 25,000-square-foot house in Hanoi, Vietnam. "I got the call from Dubai on a Friday afternoon and thought it was a college roommate playing a prank," he remembers.

For the Hanoi project, Jameson was given

*continued on page 28*

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## practice

a program outline from a local architect hired by the owner, a Vietnamese entrepreneur. He asked for a modern, ideas-driven house but gave no clue as to construction budget. Starting with a blank canvas is "hard, but liberating," Jameson says. "If you think of architecture as a unique situational aesthetic created through pressures, it becomes harder to pin down a direction. But the lack of constraints means more freedom."

Still, there were clashing cultural overlays. The first concepts had to be modified to accommodate feng shui principles, such as a secondary entryway behind the front door. And the absence of cost discussions didn't mean the client wasn't budget-conscious—disconcertingly so. "You show them the real thing, and they want to find a company in Taiwan to knock it off," Jameson says. "Their attitude was, whatever you draw, we can make it happen for the number we need."

Payment can be touch-and-go, too. The Dubai houses weren't built, and the client still owes Jameson money. "They've honored the close-out agreement and continue to send money, but sporadically, and in small increments," he says. "It's a bit Wild West-like."

### building relationships

Foreign work is a leap of trust. Distance is disturbing when a client goes quiet,

and there may be little legal recourse if a project evaporates midstream. Those scenarios crossed Seattle architect Stuart Silk's mind when the agent for a large Chinese corporation asked him to design nine of the 80 luxury homes at Zhongkai Sheshan Villas, outside Shanghai. The agent had seen Silk's work while touring a gated community in Palm Springs, Calif.

"There's no linear way to check out these companies, but you can get a sense of their viability by looking at work they've done," says Silk, AIA, founding principal of Silk Architects. "My rule was to do no work without getting paid in advance. We spent more time on the payment schedules than on anything else. In the U.S. we bill monthly, but in China it's task-based. You send PDF's but not AutoCAD files until the money is in the bank."

Careful networking can prevent horror stories of architects left holding the bag. The Atlanta firm Mack Scogin Merrill Elam Architects, which designed four of the Zhongkai Sheshan Villas, was invited in by a reputable colleague. Other recognizable names on the team also reassured the architects that the project was legitimate.

Another major factor was in their favor, too: Foreign architects in China assume little or no liability because construction drawings are done by a local design institute.

Yet inevitably that means

*continued on page 30*





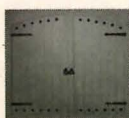
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## practice

relinquishing some design control, an issue that principals Merrill Elam, AIA, and Mack Scogin, AIA, resolved up front. “We had decided that our designs would be strong enough to sustain that loose fit,” Elam says. “We built in a certain amount of flexibility about how all the details might be executed. And they were good about asking for clarification when they didn’t understand the intent.”

Elam has found that the biggest difference working in Asia is how buildings are constructed. A labor-rich market means clients aren’t looking for off-the-shelf products. They want architectural sizzle, and have the manpower to make innovative concrete forms that would be prohibitively expensive here. That’s also true in India, she says, where the firm has designed multifamily housing—now on hold—outside Hyderabad for the emerging middle class.

“There’s a lot of residential activity at the moment in India,” agrees Suman Sorg, FAIA, principal of Sorg Architects in Washington, D.C. “We hope it’s not a bubble.” Her mid-size practice has pursued U.S. State Department work abroad since startup. But the gush of private-sector work in India is new and has filled a void since 2008, when those commissions dried up locally. A New York-based developer is keeping the firm busy with projects such as the Grand Arch outside New Delhi,

which includes 900 units of middle-class multifamily housing in high-rise and mid-rise buildings.

As in China, India is creating towns from whole cloth. Sorg is thrilled to avoid the Nimbyism common in Washington, where neighbors balk at the idea of modern insertions and try to influence design, not always positively. The work there, too, is less budget-driven than in the United States. Although Grand Arch’s first phase was in planning during the global market meltdown, the developer held the line, intent on spending what was necessary to create a buzz. “The client didn’t make the units smaller or cheapen the price,” Sorg says. “It arrived on the market in 2009, and there was a lot of worry it might be too high a price point. But it got a lot of publicity, and everything sold in 48 hours.”

Sorg Architects is confident enough that this past September it opened a New Delhi office. Not only will the 10 or so employees be available to manage projects through build-out, but Sorg sees this as a long-term investment. “At the moment it’s not for the sake of profit, but to have managers from America train Indian staff,” she explains. “We are getting graduates from an MIT sister university, training them to support us in projects all over the world.”

Networking—the basis of any ongoing marketing  
*continued on page 32*



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## practice

effort—is a more expensive proposition overseas. The managers travel back and forth every five weeks, and Sorg, a native of India, has an advantage over her American competitors. “Clients like the fact that I have their sensibilities,” she says. “I understand privacy issues in apartments, where you have in-laws living with you—all the things I experienced growing up.”

### global neighborhood

The world may be getting smaller, but when the economy goes down in one pocket of the globe, it's thriving in another. And the deeper the emotional ties to a particular place, the more

natural the business fit. For San Francisco-based House + House Architects, that bright spot is Mexico, where principals Steven and Cathi House are grateful to find almost half their work these days. Many of those commissions come from another social force: American baby boomers wanting to retire or vacation where the cost of living is low.

For the Houses, who've been working in Mexico since the 1990s, marketing consists of little more than making friends during their stays in San Miguel de Allende, where they've built two houses for themselves, one a rental. They recently broke ground on a house for a Massachusetts

*“we're interested in how one designs a building that's culturally relevant, yet modern and embracing new technologies and global agendas of sustainability.”*

—steven ehrlich, faia

couple they met on the street. Steven House, AIA, recalls, “We overheard this nice couple talking about where to have lunch. We started chatting, and invited them to our house later that afternoon. A few months later, they decided to retire there.” The rental house is a subtle way to attract clients. And their personal home, a fixture on the city's Sunday

house and garden tour, also draws tourists.

By now, the Houses are fully immersed in the local culture. Cathi House, who's become fluent in Spanish, spent a week interviewing 20 local builders for their first project, and the one she chose has constructed all 19 homes they've designed there. Construction

*continued on page 34*



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## practice

drawings are in Spanish, and they're close friends with blacksmiths, stone masons, carpenters, and the local bank manager. In fact, their deepening interest in the region inspired their latest project: a study abroad program, partnering with American architecture schools including Virginia Tech, where the couple met. The school they're building beside their home is slated to receive its first students next summer.

Steven Ehrlich, FAIA, traces his international awareness to his Peace Corps work in Morocco in the 1970s. For years, his firm has been developing a philosophy of multicultural modernism. "We're interested in how one designs a building that's culturally relevant, yet modern and embracing new technologies and global agendas of sustainability," he says. And as tantalizing as the so-far-elusive China commission seems, he says he'd turn down work that compromises his design ideals. "I can't tell you how many times we've been asked to be in a paid competition in main-line China, and they pick the French chateau from someone else," he says.

That sounds a lot like the U.S. Working anywhere is a matter of identifying the right fit. Architects who can do it find that the work has value beyond a recessionary strategy. Says Olson, "It's expanding my neighborhood out into the world. We're making all kinds of new lifelong friends." *ra*

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# *urban interventionists*

desai/chia architecture  
practices the art of  
subtraction and insertion,  
light and delight.



Mat Szwajkos/Aurora Select

Inspired by artists such as Donald Judd and Robert Irwin, Arjun Desai and Katherine Chia's urban work uses light to shape space and define volume.

Arjun Desai and Katherine Chia, AIA, are urban to the core. The married architects live with their two young children in Manhattan and work in a seventh floor studio on a narrow street near Madison Square Park. The room's white walls are punctuated by blocks of color, and a George Nelson cigar lamp hangs over a conference table holding exquisitely crafted models. Those models—mostly weekend getaways for their city clients—are of single-family-homes, but they're quietly cross-pollinated with urban ideas the pair has spent 15 years perfecting.

Since its launch in 1996, Desai/Chia Architecture's focus has been on finding creativity in the city's constrained spaces, but building in New York offers a framework for how to approach design just about anywhere. Limited to what an existing building offers, Desai and Chia are forced to be inventive about how they organize space and technical infrastructure. They're working back and forth between the big con-

cept—creating dual-purpose spaces that flow but feel intimate, getting the most from the mechanical systems—and the fine grain. What materials lend texture and warmth to windowless rooms? How do you brighten up dim interiors, and what fixtures will produce the best-quality light to express the architecture, almost like a painting?

Video installation artist and lighting designer Christine Sciulli is a frequent collaborator and fan. "They're incredibly curious, always pushing a material to its limit," says the New York-based Sciulli. "A lot of what we do together is play with light, using different materials to mock things up. What happens when daylight turns to dusk and the artificial light takes over? When the lights are turned on in one place, how does it affect adjacent spaces?"

## light craft

Consider the 4,000-square-foot industrial loft in Madison Square that Chia and Desai adapted for a family

*continued on page 38*





Photos: Paul Warchol



Inside the Madison Square loft, compact cores containing the private zones—kitchen/storage and bathrooms—are wrapped in light and textural materials, allowing the public spaces to flow around them. The slats on the media wall can be tilted manually to brighten the living area.



At Cooper Square (below), spun aluminum dome cutouts define the dining area and hide drainage pipes coming from the roof. Dimmable xenon fixtures create an even wash of light. In the bath, light bounces through the offset slats of wood-and-glass skin.



Paul Warchol

of four. Into the cavernous footprint they inserted two perpendicular wood-and-glass cores that light up the living zones. One defines the kitchen and storage area, another serves as a media wall and houses the baths. Both volumes are wrapped in vertical wood planks that stop shy of the high ceiling, implying a clerestory like that of a single-family home. Light also filters through the kitchen core's offset ash slats, and those outside the bath can be tilted manually to emit more or less light.

These subtly ingenious moves differentiate the lit spaces from those in shadow, and they were meticulously studied in full-size mock-ups. "For the wood core system, we wanted to see how much light would come through the slats, explore the operability of the planks and their overall proportion, and the texture and patterning of the wood," Chia says. "In the glass mock-ups we looked at different densities of acid etching and various angles so the light would refract and reflect off the surface." She's referring to the master bath's glass wall panels, which are angled to produce a precise level of translucency and a luminous green hue.

"We tend to look at architecture that is simpler and dematerialized, so that space and light can flow," Desai says. Growing up in Chandigarh, India, he was influenced by Le Corbusier's early Modernist buildings, the intense sunlight, and the use of jali as room dividers that sift air and light. "We don't stress form for form's sake," he says. "That hasn't been our philosophy."

New York's arts culture embraces their enthusiasm for multidisciplinary design, and their obsession with materials. The couple found jobs here after graduating from the MIT School of Architecture + Planning in 1991. Desai did historic preservation work for Swanke Hayden Connell. Chia, who has

a fine arts undergraduate degree, joined Maya Lin's studio, where she learned to shape materials by hand.

## creature comforts

The pair's tactile sensibility results in an approach that juxtaposes the ethereal with finishes that are built to last. There are elongated bedroom doors, and a hall wall, wrapped in dark-colored laminate, which reflects light and resists fingerprints. In one loft bath, back-painted glass counterpoints a wall of penny-round tiles. In another, thin, linear wall tiles respond to the original white terra-cotta patterns in relic structural columns. "The urban environment has a strong history," Chia says. "We feel like archaeologists, uncovering things and blending the new with the patina of the old."

Recess Lav, a resin sink with an integrated backsplash and medicine cabinet, embodies the blend of practicality and expressiveness at the heart of their endeavors. Produced and distributed by AF New York, the clean sheath slips seamlessly into a compact bath, projecting just 12 inches when tucked into a stud wall.

Desai and Chia have found that the quirky challenges of city dwellings—doubling up functions in the workhorse parts of the home, lighting the dark zones, and cleverly layering spaces to keep them visually connected—transcend location and project type. "We've learned to be efficient in floor plan layout, so in new construction we're not automatically jumping to bigger is better," Chia says.

"We've tried to be consistent in what we do, dealing with light and issues of openness and transparency," Desai agrees. "We've been very conscious about how our work holds together as a whole." It is a particularly relevant expression, given today's focus on setting limits, and on quality over carte blanche. **ra**





At the Light Box Loft, translucent and transparent walls frame movement and provide glimpses between rooms.

Photos: Paul Warchol



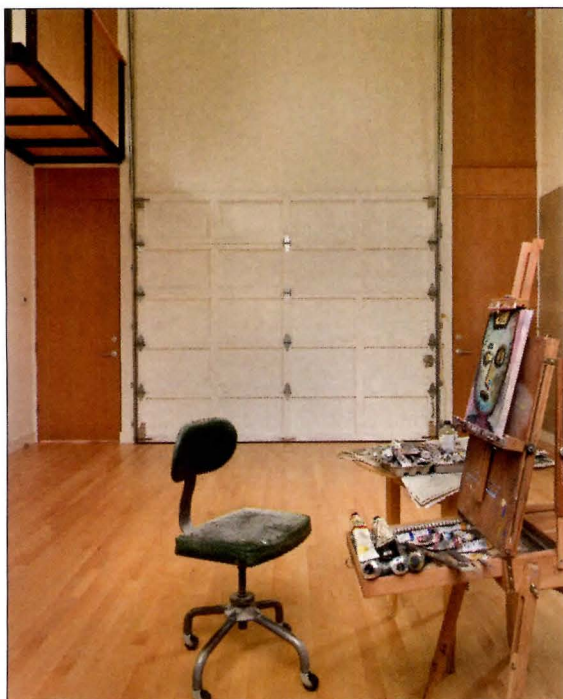
Various lighting options—uplighting, downlighting, recessed—are used to set moods and expand the space for large gatherings, or bring it close for smaller ones.



by megan drueding,  
bruce d. snider, and  
nigel f. maynard

# live/work

streamlining life into one container raises design opportunities while narrowing carbon footprint.



An operable, interior garage door separates the painting studio from the living room and emphasizes the home's loftlike quality.

## artistic value

**t**he client for this Whidbey Island, Wash., weekend house, Judy Geist, possesses a multitude of talents. As a Philadelphia Orchestra violist who has ties to the Pacific Northwest music community, Geist enjoys hosting chamber music concerts at home. And she also is an accomplished painter. When Brett Webber, AIA, LEED AP, signed on as her architect, she asked him to create a space that could accommodate both of her passions.

The boxy, modern house feels like a loft inside, with open spaces gathered around a central fireplace. On the north end, Webber and his team placed a double-height painting studio, basing its proportions on those of a studio he and Geist have admired at the Pennsylvania Academy of the Fine Arts in Philadelphia. Homasote, the fiberboard surface often used in artists' workspaces, covers the lower half of the walls. The upper walls are dominated by a large, mostly translucent north window and an oversized interior shutter (made from a standard hollow-core door) that closes and opens over an east-facing, clear-glass window.

Webber knew early on that Geist would sometimes need separation from her studio. "Part of the artist's dilemma is that you create chaos, and sometimes you want to leave that chaos," he says. He and contractor Jeff Hanson jury-rigged a

*continued on page 42*





**project size:** 2,500 square feet

**site size:** 0.4 acre

**construction cost:** Withheld

**photography:** Benjamin Benschneider,  
except where noted



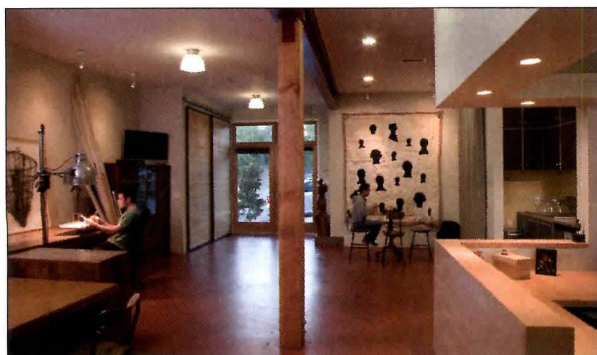
## live/work

standard garage door inside the opening that divides the studio from the main living area, covering the side facing the living room with a wood panel. The setup takes advantage of the room's extra height and avoids creating clutter on the floor. "For a relatively modest cost, we were able to get a dramatic

## live/work



Sculptor Agelio Batle located his work table near the front door of his studio (above), purposely within view of side-walk passers-by. The workspace occupies the entire ground floor (right).



## family business

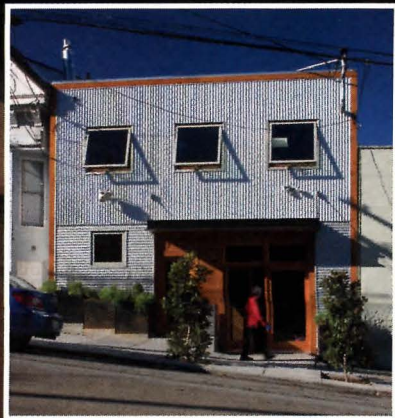
Generations of Americans grew up "living over the store," but Agelio and Delia Batle encountered some obstacles in pursuing that model for their family. "They looked long and hard for a building that would have the potential for mixed use," says principal architect Ned White, eventually locating a San Francisco building that seemed perfectly situated. Project architect Antje Paiz notes, "Everything uphill from their house is residential, and downhill everything becomes light commercial." Remodeled to balance both commercial and domestic concerns, the building houses such a rich and vital family life that it makes us wonder why we don't all live this way.

The family business, Batle Studio, produces art objects for sale in museum stores around the world. And while the Batles do not cater to a retail trade, "They really wanted to be part of the neighborhood," Paiz says. Accordingly, the building's new façade telegraphs its dual character, softening the edge of its corrugated metal siding with red cedar trim. Welded plate-steel planter boxes step downhill along the façade; a cedar-paneled entry with a steel I-beam awning above invites passers-by to the gallery area that occupies the front of the workspace. Inside, a stained topping slab covers the existing concrete floor, stretching through an open volume that contains studio, production, shipping, office, and kitchen areas.

A stair accessible from both the studio and the street leads to the family's second-floor apartment. At 1,000 square feet, living space is modest for a family of four, but the owners opted not to expand the existing space. "They wanted something that felt humble, not something that looked like a modern loft," Paiz notes.

*continued on page 46*





Corrugated metal siding signals the building's light industrial character, while red cedar accents hint at the residential half of its dual personality.



## live/work

**project:** Live Work Residence, San Francisco  
**architect:** McCoppin Studios, San Francisco  
**general contractor:** McCoppin Construction, San Francisco  
**project size:** 2,817 square feet  
**site size:** 0.06 acre  
**construction cost:** \$151 per square foot  
**photography:** Puliatti Photographic



"Cost was a factor, but it wasn't the vibe that they wanted." The plan concentrates space in a kitchen/dining/family room that stretches the width of the building and overlooks the street. The owners' penchant for found objects shows in the live-edge continuous sill of the room's three windows and in the collage of antique furniture pieces that fills an adjacent corner. A four-riser difference in floor elevation helps separate the front room from the apartment's single bath and its two compact bedrooms, sized for sleeping rather than hanging out.

In any case, and according to plan, life routinely overflows into the workspace below. "Delia runs the business side of the operation, and very often the kids are downstairs doing homework or art projects," White observes. After hours, the studio is available as a home theater, getaway space, or party room. As a result, while the building supports a thriving commercial operation, it is the household upstairs that sets the tone. Even in work areas during work hours, White says, "There's really a family atmosphere."—*b.d.s.*



The second-floor apartment centers on an open cooking/dining/living room. Cabinets are a mix of store-bought, custom, and antique.





The living quarters' practical simplicity makes an appropriate backdrop for the owners' creations and inspired architectural details, such as the live-edge shelf/sill at the windows overlooking the street.





De Leon & Primmer Architecture Workshop turned abandoned city lots into light-filled office space for its firm and sleek living quarters for the partners. The large shutters and elongated bench (above) are gestures to the street.

## inside job

The architectural canon is filled with great projects that flourished despite limitations. For Roberto de Leon, AIA, LEED AP, and M. Ross Primmer, AIA, principals of De Leon & Primmer Architecture Workshop in Louisville, Ky., a small budget helped the firm create a light-filled office space with enough room to accommodate living quarters for the principals and an apartment for summer interns.

De Leon and Primmer set out to find commercial office space in an existing building, but they changed course and instead sought a vacant lot to build something new. "It was a very pragmatic decision," Primmer says. "We looked at a lot of buildings but none seemed to fit." But even this plan had problems—mainly, a meager \$230,000 to spend. As a result, the duo (with the bank's encouragement) decided that a live/work project was the only way to make the endeavor financially feasible.

A long search yielded three narrow lots in the city's Gallery District, a downtown neighborhood made up of a diverse mixture of building types. "Positioned mid-block, the project site is located among clapboard shotgun homes, brick mixed-use storefronts, and an early century firehouse complex," de Leon says. The building had to fit within the framework of the budget, de Leon explains, so it "couldn't be more straightforward."

The firm used common pole-barn construction for economy, with pressure-treated wood framing arranged on a standard 12-foot column grid and corrugated metal siding. "It was a way to make the project viable," de Leon says. The ground floor features an office, wood shop, and a guest suite for summer interns, while the second level houses two one-bedroom condos—one for each partner. Primmer explained that the intern apartment is important for attracting talent. "We may not be able to compete with the bigger cities, but a free room can offset a lower salary," he says.

To manage the budget, the partners used common off-the-shelf materials and simple finishes that in-

*continued on page 50*



Alternating bands of gloss and matte white paint on the walls of the ground-level office bounce and reflect light, while fixtures made from circular fluorescent bulbs and contractor-grade porcelain sockets add a botanical touch.





## live/work



clude drywall and white paint. In a stroke of modest detailing, the firm selected circular fluorescent light tubes mounted to contractor-grade porcelain sockets as a nod to flowering trees in the courtyard. To fit within the simple volume, the firm shifted the floor framing in height to interlock spaces volumetrically without increasing framing spans. "Light is the biggest luxury," Primmer says. "We took a simple barn shape and sculpted apertures to get light."

The building is located in a vibrant neighborhood with restaurants, art studios, and galleries. As a gesture to this vibe, the firm inserted a side courtyard, large entry shutters, and pedestrian-scaled elements.

Though de Leon and Primmer had no intention of doing a new building, the fortuitous circumstances led to this urban mixed-use building that benefits the neighborhood as well as the inhabitants and the firm. Living where you work is more sustainable and great, de Leon says, but it comes with drawbacks. "It's a catch-22," he jokes. "It's highly recommended, but sometimes it's hard to remove yourself from work."—*n.f.m.*

Natural light filters into all interior work and living spaces thanks to large glass openings and stark white walls.







For economy, the architects chose common off-the-shelf materials and finishes—such as porcelain tile, pine plank floor, gypsum, and sealed concrete—but detailed them to achieve a “custom” look.

**project:** Urban Barn, Louisville, Ky.

**architect:** De Leon & Primmer Architecture Workshop, Louisville

**general contractor:** James Kinzer, Bardstown, Ky.

**project size:** 4,667 square feet

**site size:** 0.172 acre

**construction cost:** \$50 per square foot

**photography:** De Leon & Primmer Architecture Workshop





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# mobile hot spot

a remodeled airstream provides a cozy, portable live/work space.

**a**irstream trailers have long enjoyed popularity among architects and the architecturally inclined. When Matthew Hofmann, LEED AP, purchased and remodeled his own vintage 1978 Airstream, he liked it so much that he decided to make it his full-time residence. Not only does the Santa Barbara-based architect live in the 160-square-foot trailer, but he also uses it as his firm's office.

The key to residing and working in such a small space, Hofmann says, is making sure every object serves more than one purpose. His main work area—consisting of a built-in dinette, a computer, and a printer stowed in a custom drawer—doubles as his dining area, and the seating converts to a



Photos: Matthew Hofmann

guest bed. He tries to keep papers to a minimum, preferring to conduct business with digital files and documents as much as possible. "Anything you leave out turns to clutter really quickly," he says.

Following a complete interior renovation, Hofmann restored the trailer's original polished aluminum exterior. His handiwork inside and out has drummed up new business; after seeing his Airstream, several clients have asked him to customize their own trailers.—*meghan drueding*



The 25-foot-long Airstream currently is parked on a residential site in Santa Barbara, Calif. Hofmann restored the aluminum skin to its gleaming original state.



Bamboo countertops and floors brighten the trailer's interiors, as does a recycled-glass tile shower space. Hofmann's workspace (above right) also serves as his dining area and guest room.



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# the new necessary

the toilet category is abuzz with sleek designs and ultra high-efficiency products.

by nigel f. maynard

**W**ashington, D.C.-based Studio Twenty Seven Architecture spends a fair amount of time talking about toilets. It's "always a focus in our residential design," says firm principal Todd Ray, AIA, LEED AP. But what about toilets is so important? According to Ray, the firm evaluates design, function, performance, and type.

It's likely that Studio Twenty Seven Architecture is not unique among architecture firms designing either green homes, WaterSense homes, or homes in states—such as Nevada, California, Texas, and Georgia—with water problems. Architects talk about toilets because they play a huge role in water consumption and, therefore, an important role in conservation.

Water conservation is "huge" in Austin, Texas, says custom builder Matt Risinger, principal of Risinger Homes. "The city of Austin is doing all it can to help Austinites reduce water usage," he says.

## water marks

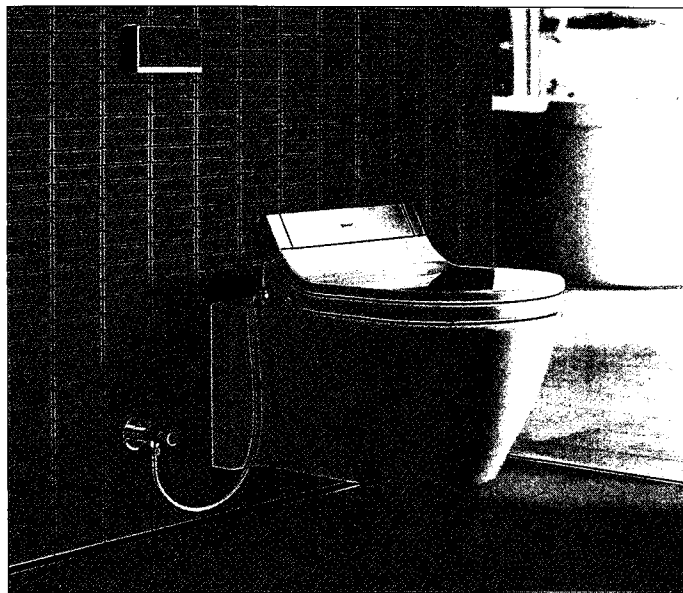
According to the U.S. Geological Survey, the average

American citizen uses 80 to 100 gallons of water per day, and toilet flushing accounts for most of the usage inside the home. "That is why, in these days of water conservation, we are starting to see toilets and showers that use less water than before," the group says.

Fortunately, the toilet category has moved fast in the past 10 years. Up until the mid- to late 1990s, Americans knew only about old toilets that flushed with up to 3½ gallons of water or new models that adhered to the federal government's mandated 1.6 gallons per flush. But then Australian manufacturer Caroma introduced the dual-flush toilet—a unit that uses a standard amount or a lower usage—and forever changed the category.

"We were approached by the Australian government about how we could help in water conservation," says Derek Kirkpatrick, Caroma's North America general manager. "It's quite pleasing to see how the technology was adopted and caught on."

Indeed, almost every toilet manufacturer offers a dual-flush toilet in some combination, from 1.6/1.1 gallons to 1.28/0.6 gallons. Dual-flush units qualify for



Stressing technology and design, Duravit has launched SensoWash, a line of shower-toilet seats that are long on form, function, and luxury.

WaterSense certification, a voluntary EPA program to help consumers reduce water consumption. These certified high-efficiency toilets must be 20 percent more water efficient than standard products.

Although Caroma is credited with creating the dual-flush toilet, other manufacturers such as Duravit, TOTO USA, and Kohler are major players. Dual-flush toilets have become so common that big box stores carry them and so affordable that you can buy one for less than \$300. As a result, they've become popular with architects, green builders, and consum-

ers. "Studio Twenty Seven's preference—and more of our clients are asking for it—is a water-efficient dual flush," Ray says.

Today, dual-flush units are no longer the primary water-saving option, however. Some companies are going even lower with single-flush units. Kohler, for example, offers two products—the Highline Pressure Lite and the San Raphael—that flush with only 1 gallon of water; Foremost Groups also features a 1-gallon flushing unit; and Stealth from Niagara Conservation uses a mere 0.8.

*continued on page 56*



Water savings isn't the only driver in the toilet industry, either—manufacturers are every bit as focused on design and functionality. There's even a burgeoning ultra high-end toilet category with products costing almost \$7,000. The list includes the Neorest from TOTO; Regio from INAX USA; and the recently introduced dual-flush Numi from Kohler.

"We envisioned a toilet that creates a category in a caliber of its own," says Jim Lewis, Kohler's vice



Kohler's dual-flush Numi toilet features a built-in bidet, LCD touchscreen, built-in deodorizer and music system, automatic open and close lid, and heated seat and foot warmer.

president of marketing.

Numi is a dual-flush unit that uses 0.6 or 1.28 gallons per flush. It comes with an LCD touchscreen; built-in bidet and deodorizer; automatic open-and-close lid; built-in music system; and a heated seat and foot warmer.

"From our perspective, toilets have to be clever

and well-engineered, but they also have to look good," says Timothy C. Schroeder, president of Duravit USA. This might explain why Duravit taps some of the biggest names in architecture and design to create its floor- and wall-mounted products. Recently, the company unveiled a new line of multifunction toilet seat/bidet products called SensoWash, which offer heated seats, a variety of wash settings, illumination, and a powerized lid and seat. "It's a luxury and there's a cost associated with it, but it brings a tremendous amount of technology to the space," Schroeder says about SensoWash. "We believe it will be accepted."

### drain pain

Despite their good looks and water efficiency, the newest toilets on the market are not without issues. Some products, for example, might be using too little water.

"There is a limitation on how low we can go," Kirkpatrick says, adding that more research on the matter is needed. "At 0.8 gallons, the drain line could be affected. We're not sure if 0.8 gallons is enough to take waste out of an old house. There could be roots in the line and the slope of the pipe could be less than ideal."

This fear might be justified. San Francisco's push



Inventor of the dual-flush, Caroma offers wall-faced or wall-hung toilets whose tank and flushing mechanism are hidden inside the wall.

for low-flow toilets has resulted in more sludge backing up inside the sewer pipes, creating the smell of rotten eggs. This could become a problem in other areas as well since many industry officials believe more states soon will follow California in mandating high-efficiency toilets.

Another issue that's come to light is the small water area in low-flow toilets. As Duravit's Schroeder explains, traditional toilets in the U.S. have a restricted flap and a large water area. But low-flow toilets, he says, typically use a wash-down system and have an unrestricted flap but a smaller water area, which could lead to markings in the bowl.

"I'm not a fan of dual-flush units with a low water spot," custom builder Risinger says. "They soil easily and the additional savings of a lower flush isn't worth the additional cleaning flushes."

Studio Twenty Seven

Architecture's Ray says he has not yet found the perfect toilet, but he does have advice for getting the best out of your spec. He opts for wall-hung units, which are easier to clean and "provide for unobstructed floor surface for mopping," he explains. And he often selects toilets that offer pressure assistance—"desired for that thorough bowl cleaning."

"We [make] the initial toilet recommendation to the client based on the design of the space, the client's preferences and sensibilities," says Rob Whitten, principal of Portland, Maine-based Whitten Architects. But the firm also seeks the advice of plumbing contractors. "They know which models have performance problems and which manufacturers stand behind their product with parts and service," Whitten says. "No owner (or architect) wants a toilet with problems regardless of its appearance." **ra**



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**WHITE RIVER**  
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**COURSE TITLE**

**Illustrative Guide to Classical Moulding  
Design for Cabinetry & Furniture**

*COURSE OVERVIEW:*

This new course explains how the standard language of classical design is versatile and can be adapted for modern use in cabinetry designs. This course discusses correct proportions for cabinetry and moulding build-ups in kitchens and baths, according to different design programs. It also covers how to successfully combine moulding shapes and motifs, how to design with classical language within different cultural styles, and how to always be able to adapt known precedents to match present design issues.

*OUTLINE:*

This course covers these areas of interest:

- Classical proportions and ratios of mouldings based on size of room
- How to create and adapt classical moulding build-ups
- Cabinetry design concepts
- Combining moulding shapes and motifs
- How to use mouldings in different applications

*WHO SHOULD TAKE COURSE:*

This course will benefit any design professional that would like to successfully create unique and proportionally correct cabinetry and furniture pieces in their design programs.

► **COURSE CREDIT: 1 LU**

**ABOUT WHITE RIVER™**

Founded by Bruce and Joan Johnson in the mid-70's, White River™ is known industry-wide as a leader in the design and manufacturing of elegant hardwood mouldings and handcarved woodcarvings for the Millwork and Kitchen & Bath Industries. Based in Fayetteville in the Northwest Arkansas corridor, White River™ offers over 2,250 decorative embellishments in hardwoods including mouldings, corbels, onlays, cabinet parts, and more.



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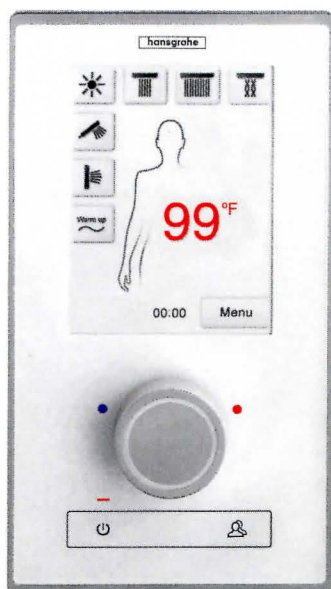


## new material

by nigel f. maynard

### control yourself

With the introduction of the new RainBrain, high-design German faucet manufacturer Hansgrohe has gone high-tech. The electronic computer system for the shower allows users to control features such as spray mode,



temperature, music, and lighting. A warm-up function flushes out cold water and automatically adjusts to the preset temperature, and an anti-scald option protects bathers from burns. The unit is touch-activated and can be preset for up to four people. Measuring 5<sup>3</sup>/<sub>8</sub> inches by 9<sup>5</sup>/<sub>8</sub> inches, it comes in a white/chrome finish. Hansgrohe USA, 800.334.0455; [www.hansgrohe-usa.com](http://www.hansgrohe-usa.com).



### sheep's clothing

Made from natural and sustainable sheep wool, PermaLoft might be the only loose fill, blown-in wool insulation in the world, the company claims. It reduces heating and cooling costs by eliminating voids and air pockets common with other materials and does not require protective clothing for installation. Oregon Shepherd, 888.629.9665; [www.oregonshepherd.com](http://www.oregonshepherd.com).

### thin lines

Invisiled Pro is one of the thinnest undercabinet lighting products on the market. Designed for cabinets, coves, and other architectural applications, the product measures less than 1/8 of an inch, and installs easily with self-adhesive tape. The dimmable LED product produces 200 lumens per foot and has a potential life span of 50,000 hours. It comes in 1- and 5-foot sections. WAC Lighting, 800.526.2588; [www.waclighting.com](http://www.waclighting.com).



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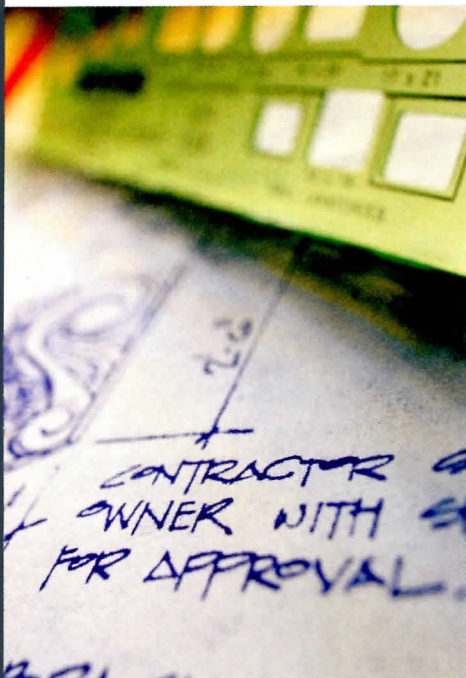


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Visit [propanetrainingacademy.com](http://propanetrainingacademy.com) to learn more about the economic, environmental, and efficiency benefits of building and remodeling with propane while fulfilling your professional training requirements.

### ONLINE COURSES:

#### **Propane Gas Underground Systems: Residential Infrastructure Requirements and Energy Benefits**

##### COURSE OBJECTIVES

- Compare the benefits of different energy sources for fueling or powering the home.
- Identify the benefits of using propane to fuel homes.
- Describe different propane applications and list storage options.
- Outline underground propane tank installation considerations and identify the benefits of underground propane tanks.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

USGBC CREDIT: **1 GBCI CE HOUR**

#### **Go Green with Propane: An Overview of Propane Gas Systems for Green Residential Construction**

##### COURSE OBJECTIVES

- Identify multiple energy sources, including hybrid systems, and the benefits associated with each.
- Describe residential propane storage options and applications for green building.
- Explain the impact of fossil fuels and electricity on the greenhouse gas effect.
- Identify the NAHB Green Building Standards and LEED for Homes guidelines, and explain the benefits a homeowner receives from building a green home with propane.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

NARI CREDIT: **0.1 CEU HOUR**

#### **Water Heaters: Retrofitting from Standard Electric to Gas Tankless**

##### COURSE OBJECTIVES

- Compare the performance benefits of heating water with propane versus electricity.
- Describe two ways in which tankless water heaters save money when compared to tank-type water heaters.
- Explain the impact of fossil fuels and the generation of electricity on the greenhouse gas effect.
- Identify water heating retrofitting opportunities, including specification and installation of a tankless water heater.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

NARI CREDIT: **0.1 CEU HOUR**

USGBC CREDIT: **1 GBCI CE HOUR**



## FULLFILL YOUR PROFESSIONAL TRAINING REQUIREMENTS



### Hydronic Heating in Rural Residential Applications

#### COURSE OBJECTIVES

- Describe what hydronic heating is and why this alternative heating system benefits homeowners.
- Identify at least three parts of a hydronic system and at least two alternative fuel sources.
- Classify at least two different heat emitters by component and location.
- Identify alternate heating uses, other than residential space heating, for hydronics.

NAHB APPROVED

AIA CREDIT: **1.5 LU/HSW/SD HOURS**

NARI CREDIT: **0.1 CEU HOUR**

### Propane-Enhanced Renewable Energy Systems

#### COURSE OBJECTIVES

- Explain why a supplemental energy such as propane is often required in combination with renewable energy technologies.
- Describe how propane supplements three types of alternative energy technologies.
- Identify at least three things that need to be considered before specifying a residential alternative energy system.
- Identify three basic functions of common features in three types of renewable energy technologies.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

NARI CREDIT: **0.1 CEU HOUR**

USGBC CREDIT: **1 GBCI CE HOUR**

### A Comparative Analysis of Residential Heating Systems

#### COURSE OBJECTIVES

- Describe general trends when comparing standard- and high-efficiency heating systems with dual-fuel or renewable energy systems.
- Explain how carbon emissions differ among heating systems and why that can vary depending on location.
- Compare and contrast trade-offs involved in specifying high-efficiency HVAC equipment for residential projects in terms of payback periods.
- Describe where certain types of HVAC systems may be most appropriate based on factors such as location, operating costs, or efficiency.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

NARI CREDIT: **0.1 CEU HOUR**

USGBC CREDIT: **1 GBCI CE HOUR**

### Innovations with Propane Gas for Outdoor Residential Use

#### COURSE OBJECTIVES

- List at least three outdoor residential uses for propane.
- Describe the safety and environmental benefits of using propane in residential applications.
- Compare and contrast greenhouse gas emissions of commonly used residential energy sources.
- Describe the sustainable energy benefits of building with propane-fueled systems and appliances.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

NARI CREDIT: **0.1 CEU HOUR**

USGBC CREDIT: **1 GBCI CE HOUR**



### Community Propane Systems: Economic, Environmentally Responsible Energy Without Geographic Limits

#### COURSE OBJECTIVES

- Identify two environmental benefits of using propane instead of natural gas as a community energy source.
- Describe Sustainable Development Pillars and the impact of greenhouse gasses on climate change.
- List the NAHB Green Building Standards and applicable strategies to earn points toward green home certification.
- Describe applications for propane energy inside and outside the home.

NAHB APPROVED

AIA CREDIT: 1 LU/HSW/SD HOUR

USGBC CREDIT: 1 GBCI CE HOUR

### Retrofitting Homes from Heating Oil to Propane: Efficiency, Economic, and Environmental Benefits

#### COURSE OBJECTIVES

- Describe the history and current use of heating oil in the United States.
- Identify which alternative energy sources are available to current heating oil consumers.
- Complete a heating analysis of alternative energy choices.
- Identify why propane is a superior alternative to heating oil from both an environmental and energy-use perspective.
- Explain considerations when converting from heating oil to another energy source.

NAHB APPROVED

AIA CREDIT: 1 LU/HSW/SD HOUR

NARI CREDIT: 0.1 CEU HOUR

USGBC CREDIT: 1 GBCI CE HOUR



### Specifying Propane Standby Generators: Installation and Value Considerations

#### COURSE OBJECTIVES

- Explain common reasons for power disruptions.
- List the three main kinds of standby generators available for the residential market.
- Identify the most reliable and appropriate fuel choice for an environmentally friendly and energy-efficient generator.
- Identify how to properly size a generator to ensure the home is safe, secure, and comfortable during power outages.

NAHB APPROVED

AIA CREDIT: 1 LU/HSW/SD HOUR

NARI CREDIT: 0.1 CEU HOUR

### Propane Enhanced Solar Water Heating

#### COURSE OBJECTIVES

- Describe why solar water heating is a viable and reliable water heating method for residential remodels and new construction.
- Describe why solar water heating is not sufficient in many parts of the country, and compare two energy sources that can supplement a solar water heating unit.
- Describe how a solar water heating unit works with a propane-fueled backup tankless water heater.
- Review a spec for a solar water heater with a propane-fueled backup tankless water heating unit.

NAHB APPROVED

AIA CREDIT: 1 LU/HSW/SD HOUR

NARI CREDIT: 0.1 CEU HOUR

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## FULFILL YOUR PROFESSIONAL TRAINING REQUIREMENTS



### A Comparative Analysis of Residential Water Heating Systems

#### COURSE OBJECTIVES

- Explain the need for an analysis of water heating systems and briefly describe the methodology of this study.
- Describe the factors that contribute to energy costs varying by region and climate.
- Compare and contrast the environmental and economic benefits of the systems in each climate.
- Identify the conclusions reached from the analyses of water heating systems.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

NARI: **0.1 CEU HOUR**

### Understanding the 2009 IECC Energy Code, Advanced Efficiency Programs, and Their Implications for Propane

#### COURSE OBJECTIVES

- Identify the regions in the United States where propane is likely to be used in new homes and with what appliances.
- Discuss the structure of the 2009 IECC code and the sections that impact propane in new single-family homes.
- List the IECC's major compliance paths and describe the minimum efficiency requirements for propane-fired residential equipment.
- List at least two different green building codes and standards and describe how propane can contribute to gaining points in those programs.

NAHB APPROVED

AIA CREDIT: **1.25 LU/HSW HOURS**

NARI: **0.1 CEU HOUR**

USGBC CREDIT: **1 GBCI CE HOUR**

### Residential Energy Performance Upgrades: An Energy, Economic, and Environmental Analysis

#### COURSE OBJECTIVES

- Explain the difference between elective and non-elective energy-efficiency measures (EEMs).
- Identify the most beneficial EEMs in each of the five climate zones outlined in the study.
- Determine approximate payback periods for EEMs in your projects that are similar to those covered in the study.
- Discuss how you would convey the costs and benefits of EEM options to your clients.

NAHB APPROVED

AIA CREDIT: **1 LU/HSW/SD HOUR**

NARI CREDIT: **0.1 CEU HOUR**

USGBC CREDIT: **1 GBCI CE HOUR**

### PRINT COURSES:

#### Expanding Outdoor Living: Using Propane for Efficient and Sustainable Outdoor Living

#### COURSE OBJECTIVES

- Describe why furnished outdoor spaces are becoming popular among homeowners and designers.
- Describe at least three considerations that should be taken into account before designing an outdoor space.
- Describe at least three features fueled by propane that are often part of outdoor spaces.
- List at least three facts about propane related to its low environmental impact.

AIA CREDIT: **1 LU HOUR**

NARI CREDIT: **0.1 CEU HOUR**





### Condensing Tankless Water Heaters: Using Propane for the Most Efficient Water Heaters on the Market

#### COURSE OBJECTIVES

- Describe how a condensing tankless water heater works and outline the possible advantages for use in a residential setting, especially in retrofit situations.
- Describe how new Department of Energy standards and upgraded Energy Star ratings will change the landscape of residential water heaters.
- Explain why Energy Factors (EFs) don't always reveal the best value.
- List at least three facts about propane's low environmental impact.

AIA CREDIT: **1 LU/HSW/SD HOUR**  
NARI CREDIT: **0.1 CEU HOUR**

### Heating Oil Conversion: Exploring Propane as a Viable Alternative Energy Source

#### COURSE OBJECTIVES

- Describe the history and current use of heating oil in the United States.
- List alternative fuel sources that are available to current heating oil consumers.
- Complete a heating analysis of alternative fuel choices.
- Understand why propane is a superior alternative to heating oil.

AIA CREDIT: **1 LU/HSW/SD HOUR**  
NARI CREDIT: **0.1 CEU HOUR**

### Living Off-Grid: Power Generation and Storage Basics

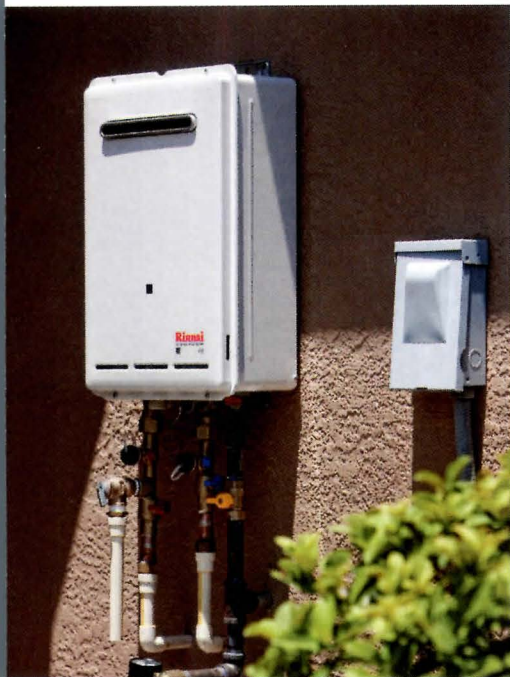
#### COURSE OBJECTIVES

- Describe why living off-grid has become more appealing.
- List the technology and components required to generate and store power in an off-grid home.
- Describe the functional and practical differences among portable, stand-by, and off-grid generators.
- Compare the advantages and disadvantages of diesel fuel and propane for off-grid use.

AIA CREDIT: **1 LU/HSW/SD HOUR**  
NARI: **0.1 CEU HOUR**



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## MORE TRAINING OPTIONS

Training opportunities don't end with continuing-education courses. The Propane Education & Research Council offers a number of excellent research studies and training videos at [buildwithpropane.com](http://buildwithpropane.com).

Under the website's Resources tab, research highlights include:

- Whole-House Analysis of Energy-Efficiency Upgrades
- Heating-Oil Conversions: Evaluating the Alternatives
- Propane-Enhanced Renewable Energy Systems
- Comparative Heating Systems Study

The website's Multimedia Library has training videos on a number of subjects including:

- Converting an Oil-Fueled Boiler System to Propane
- The Future of Propane
- Achieving Affordable and Impactful Energy Efficiency
- Residential Multi-Unit Tankless Water Heaters



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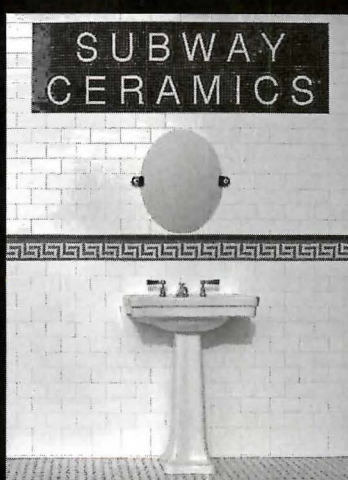


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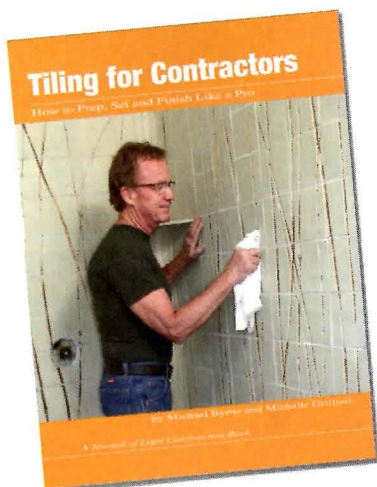
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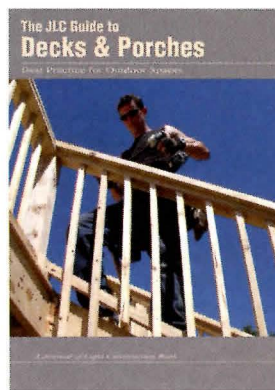
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workspace

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When Rame Hruska, AIA, and Russell Hruska, AIA, decided to design and build their own live/work studio and residence, they didn't stop at the borders of their site. Instead, the Houston couple also developed several surrounding lots, designing and building modern houses for custom clients—"people with like-minded values," Rame Hruska says.

Within the neighborhood they've created, the Hruskas have devoted their home's first floor to the office of their firm, Intexure Architects.



The Hruskas, associate Shawn Gottschalk, Assoc. AIA, and a rotating cast of interns populate the 1,500-square-foot studio (shown at left), which receives plenty of natural light and ventilation. Upstairs, a 650-square-foot area functions exclusively as living quarters for the Hruskas and their 3-year-old son, Tad, while another 850 square feet serves as flexible space.

Simple materials and finishes helped control the live/work project's cost. Its vibe is relaxed and friendly, right down to the Intexure-designed community pavilion outside.—*meghan drueding*



Don Glentzer (above and below)



Rame Hruska (above and left)



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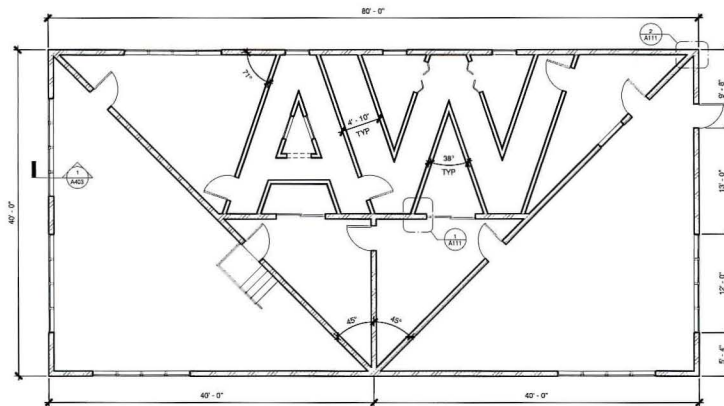


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