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Outlook



SUSTAINABLE

A TEST DRIVE OF RENDERING SOFTWARE. WITH WHIRLPOOL CORPORATION.

Mark R. Johnson, FAIA, CKD, AIBD

Have you been holding off on learning Google® SketchUp™ or incorporating 3D models into your design and presentation process? Now is a great time to take the leap. Whirlpool Corporation is pleased to report you now have multiple, easy-to-use options for creating everything from high-concept, photo-realistic images to stylized, painterly renderings.

We came to this conclusion after putting some rendering software programs that work well with SketchUp™ through the paces. Our goal was to see how the software and various plug-ins can be used to create



SketchUp™ model of Dwell Home by Resolution:4Architecture. Adobe Photoshop® rendering by Daniel Page-Wood.



SketchUp™ model of kitchen rendered in SU Podium by Blue Marble Project.

presentation renderings — ranging from the photo-realistic to the highly illustrative — by using our Google® 3D Warehouse product collections as a starting point.

We think the results are impressive. Your clients stand to be intrigued, no matter if you're showing them 3D appliance models alone, entire kitchen designs or even whole homes.

The three programs we tested are Adobe® Photoshop®, SU Podium and Autodesk® 3ds Max®. If you haven't used these programs before, you can pull off stunning results at various price points and levels of complexity. This page shows you three examples of what can be achieved starting with a SketchUp™ 3D model, then enhancing it. Bear in mind the outputs are rendered drawings viewable from one angle. But, when viewed interactively via SketchUp™, the models can be more engagingly experienced as a 3D walk-through.

The benefits of the interoperability between rendering programs and SketchUp™ start with SketchUp™. It's easy to learn and fast to use, meaning that the process of creating professional-quality renderings is greatly expedited.



SketchUp™ model of Jem-Air® double oven rendered in Autodesk® 3ds Max® by Blue Marble Project.

Further, Whirlpool Corporation and nearly 125 other manufacturers have posted thousands of virtual product models at the Google® 3D Warehouse. As you create your projects and specify products, you can easily

download the models at no cost. In fact, the Google® 3D Warehouse is fast becoming the go-to website for its repository of building product models that streamline the design process.

If you'd like to learn more about how to combine Google® SketchUp™ with rendering programs and virtual product models, we can suggest the ideal place to start: the online videos from design and instruction experts who recently taught at Google's® SketchUp™ 3D Basecamp. Simply go to sites.google.com/site/3dbasecamp2008. Then watch, learn and enjoy.



Mark R. Johnson, FAIA, CKD, AIBD
Senior Manager, Architecture and Design Marketing

CONTINUING EDUCATION

Whirlpool Corporation invites you to view the latest video podcast of The SketchUp Show, Episode #47. You'll learn about using Google® SketchUp's™ Photo Match tool to create a 3D kitchen model that incorporates products and finishes used in the Sustainable Kitchen by Whirlpool Corporation at the 2008 International Builders' Show. You'll also learn how SketchUp™ streamlines the design process and how to find building product models in the Google® 3D Warehouse. The free episode is available at go-2-school.com/podcasts/047.

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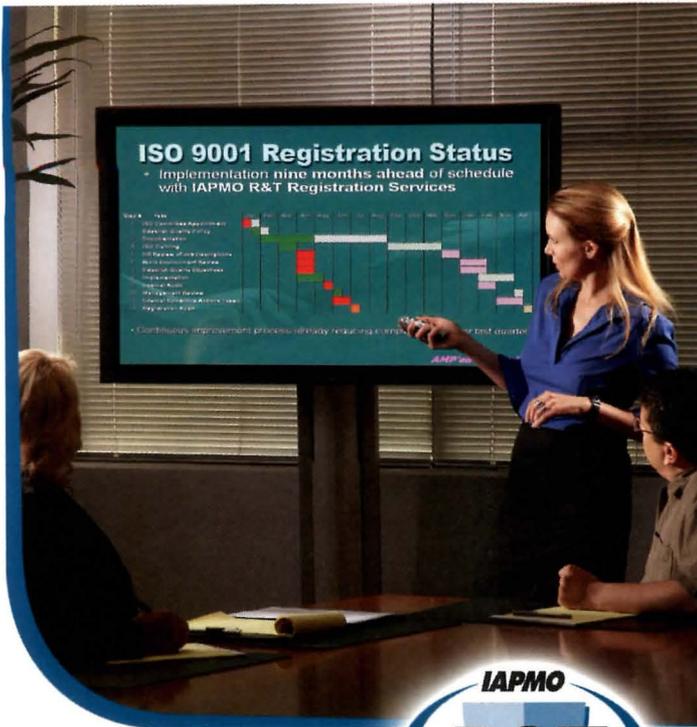
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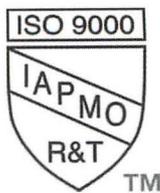
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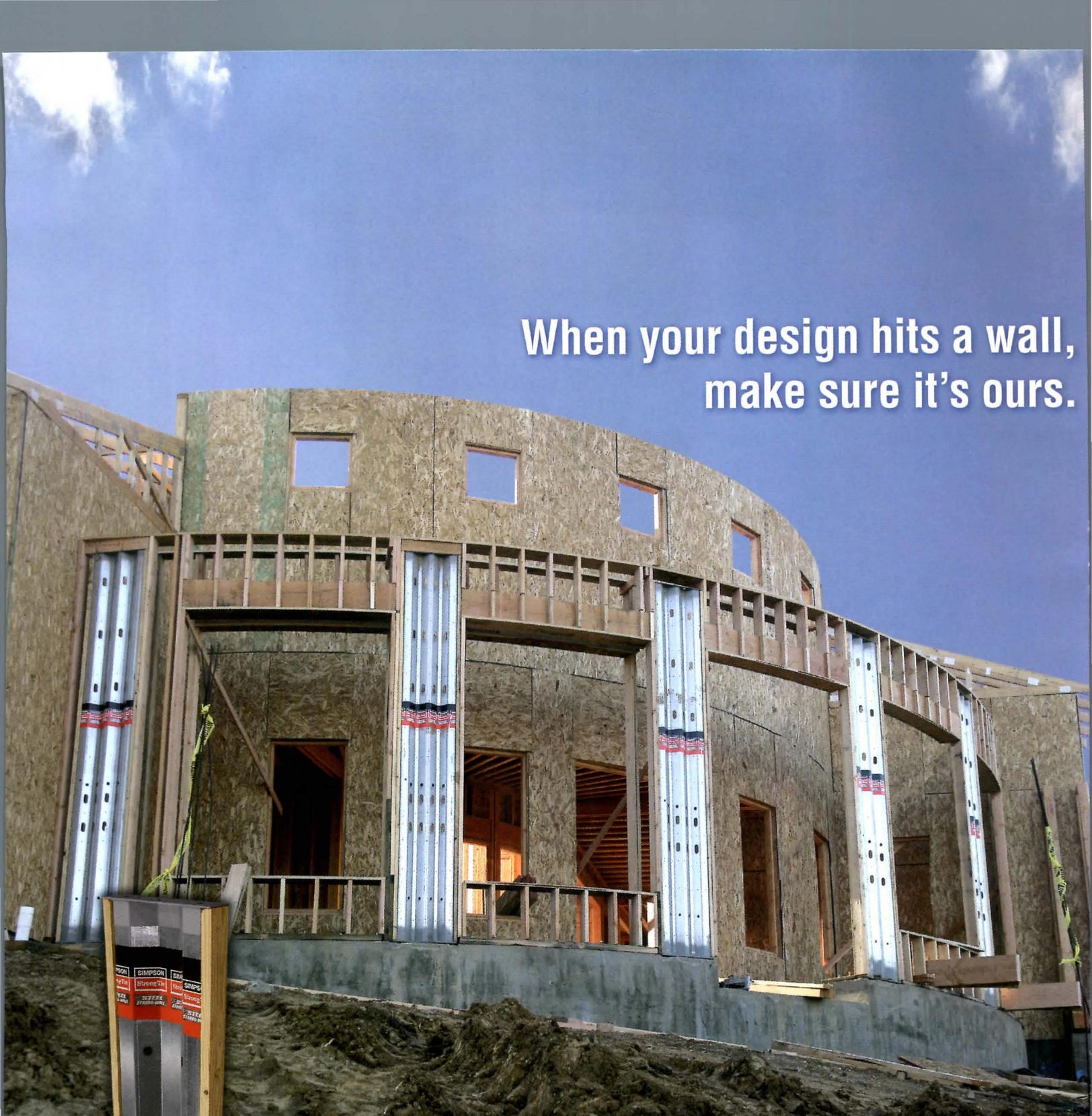
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In gritty Kansas City, Mo., el dorado's hands-on approach to design and construction breathes new vigor into the city's endangered buildings. It doesn't hurt that its five partners have a special way with metal.

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from the editor

what's bred in the zone

enlightened zoning laws are our best hope for a greener future.

by s. claire conroy

despite public perception, most experienced architects I've talked with don't prefer the proverbial "blank slate" commission. Blank check, yes. But a true blank slate, to those who know the satisfaction of conquering complicated programs and dense existing conditions, is too daunting and, oddly, too dull. We as humans are relational creatures. We thrive on association, inspiration, integration. Architecture is most interesting to us when it responds and reacts to what's around it. Certainly, a blank-slate job can end in something handsome, but the result is often a little hollow—a beautiful, rootless thing.

Nowhere are the relationships and associations richer than in an adaptive reuse project. The existing conditions are front and center, undeniable. And they're more complex than a straightforward residential remodeling job. Transforming a store or a fire station into a live/work building, for instance, introduces a different palette of materials, spatial relationships, and neighborhood context than your average suburban redo. The questions inherent in conversion from

one purpose to another can produce unusual and often intriguing answers. There is so much to consider and resolve. And architects are at their best when they solve problems.

This issue of the magazine looks at unique solutions in adaptive reuse that have yielded singular, compelling work. It's easy to get lost in the buildings themselves and to forget all the effort that went into launching the projects in the first place. Half the hurdle is getting the site and securing the approvals necessary to convert the building to its new role. Impediments to change are everywhere—local residents, building departments, zoning laws.

Saving these older buildings—and as many of the materials they contain as possible—is obviously the green thing to do. That's virtuous in itself, but I'm also hoping that the renewed interest in sustainability and the pressures brought to bear by the gasoline crisis will motivate more jurisdictions to scrutinize their Byzantine zoning laws. We need denser solutions to housing—ones that may not include a parking space for every resident; or a quarter acre for each single-family dwelling; or street access for every unit. Saving an



Mark Robert Halper

old building is indeed green. But mixing a residential unit with a retail unit, a commercial unit, and access to public transportation is even greener.

Architects really need to position themselves on the front lines of the push for these more liberal zoning laws. Because, as creative problem solvers, they are among the few who can envision a happy outcome in spinning more out of less. Most civilians have a knee-jerk reaction against the idea of more people and purposes in a smaller space. At least, that is, in America. When we travel abroad, we flock to places where we can sleep, eat, and sightsee within walking distance. Even with the template for

successful change right before us, we don't connect the dots. Instead, we retreat to our suburban houses, our driving commutes, and our car-centric shopping malls, cleaving to the status quo. The days of such blissful disconnection are numbered, and rightfully so.

Europe knows something about adaptive reuse. Older, denser, and poorer in resources, it's mastered lessons we're beginning to learn now. We no longer have the luxury of thoughtless sprawl, even on this big continent. And that, as Martha Stewart would say, is a good thing. *ra*

Comments? E-mail: S. Claire Conroy at cconroy@hanleywood.com.

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home front

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if it may not have the name recognition of Moscow or St. Petersburg, but Cherepovets is an equally vital cog in northwest Russia's industrial machine. Perched on the banks of the Rybinsk Reservoir, Cherepovets is home to Severstal, one of the country's largest steel producers and employer of many of the city's 314,000 residents.

Providing suitable shelter for those workers was the challenge of Living

Steel's third International Architecture Competition for Sustainable Housing, which aims to advance the green use of steel. Teams from firms in 52 countries answered the call, and 12 were selected to design schemes for a single-family detached housing development for up to 500 families on 173 tree-lined acres. Each design had to be energy-efficient, yet capable of withstanding extreme regional temperatures (ranging from 93 degrees Fahrenheit to 56 below zero), and also be affordable to build and buy. Minimum requirements included two bedrooms, one bath, and a garage—within a maximum footprint of 1,615 square feet.

Australian architect Glenn Murcutt, Hon. FAIA, led the six-member jury for the competition, held June 26–29 in Helsinki, Finland. A 13-member team from Peter Stutchbury Architecture, in suburban Sydney, Australia, developed the winning



Site plan and rendering: Courtesy Peter Stutchbury Architecture



Courtesy RVTR

The Loft House (above) is part of RVTR's Latitude system of modular units, which are raised to avoid disrupting the land around the site's reservoir. Bligh Voller Nield developed four building types, including the one shown here, to have double-height living spaces and open floor plans.



Courtesy Bligh Voller Nield



Peter Stutchbury Architecture's winning scheme "seeks to manage available resources responsibly," the firm says, relying heavily on prefab construction techniques and using steel "only where strictly appropriate." Each house is oriented with a west-facing entry courtyard to maximize afternoon sun exposure.

architect to refine its design and build a prototype by late 2009. Once developed, the houses should cost roughly \$120,000 each.

In a competition first, the jury singled out two other teams for "honorable mention": Toronto-based RVTR and Bligh Voller Nield of Australia. A team of six architects from six competing firms also was awarded a prize following a design charrette to develop the community's master plan. For more on the honored designs, visit the Living Steel Web site and www.residentialarchitect.com.

—marla misek clark

revitalizing design

Can you make affordable housing sustainable? Juliet O. Whelan, AIA, of Philadelphia-based Jibe Design and her collaborator, Naquib Hossain, a Temple University design instructor, believe so. The pair recently won a Philadelphia Housing Authority design competition for an affordable urban housing redevelopment along the city's degraded Markoe Street. "It's possible to design green and not design expensively," Whelan says. "This is going to be affordable housing ... and will garner much of its energy efficiency through passive features."

Each housing unit will incorporate daylighting and passive heating and cooling systems using operable clerestories, windows, roof overhangs, Trombe walls, a convection loop, highly insulated envelopes, and white reflective roofing. The designers also allow for optional rainwater harvesting



Courtesy Jibe Design

The sustainable redesign of Markoe Street hinges largely on recycling existing structures.

for household usage, solar water heating, indoor air quality systems, and a geothermal heat pump system.

The redevelopment will yield two- and three-level residential units along both sides of Markoe Street's 800 block, with ground-level commercial space in corner buildings. Reclaiming existing brick façades, party walls, foundations, and joists will secure LEED points and maintain a connection to the community's history. For more details on this project, visit tinyurl.com/6y9ns9n.

—stephani l. miller

lean feat

The goal of Rice Design Alliance and AIA Houston's 99K House Competition seems self-evident. But Joel Egan, a member of the winning Seattle-based design team HyBrid/ORA, says the title is a little misleading. "You really only have \$75,000 for construction costs," he explains, "and our entry came in at around \$70,000." That house will be constructed using renewable, recycled, and recyclable materials; it will also incorporate advanced framing techniques, which use 40 percent less lumber than conventional approaches.

Not only is the house more affordable than most, its environmentally friendly design will save homeowners money on monthly bills. A geothermal HVAC system features vertical ducts running through the center of a square footprint. A solar fan at the top, along with dampers on each floor, will permit natural ventilation most of the year. When that's no longer comfortable, window awnings and a two-story porch with slatted screening on the southern façade will help keep costs down.

HyBrid/ORA's design also combats future costs with a flexible floor plan. Thoughtfully located mounted partitions and full-height closet units can be moved in an afternoon.

—shelley d. hutchins



Courtesy HyBrid/ORA

The open front porch and its screened second-floor sleeping porch offer outdoor living options.

home front

perspective *a matter of fact*

Jeffrey L. Day, AIA, NCARB, has never been one for conventional practice models. The Omaha, Neb.-based architect's firm, MinlDay, has a second office in San Francisco, with E.B. Min as the West Coast partner. Day also teaches at the College of Architecture at the University of Nebraska-Lincoln, where he runs an allied practice called FACT (Fabrication And Construction Team). Day recently spoke with *residential architect* about FACT.



Jeff Fassnacht

How did FACT get started?

"The MinlDay office has been around since 2000. FACT started with the Bemis Center for Contemporary Arts, an artist residency program in Omaha. I

was approached to work on a project, but they didn't really have a budget. I suggested working on it with the students. I talked to the university about it, and we concluded we would only work for nonprofits, so there would be no ethical questions."

What kinds of projects does FACT do?

"Most of the work we've done with FACT has been for either the Bemis Center or Art



Larry Gawel

Farm, another artist residency program in Marquette, Neb. At Art Farm, the artists live in reclaimed farm structures. We've been moving barns and sheds to the site and repurposing them as studios or residential space. At the Bemis Center, the artists live in the studio spaces. There, we [focus on] flexible spaces where the furniture can be moved around."

Who works for FACT?

"It's primarily staffed by students. We have

FACT is creating a screened tower addition to an existing farmhouse for one of its nonprofit clients, an artist residency program called Art Farm. Along with serving as a thermal chimney, the tower will contain circulation space and a viewing area.

people working for class credit, research assistants who are getting paid, and MinlDay staff. The student population

changes constantly. It's very, very fluid. FACT exists at the university, but also in the office—it's an adjunct of both. MinlDay is really the glue that holds it all together."

What are the benefits of your firm's involvement with FACT?

"On the logistical side, it allows us to engage with nonprofits if they're not able to pay architectural fees. For the students, it gives them a chance to engage with a real-world client."—*meghan drueding*

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2009 *residential architect* design awards: call for entries

entry form and fee due: november 4
completed entry packet due: december 23

The 10th annual *residential architect* Design Awards program honors outstanding architecture in 16 categories, including custom, renovation, multifamily, production, interiors, on the boards, and now, restoration/preservation. Winning projects will be published in the May 2009 issue of *residential architect* and honored during the 2009 AIA Convention in San Francisco. Shown: Xeros Residence, the 2008 Project of the Year, by blank studio, Phoenix. This year's program is going green by eliminating the use of plastic binders. For more information on new entry procedures, visit www.residentialarchitect.com or call 202.736.3407. To register, go to www.radesignawards.com.



Bill Timmerman

ongoing

2008 Architecture and the City Festival, September 1–30, San Francisco, www.aiaf.org; **Cersaie 2008**, September 30–October 4, Bologna, Italy, www.cersaie.it; **Buckminster Fuller: Starting With the Universe**, through September 21, Whitney Museum of American Art, www.whitney.org; **Italian Dressing: Palladio and American Classicism**, through October 5, Virginia Center for Architecture, Richmond, Va., www.virginiaarchitecture.org; **Dreamland: Architectural Experiments Since the 1970s**, through October 27, The Museum of Modern Art, www.moma.org.

For up-to-date, comprehensive calendar listings, go to www.residentialarchitect.com.—*shelley d. hutchins*

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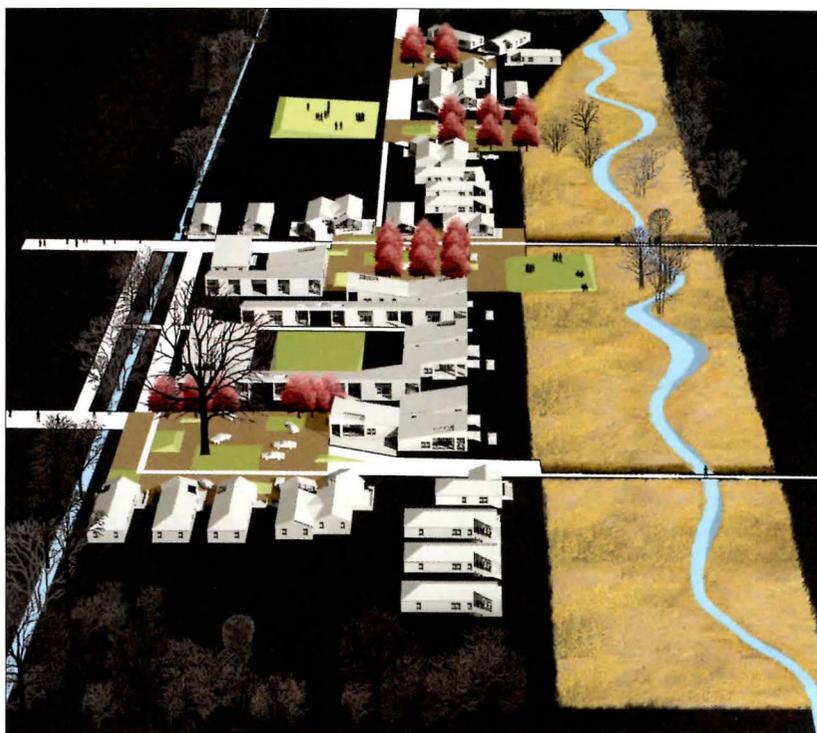
a fresh approach to planning elevates a low-impact development.

It's one thing to design a new residential development. It's quite another to try to revolutionize the way such developments are planned and built. But that's the ambitious goal of the University of Arkansas Community Design Center (UACDC), which is currently working on a Habitat for Humanity project it hopes will alter conventional wisdom about community design. "Instead of just solving a problem for one community, we're trying to do something that can be applied elsewhere," says project designer Katie Breshears, AIA, LEED AP, one of the center's four full-time staffers.

The UACDC constitutes the community outreach wing of the school's architecture program, which makes it a perfect match for Habitat. Located near downtown Fayetteville, Ark., the as-yet-unnamed project will consist of 50 single-family homes, some attached and some detached. "All the units are based on Habitat's standard single-family model of three to four bedrooms and about 1,200 square feet," says Stephen Luoni, Assoc. AIA, UACDC's director. To make construction easier, he and his staff limited variation among the floor plans, designing (along with the many U of A students who also worked on the project) four separate front porch types to differentiate the buildings. Each porch will feel like a full-sized room, which will enlarge the units' living space and enhance their relationship to the street. "It's almost as if the streets are designed for the porches and then the houses are plugged in," Luoni adds. The community's proposed density of 8.5 units per acre exceeds local limits, but UACDC and Habitat are counting on the city of Fayetteville to give them the legal leeway they need to proceed.

Another unorthodox element is the project's shared street system, based on the Dutch circulation model known as woonerf. In addition to accommodating vehicles, the streets function as pedestrian and biking thoroughfares, public gathering places, and parking areas. In short, "the street becomes a park for pedestrians," Luoni explains. The multiple uses work to calm traffic, as does a strict speed limit of 17 miles per hour.

Sophisticated landscaping techniques will also turn the streets into stormwater-management tools. Rather than the

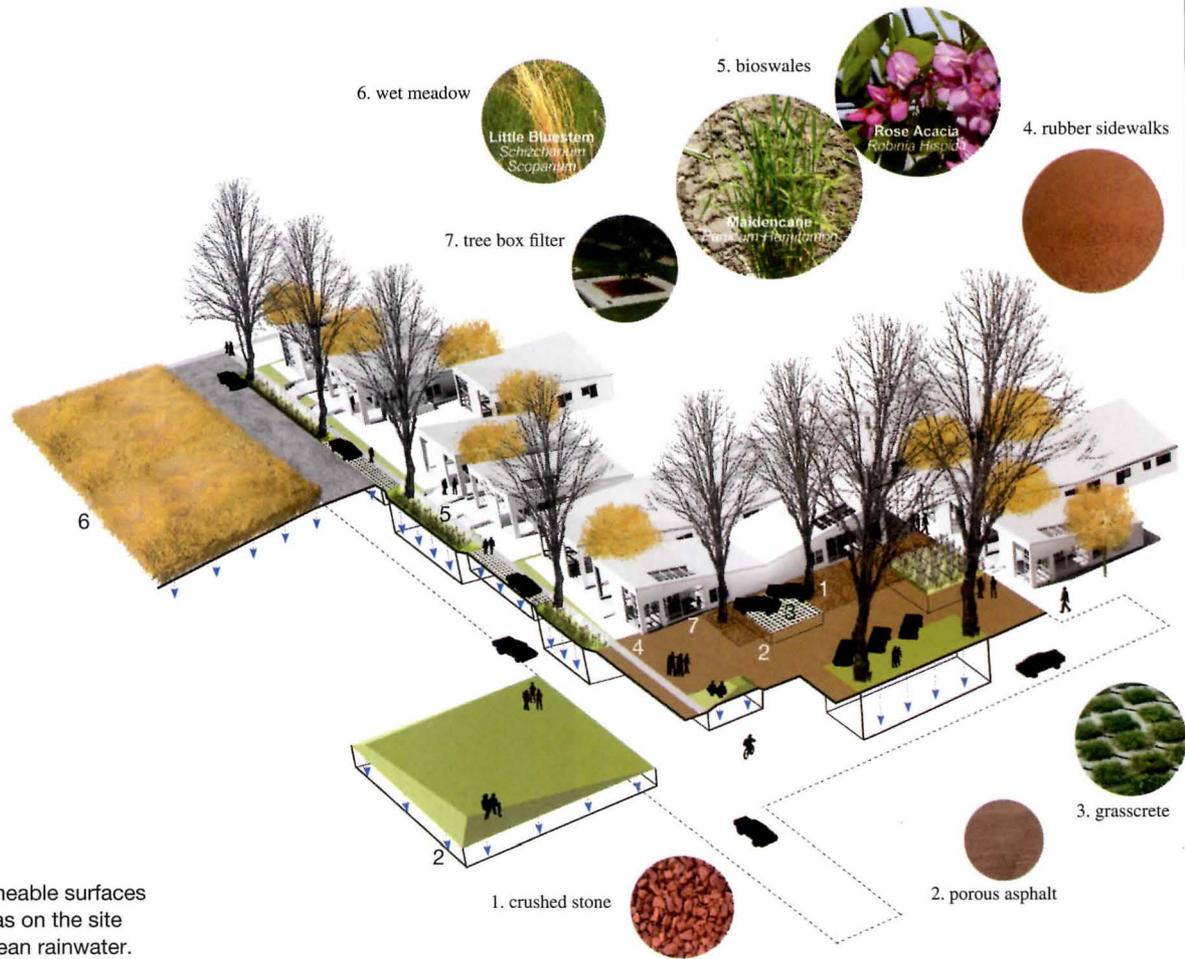


Renderings: University of Arkansas Community Design Center

UACDC's 50-unit Habitat for Humanity project will feature low-speed-limit, landscaped streets that are shared equally by cars, pedestrians, and bicyclists. Various front porch designs will help create unique identities for the homes.

conventional method of using curbs and gutters to collect runoff and piping it to off-site retention ponds, the development employs rain gardens and other bioretention areas to hold the water on the site. A series of permeable surfaces help filter the water, and the bioretention areas contain plants and soils that naturally remove pollutants. The landscaping will promote evapotranspiration for almost *half of the retained rain*. And

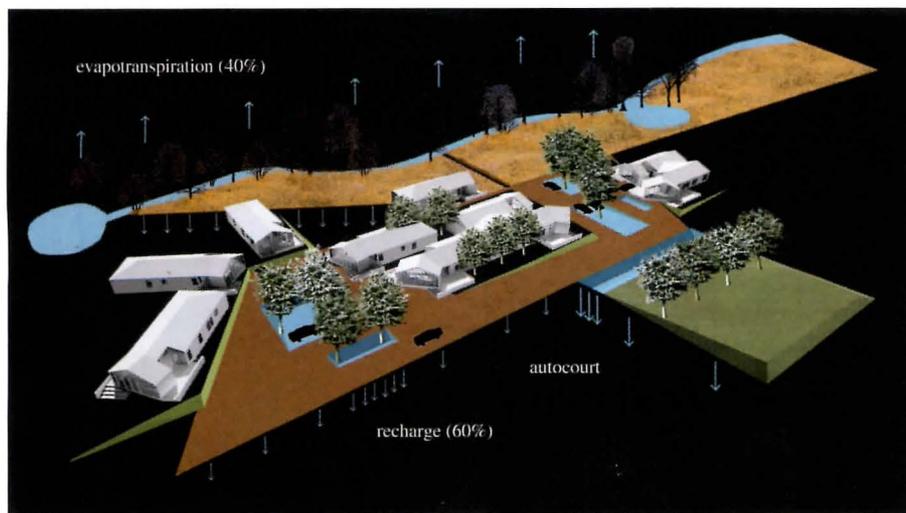
continued on page 18



A wide range of permeable surfaces and bioretention areas on the site work to retain and clean rainwater.

the rest will gradually recharge the groundwater or feed the constructed stream on the site. The system greatly reduces pollution and flooding—and costs 40 percent less than a standard stormwater-management plan. “Plants are cheap, comparatively,” Breshears says.

The university-affiliated Ecological Engineering Group is working closely with UACDC on the project’s hydrology, and local firm McClelland Consulting Engineers is assisting with civil engineering issues. The design and engineering processes are funded by a grant from the U.S. Environmental Protection Agency, which came through the Arkansas Natural Resources Commission. The latter organization plans to work with UACDC on a low-impact development manual for the state of Arkansas. Currently the Habitat project is under review by the city. Assuming the necessary approvals come through, UACDC hopes to get started on construction by the end of 2008.—*meghan drueding*



Renderings: University of Arkansas Community Design Center

The project’s goal is for 40 percent of the water that falls on the site to return to the atmosphere through evapotranspiration, and for the other 60 percent to be absorbed back into the earth.

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kitchen: now you see it

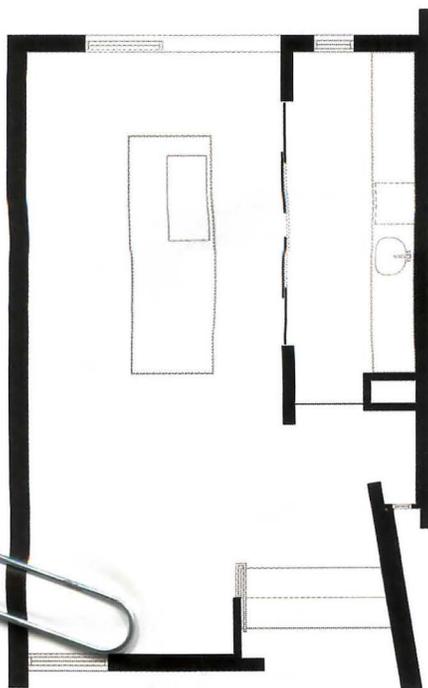
M

Mark Peters, AIA, engaged in some imaginative planning for this do-it-all kitchen in a slender single-family house of his design in urban Chicago. (For more on this project, a 2007 *residential architect* Design Award winner, see page 81 in the May 2007 issue.) His clients wanted contemporary style with generous space to entertain, but they knew hectic schedules would mean leaving dishes in the sink on occasion. Peters' innovative solution sections off a 112-square-foot corner of the 500-square-foot kitchen as a convertible space: enclosed, it's a work area; open, it's a kitchen extension for larger gatherings. "We treated it as two different kitchens," he says of the dual-purpose design.

Double-wide, wenge-veneered sliding doors close off the working kitchen, where every appliance but the island cooktop resides. The thin profile of the dark gray concrete block partition wall—along with 10-foot-high ceilings, white laminate cabinets, stainless steel countertops, and translucent glass walls on either end—create an airy atmosphere even when the doors are closed for meal prep.

An ample kitchen island anchors the open area beyond the doors. The island's drawer-filled stainless steel core drops down at one end to support a large wenge table, giving the clients the informal dining area they craved without compromising floor space.

A 12-foot-wide glass door system just east of the island opens to a 750-square-foot deck, more than doubling the kitchen's size when the weather is nice. "We like to make indoor and outdoor spaces flow as easily as possible," Peters explains, "to simplify entertaining."—*shelley d. hutchins*





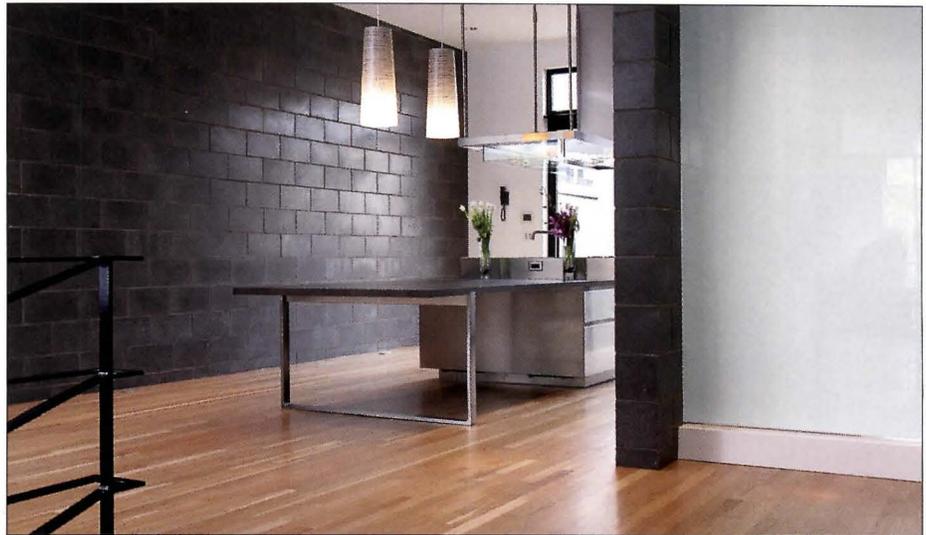
Exterior materials of slate-colored concrete block and dark-stained wood were carried inside for continuity. To lighten interiors, Mark Peters “balanced the rich palette with glass walls, pale drywall, and white laminate cabinets,” he says.

architect: Studio Dwell Architects, Chicago

general contractor: Ranquist Development, Chicago

resources: cabinets: Arclinea Arredamenti; cooktop, dishwasher, and ovens: Miele; exterior door system: NanaWall Systems; fixtures: Dornbracht Americas; refrigerator: Sub-Zero

Photos: Marty Peters



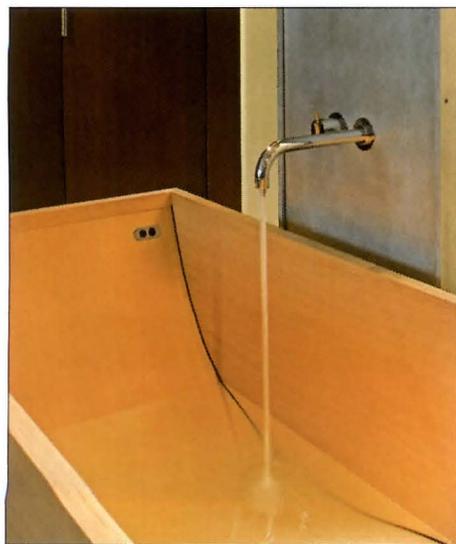
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bath: a bath undivided

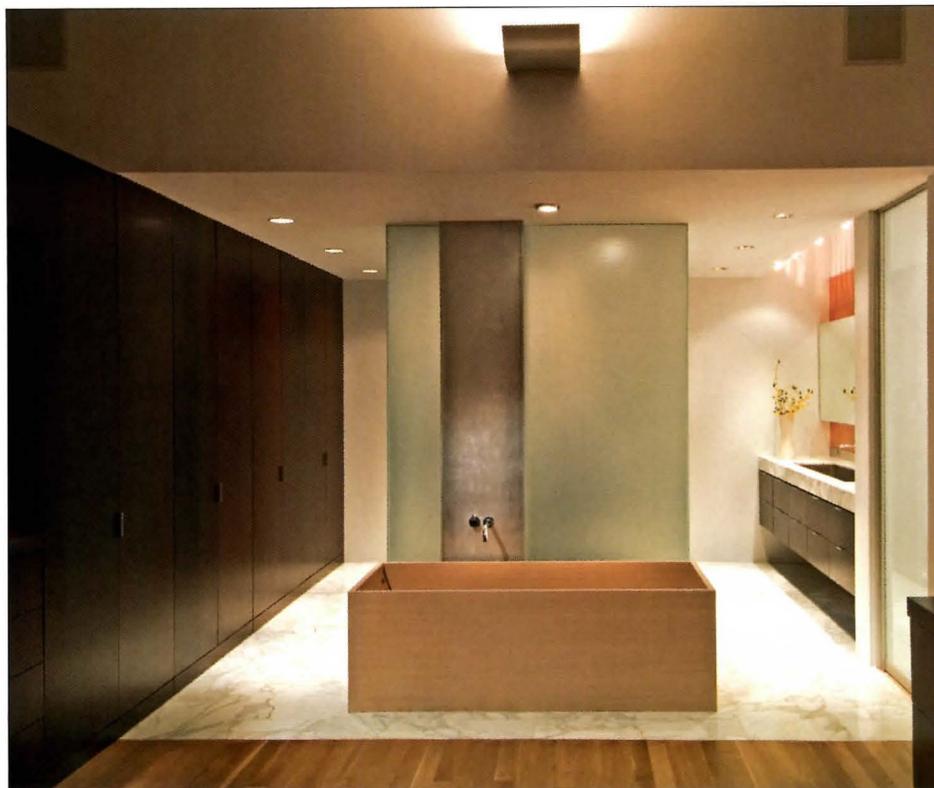
The open floor plans so commonly seen in homes' public living spaces in recent years are finding their way into private areas as well. Master suites in particular are shedding their distinct bed, bath, and closet borders and morphing into single, seamless spaces. Robert M. Gurney, FAIA, continues the trend with this Washington, D.C., remodel.

Cool marble flooring signals the transition from bedroom to bathing/dressing area, setting the stage for multiple lush materials that "bring warmth and life to the entire space," Gurney says. Front and center in this opulent bath is a white oak soaking tub with an ergonomically curved interior tucked into a boxy package. The tub's rectilinear lines are echoed in the rectangular column that encloses the pipes and connects the tub to a square shower. A trough sink links dual wall-mounted faucets, and a long, linear mirror reflects rays from the slot skylight above the vanity.

The soaking tub's unlikely material—white oak—and surprising shape bring whimsy to the subdued master bathroom.



Gurney used the room's rigorous geometry to articulate circulation paths and establish a relaxing sense of order. Repeating the same rich materials throughout the room underpins the calm ambience. The white oak tub, for example, takes its cue from the sleeping area's oak floors, which match oak panels behind the vanity's floating mirror. The marble vanity matches the bathroom floor, and its wenge cabinetry reappears across the room in floor-to-ceiling wardrobes. "We transformed the way the whole master suite works," Gurney says, "and it makes all the spaces feel better."—*s.d.h.*



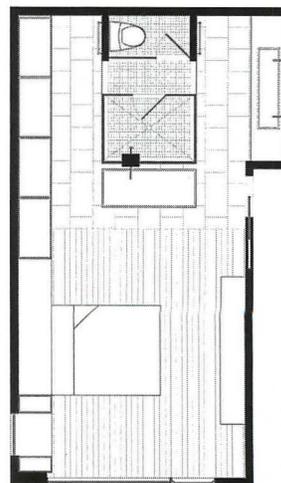
Photos: Maxwell MacKenzie

architect: Robert M. Gurney, FAIA, Alexandria, Va.

general contractor: Horsman Homes, Frederick, Md.

cabinetmaker: Burgers Cabinet Shop, Herndon, Va.

resources: bathtub: Agape; ceramic tile: Dal-Tile Corp.; fittings and accessories: Vola A/S; light fixtures: Artemide U.S.A., BEGA/US, Lightolier, Tango Lighting





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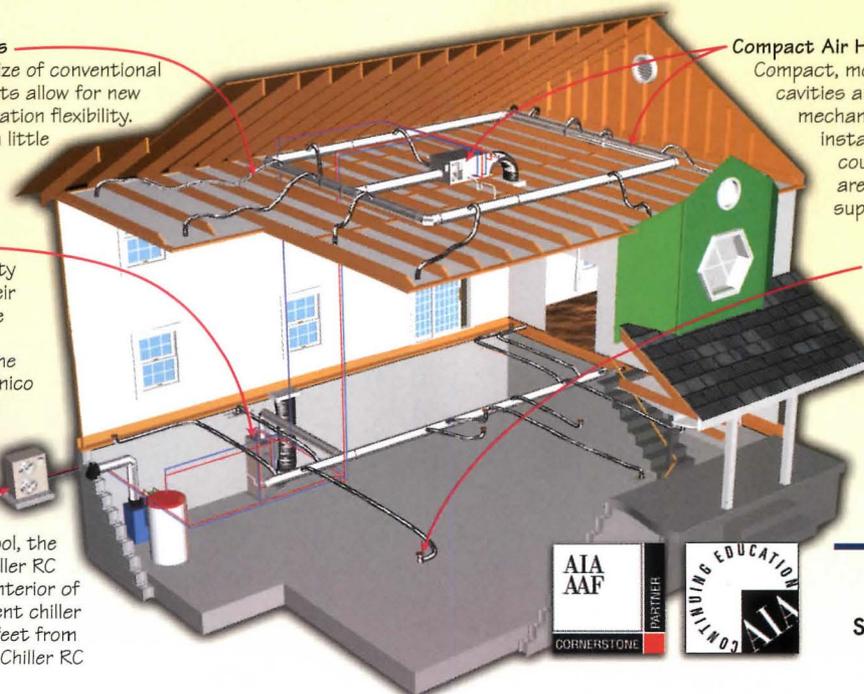
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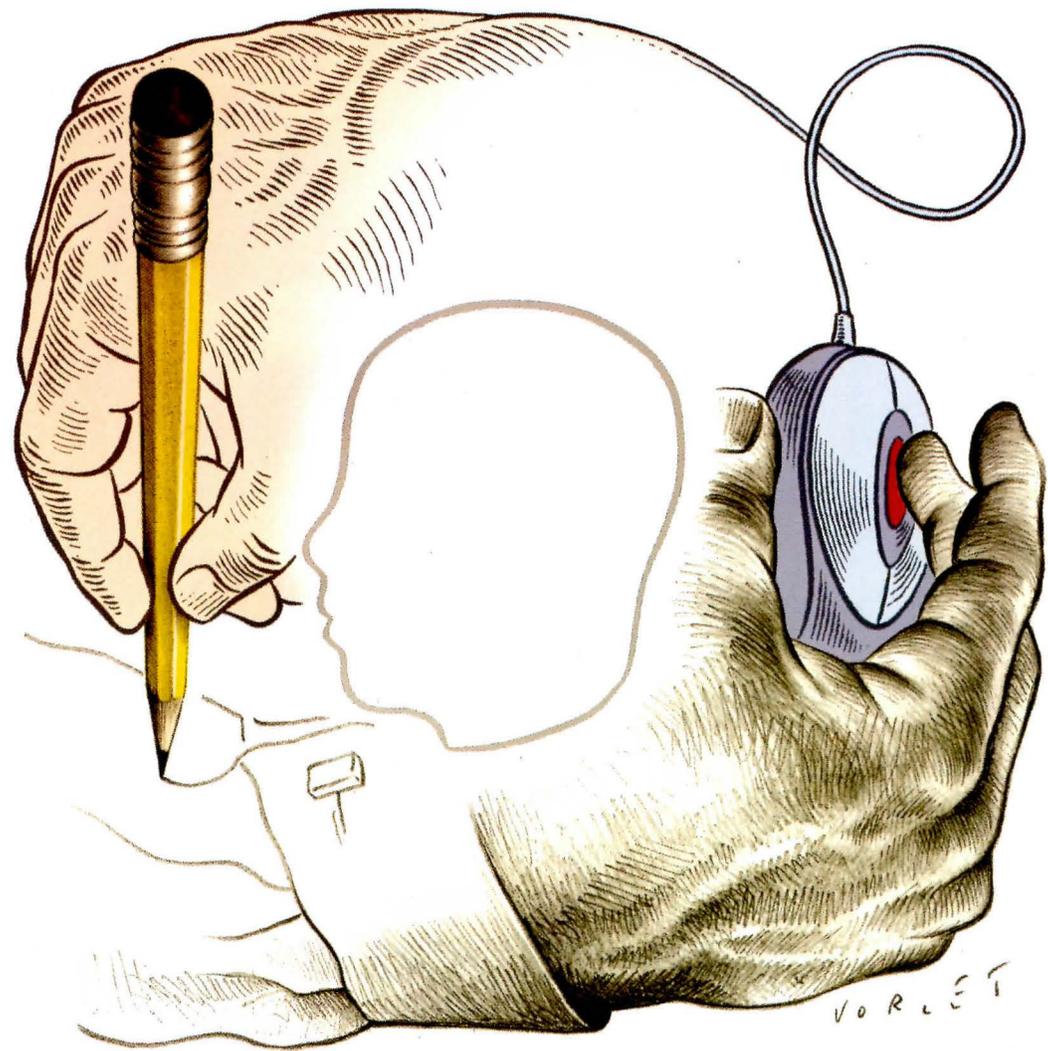
drawing the line

how computers are changing the art of architecture.

by cheryl weber

part of the mystique of architects has traditionally come from their hand sketches, those fluid doodles that brilliantly capture the evolution of ideas. For centuries, the use of graphite on paper has reflected not just the way architects think but also their signature style, the way a piece of fine art expresses the creator's point of view. These handmade images have unique qualities—an inherent warmth, the happy accident of a line gone awry—that are so different from the dimensionality and slickness of computer renderings. But it's not just that hand drawings are lovely to look at. A pencil is the most immediate and versatile design tool there is. Architects can communicate ideas to others with a few swift strokes, whether they're in a conference room or coffee shop.

With fewer students being trained to think on paper, is the classic napkin sketch going the way of the hand-drawn Disney movie? The jury is still out, but just as technology has changed movie animation in recent years, it's profoundly changing the creative process for architects. No



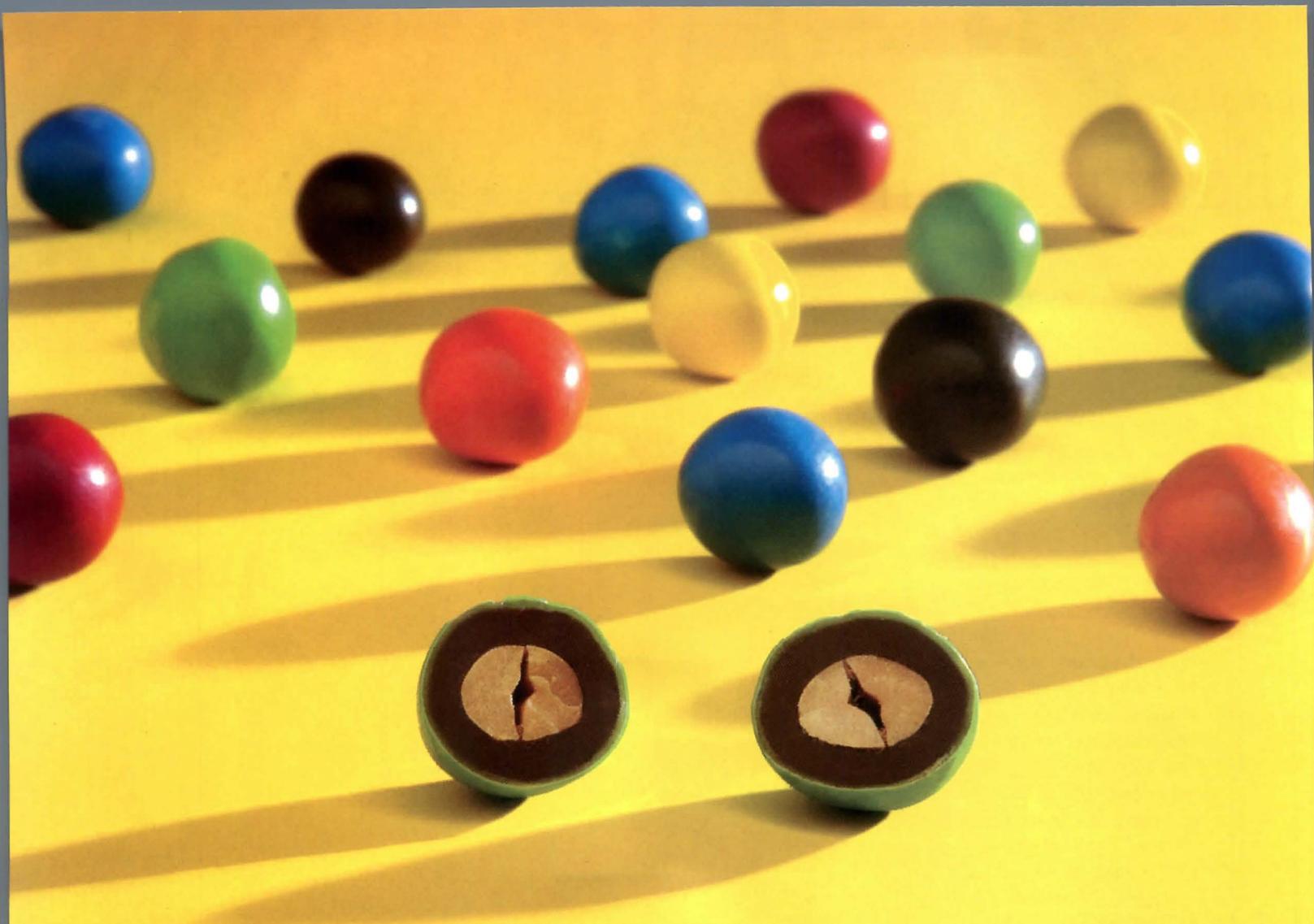
Christophe Vorlet

one wants to return to the old ways of doing things. The computer has been a boon to handwork, enabling architects to scan their drawings for digital tweaking and 3-D takeoffs. And who can argue with the ability to explore on-screen the play of natural light at different times of the day, to test material connections,

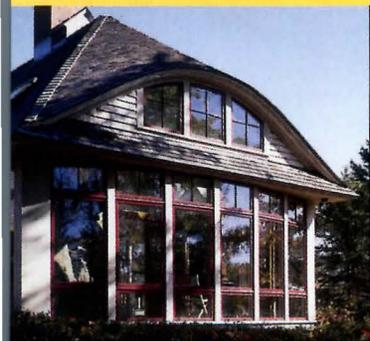
and to walk clients through their house before it's built? Still, many architects are conflicted about the diminishing role that hand sketching plays in the exploratory process. What does it mean for design when the virtual appears to be real much earlier in a project? In an era when a Photoshop image can look

sexier than a real-life snapshot, some worry that the software is taking priority over creativity.

What's more, many architects (particularly those over 40) view hand sketching as an indispensable tool for team collaborations. "It's an ideal means of communication between
continued on page 29



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everyone in the office,” says Robert Hull, FAIA, The MillerHull Partnership, Seattle, who looks for drawing skills in new hires. “You can always do a quick sketch and talk about it better than you can go to a computer and bang out a drawing. It’s a right-to-the-right-brain communication device, and you can cover a lot of territory because of that connection.” However, he adds, “I have heard people say the same thing of a computer.”

interweaving old and new

It’s tempting to frame the manual/digital divide as a generational issue. And it’s true that people are most comfortable with what they’ve grown up with. But that may be only part of the picture. Many architects simply think best in low-tech, and today’s firms take a hybrid approach that capitalizes on the talents and technologies at hand. One example is Juan Miró, AIA, a principal of Miró Rivera Architects in Austin, Texas. In the early 1980s in Spain, his architect father began drawing everything on the computer, whereas he is partial to his No. 2 pencil. “Many times you don’t know exactly where you’re going, the way you think aloud. With drawing, your hand can be a bit ahead of you,” he explains, adding, “I don’t like to have things between me and the paper. I don’t like iPods either,

teaching design thinking

The ideal balance between drawing and computer skills is being debated not only in design firms but also at architecture schools, where the issue comes down to the best way to teach critical thinking. Yet there are no objective measures for how well people think in different mediums. “In the architecture profession, we haven’t always been clear about why we educate the way we do; we just know it works,” says Brian R. Johnson, associate professor at the University of Washington College of Architecture and Urban Planning, Seattle. “That’s the intergenerational challenge.” Traditionally the university has required students to use desktop drafting tools in tandem with computer software, but it will likely stop requiring them this fall.

While there’s no question that students’ future practice will be largely digital, there is a downside to a computer-focused education, Johnson believes. For example, when students aren’t sure how to develop a project, they’ll frequently spend time modeling finer and finer details. “The tools we have these days allow you to get into more detail than you are prepared to deal with if you’re not careful,” he says. “So there’s a seduction there. Students clearly understand that they need to invest time in their project. They don’t always know the proper place to invest it.” Likewise, he says, they’ve been taught that computers are objective, and this translates into a belief that if they invest time in developing the model, they’ll be able to hit a button and get objective answers. That’s partly true, but not to the

continued on page 30

because I don’t like to have things mediating between me and the music.” He does acknowledge, however, that his early schemes get tested fairly quickly on the computer, through Google SketchUp and other modeling programs that allow him to scan and manipulate the drawings, print them out, and draw over top.

Even when architects sketch by hand, their ideas

are making the digital transfer much earlier than they used to. Hull, who is “quite a bit over 40,” doesn’t use computers himself, but he and his team work back and forth to develop the drawings electronically. He’ll often trace over printouts, though he avoids the hierarchical hand-off. The firm is starting to design houses in

continued on page 30



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Revit, which allows users to create idea diagrams that are easily circulated among the design team and consultants. As the building takes shape, the group often gathers around a computer to solve problems on-screen. “I love to look over someone’s shoulder to work on a wall that’s not resolved,” Hull says. “With BIM, a whole new dimension is created that allows you to look really deeply into a project, and you don’t have to go back to hand sketches.” (For more on BIM, see “Connecting the Dots,” pages 13–22 in the May 2008 issue.)

Computers have brought traditional model making up to speed too. Like hand drawings, physical models encourage open-ended exploration and direct manipulation, and now they can be laser-cut from CAD drawings. “There’s something about making physical models, where you don’t know where you’re going, that makes them essential to design,” Hull says. “When you send something to the computer, the idea is already formed. The computer can’t mush around, but you can take a piece of basswood, turn it on its side—whatever it takes to jar your creativity.”

Boston-based Höweler + Yoon Architecture also uses software commands to generate and test ideas, whether the project is a house, an interior finish, or a piece of furniture. The designers doodle on paper,

extent that students hope for. When they’re struggling with a conceptual conundrum, they often resort to spinning the model without addressing the questions that move the design forward.

Another potential trap for young designers is knowing when to abandon an idea and start fresh. Computer modeling doesn’t necessarily result in side-by-side comparisons of alternatives, the way that having two physical models or pieces of paper does. “We tend to open a file and develop a design in that file, and it’s not always clear when we’ve essentially started an alternative,” Johnson says. “So people can have trouble structuring their decision making. When they’ve dropped a lot of time down the hole, the tendency is to keep manipulating rather than confront the possibility that starting over would be the best strategy.”

In the absence of clear answers about the best way to learn, the architecture school aims to help students develop flexible tools that enhance their design thinking rather than their productivity, since technology is a moving target. “One of the challenges of the digital age is not to try to replace one set of skills with a different set,” Johnson says. “The tricky bit is making room in our educational processes for students to acquire both.”—c.w.

draw on the computer, sketch over printouts, and use 3-D files to build physical models, which are then cut apart, reassembled, and returned to digital form. MIT—where co-principal J. Meejin Yoon teaches—is a source of fresh graduates who can write computer scripts to improve on 3-D geometries. One intern recently figured out how to optimize a waterjet cutter to make a stacked-glass piece with a compound curvature for an office lobby. The calculation reduced the fabrication cost from \$200,000 to \$53,000. “At Cornell in the mid-1990s we were taught that you have to make it to know it, and you

don’t know it till you draw it,” says co-principal Eric Höweler, AIA. “Sitting down at the computer seems so far removed [from that mind-set], but we have no problem switching back and forth between digital and analog and different software programs.”

The equal-opportunity approach also kicks presentation drawings up a notch. Although Fayetteville, Ark., architect Marlon Blackwell, AIA, works with a “big fat pencil,” he and his staff use Adobe Illustrator and Photoshop to add materials, line weight, and color to scanned perspectives, which then read as a polished

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sketch. “The problem with highly refined computer drawings is that they take exactly the same amount of time as highly refined hand drawings,” Blackwell says. “So it’s about craft and using the mediums to describe what they are best at describing.” At the University of Arkansas, where he is a professor, students are printing their computer drawings on hot-pressed watercolor paper, infilling by hand, and creating montages with colored photos. The result is a layered, spatially rich surface one could never achieve by digital or hand alone. In the absence of a one-to-one physical object—an advantage other artists have—it constructs a sensibility about the project that clients can understand.

Like Blackwell, Benjamin H. Ames, AIA, of Alexandria, Va., builds presentation drawings by layering hand sketches and computer graphics. He’s noticed that, while recent graduates are confident with the cursor, fewer than ever are agile enough to express their vision on paper. To help them develop that ability, he routinely asks them to resolve details by hand and teaches them to control line weight on drawings. “Even if they’re doing a simple floor elevation, it’s important to make outlines punch and increase legibility,” says Ames, principal of Amestudio. “You want to make sure the drawings have some personality to

“for the generation that learned to design on the computer, 2-d drawings are a byproduct of their 3-d model, whereas we were trained that the drawing was the representation. the new generation doesn’t think in 2-d unless we ask them to draw walls so we can talk about them. we’re trying to teach them to draw in section so they can understand the project spatially.”

—eric höweler, aia

them. It says to clients there’s an energy and fluidity to what we’re doing.”

In the presentation, clients are looking for intelligence, and multiple platforms can convey that quality. Still, Miró avoids photorealistic renderings that present a project as if it were finished. “You need to keep a sense of surprise,” he says. “What it’s going to be isn’t something you know for sure until it’s over.” Hull feels the same way. Clients still like the “dog and pony show” of hand drawings that show the exploration, he says. And loose sketches invite them to get involved.

Of course, multifamily clients expect something more polished. Condo developers love the com-

puter walk-through, says Ali R. Honarkar, Assoc. AIA, a principal at Silver Spring, Md.-based Division1 Architects, where the design process proceeds from hand sketches to CAD to building the project in 3-D using form•Z. The architects use sophisticated light studies to show clients how natural light infuses the building at different times of the day and year, and they also model different types of artificial light. “We don’t show them hand sketches, Honarkar says. “And hand models are so time-consuming; we can do more with computer modeling.”

techno trade-offs

While the inexorable shift from paper-and-pencil to

continued on page 34

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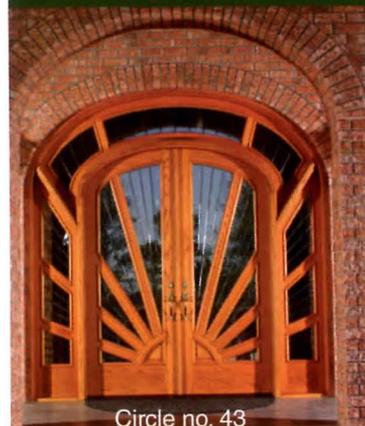
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practice

pixels undoubtedly enhances design development, it also introduces new challenges. The most obvious example is the ability to doctor perspectives by elongating lines and adding digital color, texture, and lighting, which makes it easy to misrepresent reality. That's why the Philadelphia firm Qb³ uses computers sparingly in design studies and client presentations. "We feel the physical 3-D model reveals the truth in scale and proportion and form in a building, and it's easier for us to design in that format because we're not deceived by how something might look in a rendering," says partner Patrycja Doniewski. "It is what it is, not a perspective viewed from somewhere else."

The precision of 3-D modeling is redefining the design process itself. While handmade models allow architects to find their way with the forms intuitively, BIM turns the design sequence on its head by requiring them to input detailed information up front—a hindrance that becomes a benefit later on. "You have to tell a wall to be 10 feet, 6 inches," explains Takashi Yanai, AIA, associate principal at Steven Ehrlich Architects, Culver City, Calif. "In the physical model, you're not so much concerned with the wall's dimension as the sense of proportion."

The order of design is changing, and with it, the way the newest generation

"many times you don't know exactly where you're going, the way you think aloud. with drawing, your hand can be a bit ahead of you. i don't like to have things between me and the paper."

—juan miró, aia

of architects think. Höweler, who teaches at the Harvard Graduate School of Design, says first-year graduate students begin their design explorations in 3-D software. Then they slice the model to get a 2-D representation—a subtraction process that is a completely different way of imagining space. "For the generation that learned to design on the computer, 2-D drawings are a byproduct of their 3-D model, whereas we were trained that the drawing was the representation, and that's what we'd hand to the contractor," Höweler says. "The new generation doesn't think in 2-D unless we ask them to draw walls so we can talk about them. We're trying to teach them to draw in section so they

continued on page 36



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can understand the project spatially.”

For Greenwich, Conn., architect Joeb Moore, AIA, who works with a roll of yellow trace, one of the great frustrations of practice is that his youngest employees cannot think with a pencil. As a result, they don't understand how difficult it can be to join different materials together. “They think it's as simple as a command button on their computer,” says Moore, principal of Joeb + Partners, Architects. His office experimented with using a BIM program for schematics, but trying to resolve all the conditions simultaneously proved

“the problem with highly refined computer drawings is that they take exactly the same amount of time as highly refined hand drawings. so it's about craft and using the mediums to describe what they are best at describing.”

—marlon blackwell, aia

too labor-intensive for residential work. The staff spent thousands of hours in schematics and design development, which account for only 40 percent of the

fee—time wasted when the clients changed the project scope later. Now the firm uses software such as ArchiCAD and Rhino for rapid 3-D modeling,

ArchiCAD for plans and elevations, and 3ds Max (formerly 3D Studio MAX) and Maya for renderings and animation.

Nobody wants to be in a position where the computer is in control. And as architects use technology to hone their particular way of seeing, the challenge is to embrace the best of both worlds. “I am concerned by students who think only with the computer, because I think it's important to be able to draw an idea in real time,” Höweler says. “But I'm not one to lament the loss of the pencil. New opportunities have emerged that are as interesting as the napkin sketch.” ra



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The firm added a rainscreen-clad vertical circulation area and rooftop sunroom to this adaptive reuse home with a ground-floor restaurant. The new wood elements provide a strong contrast to the existing brick.



thinking & making

el dorado forges ahead with hands-on design.

by meghan drueding

It's not easy for an outsider to catch the folks at el dorado in an entirely serious moment. The Kansas City, Mo., firm's five partners recently used the 1980s hair band Def Leppard as a reference point in an architectural lecture. Clicking on "Mission" on their Web site takes you to a screen that says, "We don't have a mission statement." The group's offbeat, deadpan sense of humor harmonizes with their pronounced aversion to the idea of the heroic, Howard Roark-style architect.

But when it comes to designing buildings and running a business, no one approaches a project or goal with more intensity than el dorado. Take, for example, the firm's longtime focus on in-house fabrication. The three original principals—Dan Maginn, AIA, LEED AP; Jamie Darnell, LEED AP; and Douglas Stockman, who met while working together at BNIM Architects in Kansas City during the 1990s—decided they wanted to learn more about working with steel. "We can't learn everything, so let's pick one thing and learn it well," Darnell recalls thinking. He convinced Maginn, Stockman, and a couple other designer

friends to take welding classes with him at a vocational school 45 minutes away. And after leaving BNIM he spent six weeks working at FACE, a New York City design and fabrication firm. In 1996, the five friends opened up a steel workshop, architecture studio, and art gallery in the Crossroads, a burgeoning arts district of Kansas City. Developer Brad Nicholson, with whom the firm still works from time to time, sublet a 10,000-square-foot industrial space to them for \$600 per month. They invested countless hours experimenting with steel, getting to know its properties inside and out.

Around 1998, Darnell, Maginn, and Stockman felt ready to turn their casual operation into a full-fledged company. The other two designers left, and David Dowell, another BNIM alum, joined as a principal. At his suggestion the four of them took a 12-week business class at Kansas City's Ewing Marion Kauffman Foundation, a nonprofit that encourages entrepreneurship. "It was one of the best things we did," Maginn says. Nothing they learned in



Kenny Johnson

The five principals at el dorado—David Dowell, Douglas Stockman, Jamie Darnell, Dan Maginn, and Josh Shelton—gather in the doorway of their steel workshop in Kansas City, Mo.



The concrete structure of 5 Delaware Lofts, a 2005 condo project with 12 residential units and one retail unit in Kansas City, Mo., conveys an impression of solidity and permanence. Pared-down detailing—a favorite el dorado strategy—provides an elegant simplicity.

class discouraged them from pursuing the steel fabrication component of the business, so the workshop remained a fundamental part of el dorado.

material matters

The firm continues to create steel furniture, staircases, railings, and other details. Much of that work is for its own projects, but it also takes on outside commissions, such as the design and fabrication of the reception desks at Steven Holl, AIA's 2007 addition to the nearby Nelson-Atkins Museum of Art. Through four moves, the shop has always stayed in the same building as the architectural office. In el dorado's current location, another old warehouse in the Crossroads that the partners bought and transformed in 2005, it occupies the ground floor.

(For more on the firm's workspace, see page 88 in the June 2007 issue.) An interior window in the lobby provides a glimpse of the shop before a galvanized steel stair leads visitors to the more polished studio. There, faint sounds of metalworking from downstairs blend with the ambient rumble of trucks and trains passing through the neighborhood.

The workshop helps differentiate el dorado from other firms. And it gives the company more control over the cost of a project. But its most essential role is to direct the way the partners (and the office's eight additional designers) think about design. "You need to really understand materials before you do something to them," Maginn says. "Steel is in every project we do. Our understanding of it on an intuitive level helps us find the clearest way to solve something using steel, in a way that works for steel. Then we tweak it just a little bit—about 5 percent. It's part of our shared language of details." He, Darnell, Stockman, Dowell, and Josh Shelton, who became a principal in 2002, always put materials first when thinking about a design, no matter what those materials are. "We would never say, Here's my design, now what should we build it out of?" says Darnell, who is finishing up work on his own corrugated copper-clad, SIPs-framed house in the city's Westside neighborhood. "For us, the form and material work together. That's why my house is boxy—it's *because* of the SIPs, not the other way around."

The "shared language of details" mentioned by Maginn varies according to project type. For the most part, el dorado is a generalist firm that designs everything from residences to restaurants to storage facilities. Adaptive reuse of Kansas City's downtown



Photos: mikesinclair.com

Work by el dorado often uses translucent surfaces, such as the channel glass at this custom house in Kansas City, Mo., to diffuse and soften natural light. Deep overhangs (far left) shelter outdoor spaces during sudden Midwestern rainstorms.

thinking & making



Renderings: Courtesy el dorado

Green roofs top an unbuilt courtyard housing project designed for a competition. “We’re doing more competitions as a way to get outside ourselves a little bit,” says principal David Dowell.

turn-of-the-century buildings made up much of the firm’s early work—and still constitutes a significant part of its repertoire. “What’s fun about adaptive reuse is that it inherently is a really green thing to do,” Stockman says. “You’re finding new ways to inject vibrancy into buildings whose past use is no longer relevant. It’s fun trying to understand what the building has to offer.” He and the other principals and staffers like to position new pieces in ways that highlight the existing parts of a structure. And they look for ways to offer private outdoor spaces to residents, who are often moving into the city from the suburbs and are used to having their own yards and gardens.

collective thought

The firm’s adaptive reuse work has led to commissions for new multi-family buildings, usually surrounded by a built context that it addresses in a thorough but abstract fashion. “Our new infill respects the neighborhood in terms of form, scale, materiality, and use,” Stockman says. Other design tenets the group holds dear include keeping floor plans as straightforward as

possible, using constraints as a springboard for innovation, and bringing artists in to collaborate when appropriate. “They’re in tune with the idea of using the profession of an artist as they would use engineers or anyone else,” says James Woodfill, a Kansas City artist who often teams with el dorado. The five principals even agree on the kinds of details they’ll frequently use, from translucent surfaces for borrowing light to a built-in they’ve dubbed a “fatty”—a wide storage cabinet accessed from both sides.

One of the firm’s biggest strengths is its ability to keep reassessing itself and its work. “They’re all about the whole thinking/making thing,” says Fayetteville, Ark.-based architect Marlon Blackwell, AIA, who has known el dorado’s principals for years. “They’ll think it and they’ll make it, and they’ll rethink it and make it again.” They’ve also developed a studio “constitution” that evolves from year to year as a document against which the partners and staff can measure priorities and performance. “Pushing a shared language forward, design or otherwise, requires a critical evaluation of what works well and what is no longer working,” Shelton says.

This desire to continue evolving has spurred el dorado to start pursuing work on regional and national levels as well. But no matter how far they end up going (both metaphorically and literally), they’ll always come back to the workshop. Though the task of fabricating items for clients falls mostly to staff members now, the principals still use the shop to work on their own personal metalworking projects. Says Maginn, with typical el dorado frankness: “Making something slaps you in the face and tells you to keep the design simple.” **ra**



The Holbrook Loft (left and below) features exposed wood ceilings and an el dorado-made staircase of glass and steel. It's housed inside the W Lofts (bottom), a Kansas City, Mo., adaptive reuse project also designed by the firm.



Photos: mikesinclair.com

vital statistics

principals: Dan Maginn, AIA, LEED AP; Jamie Darnell, LEED AP; Douglas Stockman; David Dowell; and Josh Shelton

location: Kansas City, Mo.

number of employees: 16

years in business: 12

current projects: Aron/Levin Residence, Fairway, Kan.; Rivermarket Townhomes, Kansas City, Mo.; Vehicle Impound Facility, Kansas City, Mo.

education: The University of Kansas; Kansas State University; Kansas City Art Institute; Washington University in St. Louis; Tulane University; University of Tennessee, Knoxville; and University of California, Berkeley

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super save

Dismayed by the dearth of mid-rise development in their native Toronto, Meg Graham and Andre D'Elia, OAA, MRAIC, took matters into their own hands. The married principals of superkül inc | architect “wanted a headquarters” for themselves and their seven-person firm, Graham says, so they went searching for a site that could support their vision. They found it in the city’s west end. “We knew the area was in transition,” D’Elia says, “but we also knew what to do with the building as soon as we walked in.”

The aging structure lacked street presence but “had good bones,” Graham says, and was already zoned for commercial and residential uses. Knowing it “would serve as a billboard” for their work, the couple completely renovated the interior, added a third floor, and transformed the façade, using the neighborhood’s existing massing, height, and window proportions as a guide. The firm occupies the basement and first floor, and a two-bedroom apartment spans the top two floors. Simple circulation and partitioning changes can be made, if needed, to accommodate more employees, children, or even aging parents.

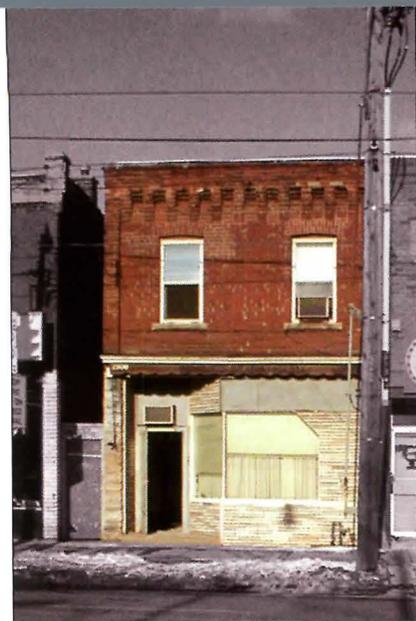
Black concrete block and a large picture window modernize the street-facing entrance on the south façade. Another window in the second-floor living/dining area breaks up the horizontal cedar screen covering the existing red brick and a portion of the metal siding-clad third floor, shielding the master bedroom and its terrace

from prying eyes. The apartment’s entrance, a courtyard, and an in-progress garage/studio are around back. Inside, walnut-stained oak flooring contrasts warmly with the spare, white drywall that divides each space. Other new finishes include quartz countertops, IKEA cabinetry, and industrial lighting. Existing pressed-tin ceilings and wooden roof joists were kept, D’Elia says, “to preserve some of the original building’s texture and character.”

Ironically, the building was (briefly) adapted and reused once more within months of its makeover. The producers of *Hairspray* repurposed more than 60 area storefronts—superkül’s included—to mimic 1960s Baltimore for the 2007 film’s street scenes.—*m.m.c.*



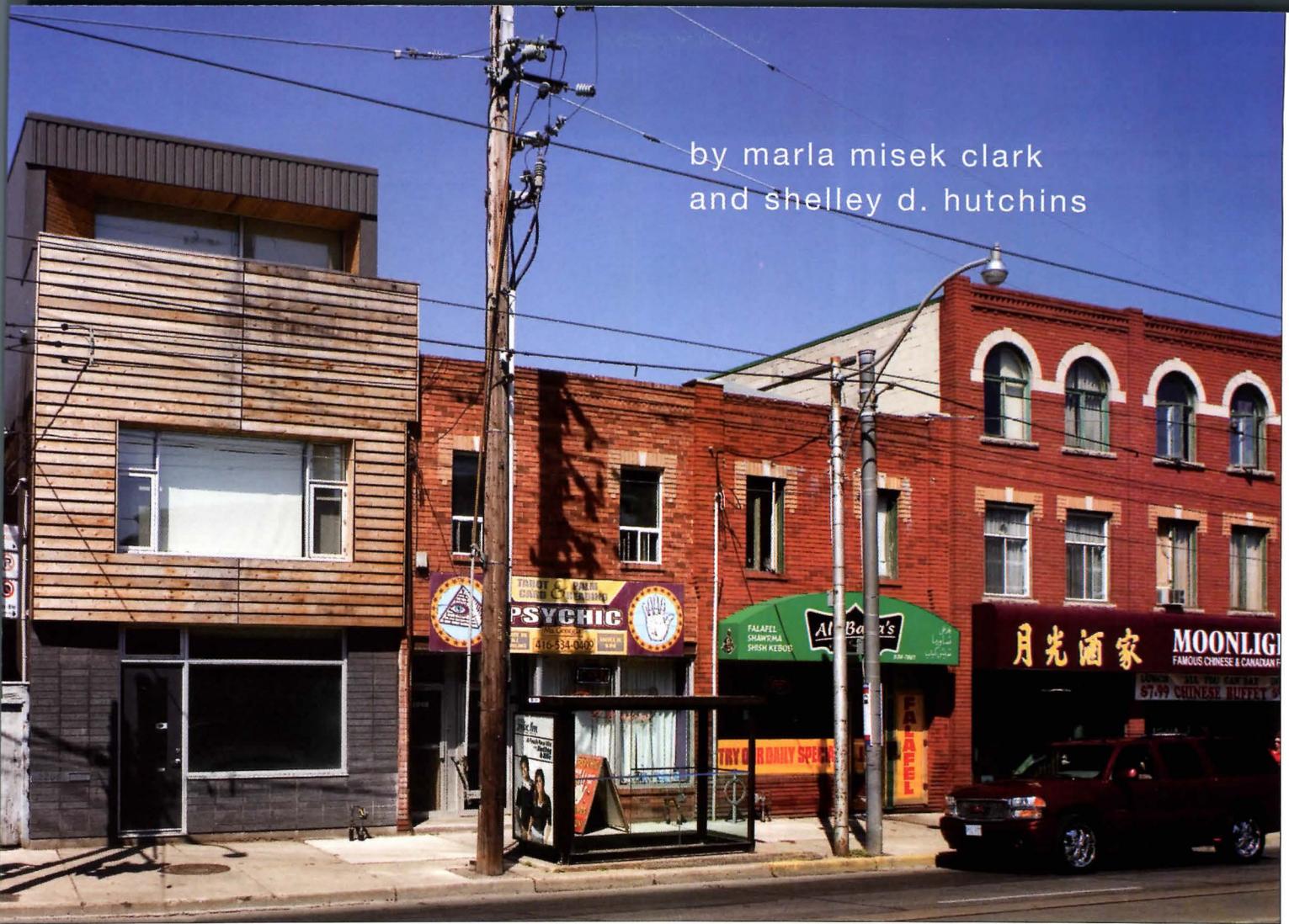
“There aren’t a lot of high-level details here,” Meg Graham says of the clean, flexible design, “but the flow and proportions achieve the same types of spatial relationships we put into all our projects.”



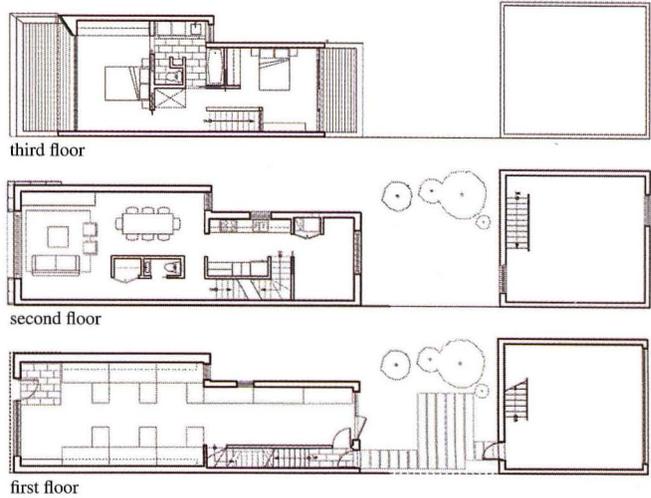
Photos (above and top): Courtesy superkül inc | architect



by marla misek clark
and shelley d. hutchins



Graham and husband/co-principal Andre D'Elia turned a century-old diamond in the rough (opposite, top) into a modern live/work gem in less than five months. Work on the backyard courtyard (opposite, middle) and garage/studio outbuilding is ongoing.



project: Home/Office, Toronto
architect: superkül inc | architect, Toronto
general contractors: Keystone Construction, Woodbridge, Ontario, and superkül inc | architect
project size: 2,800 square feet (plus 800-square-foot garage/studio)
site size: 0.05 acre
construction cost: Approximately \$94 per square foot (includes renovation and new construction)
photography: Ben Rahn/A-Frame, except where noted

encore,
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shell game

The transformation of this 1905 New Haven, Conn., fire station into a live, work, and play space was all about shells. Architects Alan Organschi, AIA, and Lisa Gray, AIA, saved and highlighted the building's rustic exterior shell while recasting interior spaces within smooth, curvaceous plywood shells. "We tried to make the attachment of new material to the building very explicit," Gray says, "so there's no mistaking what was there and what we added."

Additions include a two-bedroom apartment, a performance venue/recording studio,

and a bar—a real bar, open to the public. The firehouse had been empty and decaying for 40 years, but the structure was solid. The husband-and-wife architects cleared crumbling plaster off walls and the ceiling to expose raw brick and rough-hewn wood trusses throughout the top-floor apartment. Original floors were simply covered in bamboo to warm up the lofty 80-foot-deep-by-40-foot-wide volume. Whatever materials could be salvaged and reused were.

Downstairs, in the street-front lobby, arched bays big enough to drive a truck through are filled with glass. Organschi and Gray specced a steel clip system that

attaches glass to brick with minimal incursions. The heart of the project—and the most complex space—lies just beyond the lobby: a 75-seat live performance space that's also a recording studio. The firm worked with acoustical engineer John Storyk, AIA, AES, to fine-tune its design for an undulating ceiling and backdrop that are precisely shaped to ensure reflection or deadening of sound waves in specific spots. "We used birch plywood to form an acoustic shell that tries to solve the distinct ideals of a recording space, which should be acoustically dead, and a performance space, which needs to be bright and have reverberation," Organschi explains.

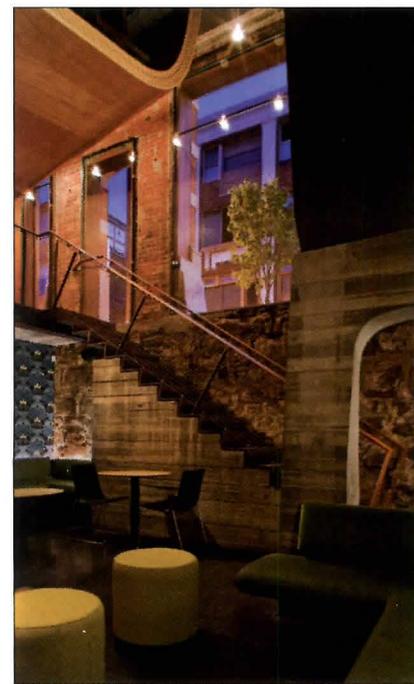
Back in the lobby, a big hole in the floor reveals the basement bar, which was voted New Haven's hippest watering hole. "Opening the floor lets light into that space," Gray says. "And being able to see into the bar really draws people in."—*s.d.h.*



Courtesy Gray Organschi Architecture

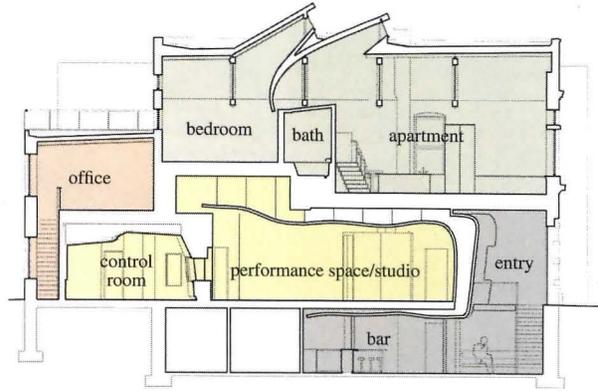


Alan Organschi and Lisa Gray designed their version of a flying buttress—rendered in rough concrete—to support the basement bar's rubble walls. The bar's dropped ceiling is a continuation of the studio's plywood shell.





project: Firehouse 12, New Haven, Conn.
architect: Gray Organschi Architecture, New Haven
general contractor: Lowe Co., Branford, Conn.
acoustical engineer: Walters-Storyk Design Group, Highland, N.Y.
structural engineer: Edward Stanley Engineers, Guilford, Conn.
lighting designer: SM Lighting Design, New York City
project size: 7,014 square feet
site size: 0.08 acre
construction cost: Withheld
photography: Robert Benson Photography, except where noted



The birch plywood's golden tones warm the building's turn-of-the-century brick façade (above) and enliven the performance space/studio's contemporary vibe.



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something old, something new

adaptive reuse exposes a world of material possibilities.

by nigel f. maynard

Architect Griz Dwight, AIA, was doing an adaptive reuse project in the Washington, D.C., area when he came upon a brick wall that had been covered over with a thick layer of plaster. Naturally, he decided to expose the rich finish of the brick. “We were scraping [the plaster], but in some areas it wasn’t coming off,” the principal of Washington, D.C.-based GrizForm Design Architects recalls. Rather than bemoan the fact, “we didn’t worry about it. In those areas where the plaster didn’t lift off easily, we simply decided to let the rough edges show.”

The practice of converting old factories, industrial plants, and commercial spaces into residences is a noble pursuit that benefits communities (by preserving or reviving an area’s history, for example) and the environment (by reducing construction waste). But reusing old buildings also gives savvy architects a chance to explore the full potential of old materials and surfaces. Improvisation is common in such situations, they say, because you never know what material finds an existing structure might yield.

For Eric S. Robinson, AIA, a principal of San Francisco-based Melander Architects, there’s “real value in historic buildings if they use quality construction and quality materials.” Those materials, he adds, “have a texture, presence, and history that you can’t get back once you destroy them.” Indeed, any architect worth his salt will carefully examine an old building for reuse possibilities before beginning the design process. Robinson likens the step to sizing up a site in new-construction projects.

Rick Ghillino, a principal of Adams Mohler Ghillino Architects in Seattle, agrees. “One of the first things we do is assess the bones and see what’s unique to the time the building was done,” he says. “We like to look at what [elements] can’t be duplicated today.”

second chances

Adaptive reuse isn’t only about preserving what can’t be duplicated, however. Sometimes, it’s about giving common materials new life in the aesthetics of a building. The usual suspects include brick, iron, and concrete, but there can be others.

For the Rainier Oven Building, an adaptive reuse of an industrial warehouse in Seattle, Ghillino saved



Fred House

The Rainier Oven Building is a good example of mixing old and new elements. Adams Mohler Ghillino Architects kept the exposed brick walls, light steel roof trusses, and metal stairwell, but added new windows, wood seismic bracing, and corrugated sheet metal.

and repurposed a variety of materials that enhanced the project’s aura, including light steel roof trusses, brick walls, a metal stairwell, and sloping monitor skylights. “The monitors were the key element that developed the design,” Ghillino explains. “They were linear and long and set up the divisions in the studio.” Ghillino also saved the painted signs on

the existing brick while rehabbing its surface. “The trick was cleaning the brick” without damaging it, he says, adding that a masonry consultant performed the delicate work by hand.

Dwight has had similar experiences when working with old brick—a common material in Washington’s traditional buildings, he

continued on page 54

says. Often, he'll find the material covered in paint or mortar or in various states of disrepair. "For painted brick, we sandblast, but you have to be careful not to take off mortar," he warns. Dwight also reuses old floorboards as much as possible and has done some polished concrete floors. He has even reused such idiosyncratic elements as fishing buoys and billboards. "If there's existing history, we use it," he says.

Like Ghillino and Dwight's firms, Winchester, Va.-based Reader & Swartz Architects has done its fair share of adaptive reuse and renovation projects. Many have involved "mining archaeology and putting things on display," says co-principal Charles Swartz, AIA, LEED AP. "Sometimes you have a significant artifact that's cool. Other times it's just a design aesthetic you want to push."

Case in point: Reader & Swartz's conversion of an 1890s commercial building into new office space for the firm. (For more on this project, see page 88 in the November/December 2007 issue.) In addition to retaining many



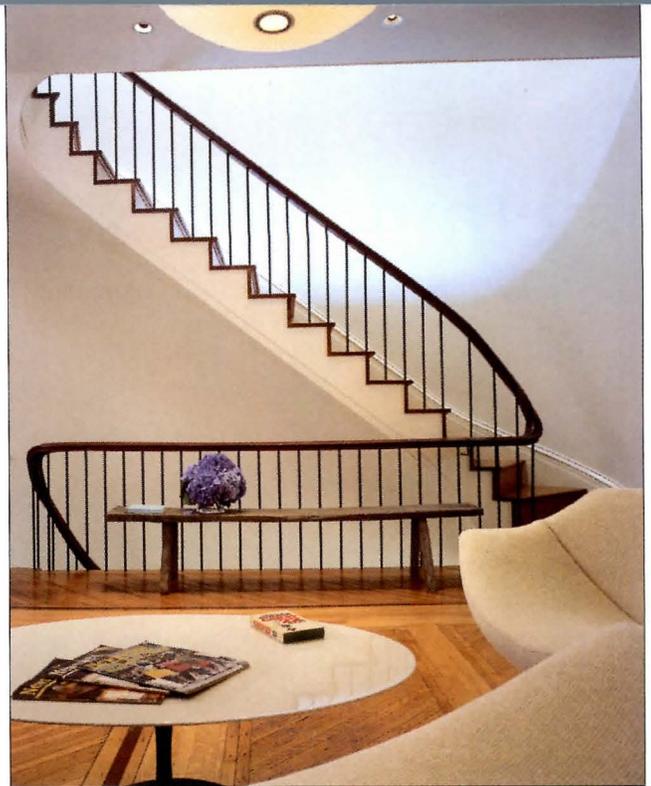
Courtesy Goodwin Heart Pine Co.

of the structure's old beams, brick walls, and metal, the architects researched county records and found old pictures of the building, which, in its former life, had housed a meat market, among other enterprises. "We used high-resolution scans and blew up the pictures," Swartz explains. "We then printed the [black-and-white] pictures on fabric mesh to build window scrims for semiprivacy and to block out sunlight." Those archival images now not only fit the aesthetics of the building, they're also on display for passersby to appreciate.

history lesson

Identifying the useful elements in an old building is one thing; deciding what to do with them is another matter entirely. "How you treat those elements is important," Robinson acknowledges. "Sometimes you need to figure out those things early, because they may need an extra amount of care."

He ought to know: his firm has gone this route on more than one occasion. While working on a 150-year-old townhouse in New York City's Greenwich Village, for example, Melander Architects team members discovered an old parquet floor that easily could have been ripped out in favor of a newer surface. Instead, they carefully protected and saved the floor, patching spots where walls had been moved and covering the entire surface with a sealer.



Paul Warchol Photography

Melander Architects kept this aging staircase handrail but replaced its damaged wood pickets with steel (above). Architects looking for products with history can turn to places such as Goodwin Heart Pine Co., whose salvage lumber includes the midnight heart cypress paneling and "River-Recovered" heart cypress flooring shown below.

In another house, they preserved an old staircase handrail but replaced its damaged wood pickets with rounded steel versions.

Of course, the materials uncovered in some adaptive reuse projects are of little architectural significance or simply aren't worth saving. When that happens, architects craving products with patina can find a treasure trove of riches at salvage yards such as Second Chance in Baltimore or Louisville, Ky.-based Architectural Salvage. Outlets such as Rejuvenation in Portland, Ore., The Brass Knob in Washington, D.C., and New York City-based Urban Archaeology also offer antique hardware, authentic and reproduction lighting, and fireplace elements, among other architectural artifacts.

But be forewarned: Although it may seem counterintuitive, saving old elements in a building *can* be a budget-buster, Ghillino says. Handling, treating, and cleaning aging surfaces is time-consuming and often requires special, sometimes costly, care. Elements that will be exposed cost even more to preserve, he says, because they'll be seen, and thus, must be installed perfectly. "Otherwise, you'd just hide them behind drywall," he explains.

Regardless, Ghillino believes saving a brick wall with graffiti or repairing ornate metalwork or an old fireplace surround is worth the effort—and the money. "In a beautiful old building, I think old materials are important," he says. "It's a shame to hide the old stuff, and it's a loss to tear it out." *ra*

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eligibility

Open to all residential building product manufacturers.

criteria

Web sites will be judged by a panel of building industry professionals in the following areas:

- Achievement of stated goals for target audience
- Strategy execution
- Ease of use
- Design and navigation
- Interactivity and use of multimedia
- Depth and quality of information for professionals
- Quantitative success

call for entries

entry fee

▶ **\$150**

entry fee deadline

▶ **June 6, 2008**

completed entry form deadline

▶ **June 20, 2008**

questions?

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Ben Rahn/A-Frame



Photos (above and top): Courtesy Levitt Goodman Architects

waste watchers

Baleboard plastic lumber is manufactured from 100 percent recycled industrial waste, making it less vulnerable to the elements than real wood, says James, who used it on this affordable project. "In affordable housing, the use of recycled plastic lumber keeps maintenance costs low while introducing the human scale of stick construction," he explains. Its maker, Renew Resources, says the product is waterproof, decay-resistant, and termite-proof. Renew Resources, 800.439.5028; www.renewresources.com.



tube tops

The Castor Recycled Tube Light has a tongue-in-cheek design but is all business. Made from burnt-out fluorescent tubes lit with incandescent bulbs, the fixture is "tough and smart," James says, and "produces a warm glow." Available in five sizes, it can hang horizontally or vertically or stand upright. Castor, 416.994.1232; www.castordesign.ca.

down light

James is a fan of Solatube's skylights because they capture daylight and disperse it into a home. "In tight urban conditions where there are few opportunities to create new windows, it's a great solution," he says. Shown here in a Levitt Goodman project, the lights are available in 10-inch, 14-inch, and 21-inch diameters. Solatube International, 888.765.2882; www.solatube.com.

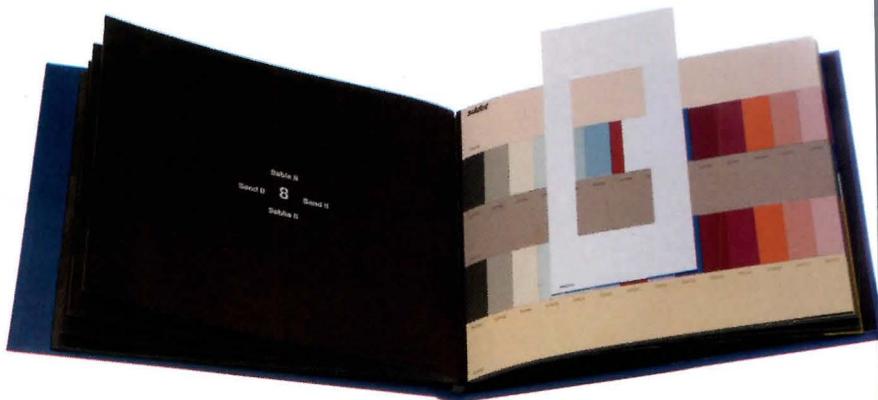
—nigel f. maynard

by nigel f. maynard and shelley d. hutchins

essential minerals

Cutting-edge design shows us what's possible, but some retro styles—anything by Eames, Aalto, or Wegner, for example—exude timeless charm that's hard to top. Swiss paint manufacturer kt.COLOR has recently recreated

two color palettes originally developed by Le Corbusier in the 1930s and 1950s. The company handcrafts the flat and satin interior paints from environmentally safe binders and the same mineral pigments used by Corbu. Distributed exclusively by architect Carol Swedlow and her New York City-based company, the LC 32 and LC 43 series comprise 63 colors. Aronson's, 212.243.4993, ext. 24; www.ktcolorusa.com.

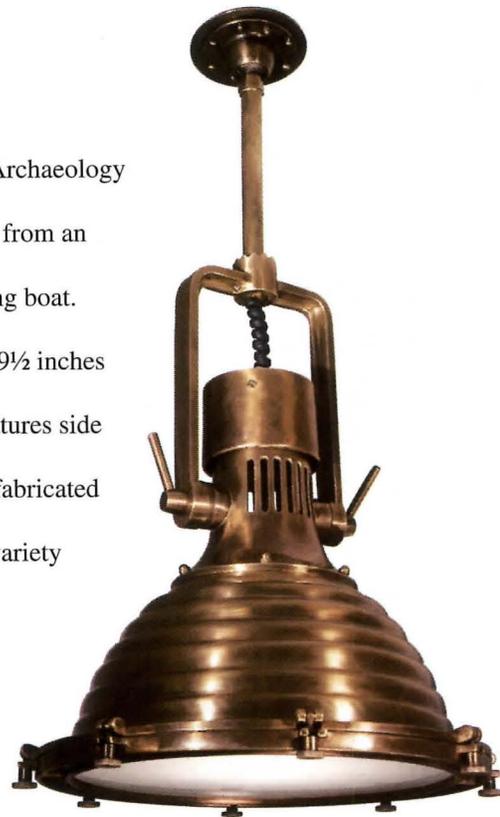


line item

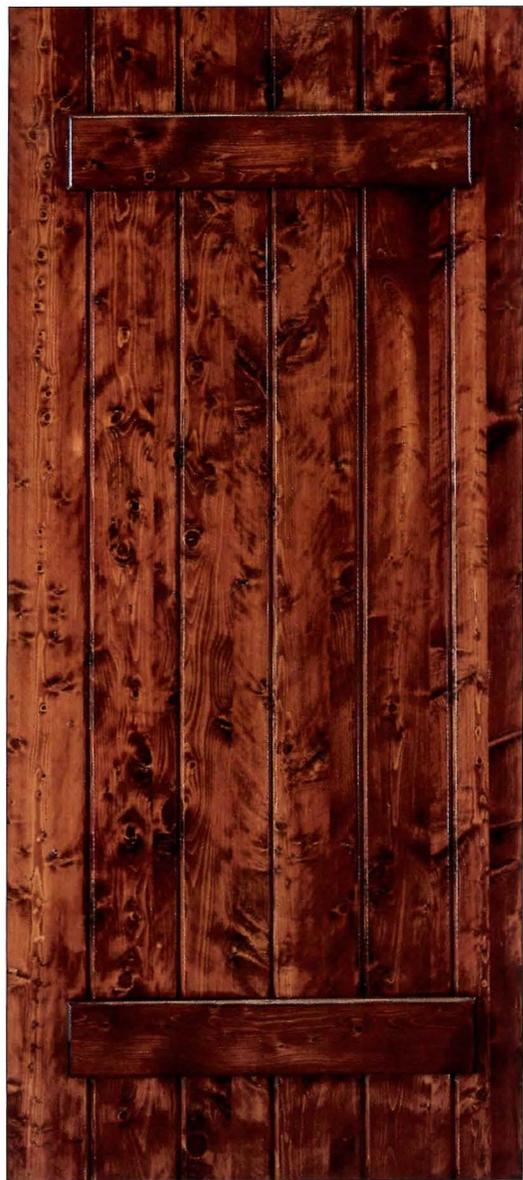
Ludwig Wittgenstein was a great philosopher who moonlighted as an architect and industrial designer. According to German hardware manufacturer TECNOLINE, Wittgenstein designed the windows, doors, and even the hardware for the Vienna, Austria, home he built for himself in the 1920s. Among his handiwork was this 5.46-inch-long handle, recreated by TECNOLINE and distributed by Los Angeles-based Masters of Modernism. The piece has a nearly 2-inch rose and comes in polished and brushed finishes. Masters of Modernism, 800.450.0405; www.mastersofmodernism.com.

light cargo

New York City-based Urban Archaeology reproduced the Cargo pendant from an original found on a 1910 fishing boat. The fixture, which measures 19½ inches wide and 26½ inches high, features side levers that allow it to tilt. It's fabricated from nickel-plated brass in a variety of finishes, including polished chrome and satin nickel. Urban Archaeology, 212.431.4646; www.urbanarchaeology.com.



FOR MORE PRODUCT INFORMATION, VISIT WWW.RESIDENTIALARCHITECT.COM OR EBUILD.COM, HANLEY WOOD'S INTERACTIVE PRODUCT CATALOG.

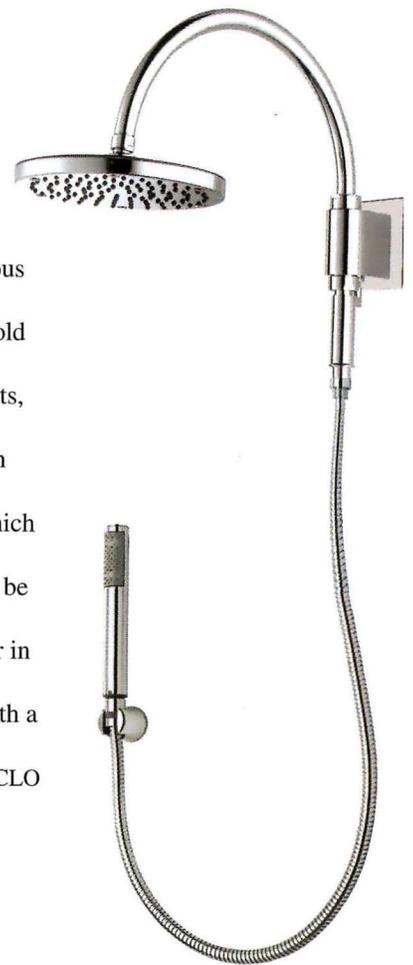


how the west was won

Considered to be an invasive species that consumes too much water, juniper trees are being bulldozed to control their growth in the western United States. JELD-WEN has reclaimed many of these throwaway trees to manufacture interior and exterior doors as part of its IWP Custom Wood Estate Collection. Light, medium, or dark stains—along with smooth, hand-hewn, distressed, wire-brushed, or hammered finishes—can be applied to enhance the wood's large, swirling grain patterns. JELD-WEN, 877.535.3462; www.jeld-wen.com.

easy fit

JACLO's Renovator is a simple, yet ingenious and cost-effective system for retrofitting an old shower. Designed for existing shower outlets, the Cranford, N.J.-based company's built-in diverter fitting anchors the system, from which a hand shower or showerhead (or both) can be attached. It comes in 18 standard finishes or in custom hues. The diverter is shown here with a Diva hand shower and Arc shower arm. JACLO Industries, 800.852.3906; www.jaclo.com.

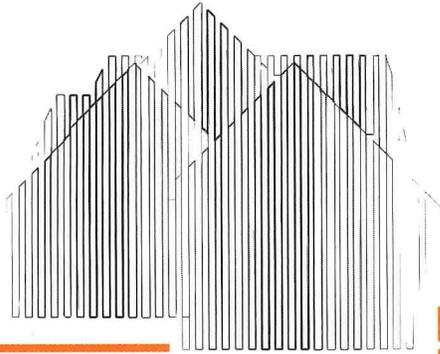


old friends

Sometimes old is better than new, as ably demonstrated by these salvaged redwood beams from TerraMai. Sourced from dismantled West Coast structures and from wine, olive, and water tanks, the old-growth redwood is prized for its

resistance to rot and decay. Beams measure up to 14 inches wide, 14 inches thick, and 20 feet long. They can be speced in "as is" weathered gray or resawn to reveal warm tones. TerraMai, 800.220.9062; www.terramai.com.





mind the gap

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Special Events

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The 2008 Leadership Awards
The Congress of Residential
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The dearly departed housing boom drove budgets and prices for residential design and construction through the roof. Meanwhile, the concepts of value, discipline, and affordability in both the near and long term were lost in the frenzied pursuit of luxury. These next few years are a sobriety test. Without the cloak of unrealistic expectations, what will prove most important and enduring for residential architects and the people they serve?

Attend the fifth annual Reinvention, the only national conference focusing exclusively on the design and practice issues important to residential architects. This year's symposium will address the wide spectrum of how to make high-quality design more affordable and more meaningful for all of us.

PROGRAM HIGHLIGHTS

Keynote Address

"Shelter and Delight"

Architecture is not a rarefied privilege of the monied classes. It's a necessity for all humans who depend upon buildings for protection from the elements and sustenance for the soul.

Panel Discussions

Changing the Paradigm

Uniquely designed, entirely site-built houses are the ne plus ultra of patron-underwritten residential architecture. But modular, panelized, prefabricated, multiply designed, adaptively reused, creatively zoned, and appropriately sized dwellings offer more efficient and more affordable high-design alternatives for the other 99 percent of the population.

Reinventing the Pattern Book

Once upon a time, rigorously designed, readily available architect plans provided neighborhoods and towns with felicitous, affordable houses. Can we look again to this time-honored method of design delivery to raise the bar on residential architecture?



hanley wood

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Tuesday, December 9

Keynote Address

"Shelter and Delight"

Panel Discussion

Changing the Paradigm

Panel Discussion

Reinventing the Pattern Book

Leadership Awards Luncheon

- Hall of Fame Award
- Firm of the Year Award
- Rising Star Award

Roundtable Discussions

- Developing Your Own Building
- Is Modular Really More Affordable?
- Sustainable by Design

Panel Discussion

Shelter Lab

Reception

Wednesday, December 10

Panel Discussion

Oh, Say Can You LLC?

Special Summit

Can Green and Affordable Coexist?

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Shelter Lab

No one is better at getting more design for less money into their houses than architects designing for themselves. How can we capture those lessons learned and apply them to the mainstream?

Oh, Say Can You LLC?

Are the models architects choose for organizing their firms and charging their clients standing in the way of access to and delivery of good residential design? We'll examine entrepreneurial, new-world practices that buck the old-world business of architecture.

Special Summit

Can Green and Affordable Coexist?

Conventional wisdom holds that sustainable design is unavoidably more expensive than standard building practices. We'll parse the arguments, scrutinize the evidence, and arm participants with real information to green their practices and enlighten and empower their clients.

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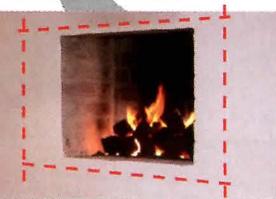
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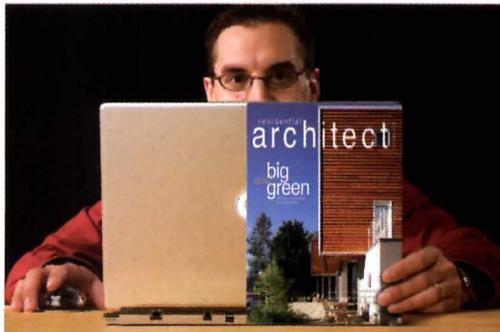
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W

When three architectural firms needed new offices for their respective practices, they joined forces to find an old building in an urban setting. A defunct Midas muffler shop with north-facing doors on a busy road in Tucson, Ariz., offered great potential and an attractive “opportunity to revitalize a decaying street,” says Paul Weiner, principal of DesignBuild Collaborative (DBC), one of the firms involved in the project.

DBC collaborated with David E. Shambach, Architects and Lanning Architecture on the structure’s overall design. They



Photos: Daniel Snyder

opted to keep the aluminum façade but used a four-part paint system to create the look of Cor-Ten steel. They then allocated the four bays based on need, stipulating that each firm would build out its own suite.

DBC took the two center bays but metered each space separately for possible future leasing. A slim budget forced the design team to get creative, so materials were reused wherever possible. They repaired the floors with self-leveling concrete, laid carpet to quiet the space, and speced fir plywood

and fir veneer-covered MDF millwork. Judicious choices also included steel, concrete block, cork floors (in the kitchen and bath), and paper-based countertops.

DBC designed and built its space for a satisfying \$38 per square foot. But all three firms received another type of gratification: the project, Weiner says, “did a lot for the area and revived the street.”—*nigel f. maynard*





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