

ARCHITECTURAL R E C O R D

05.2001

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The best of the built, many exhibit community or social concerns.

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From transparent walls to gilded, colorful renovations, this year's winners had little in common other than drama, drama, drama.

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The AIA/ARCHITECTURAL RECORD Continuing-Education Opportunities are:

- "Here's the Dirt on Green Housekeeping" [page 259]
- "How to Properly Specify Maple Athletic Floors" sponsored by Maple Flooring Manufacturers Association [page 286]
- "Positive Pressure Ripples Through the Door Industry" sponsored by Window & Door Manufacturers Association [page 292].

*You can find the starred articles on the Web at www.architecturalrecord.com, including expanded coverage of featured projects, as well as AIA Honor Award coverage and audio clips from Robert Ivy's interview with Gold Medalist Michael Graves. Go to www.architecturalrecord.com/archrecord2 to learn about emerging architects and how to submit your own projects.





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Record News

OFF THE RECORD

Patricia E. Gallagher, most recently deputy commissioner of strategic planning in Chicago, has been named executive director of the National Capital Planning Commission in Washington, D.C.

Johnson Fain Partners of Los Angeles has won a competition to create a master plan for Beijing's new central business district. The plan includes 100 million square feet of mixed-use development in more than 500 buildings.

The AIA has selected 72 members to become fellows and seven architects to be honorary fellows of the institute. The honorary fellows are: Juan Navarro Baldeweg, Hon. FAIA, Madrid; Sumet Jumsai, Hon. FAIA, Bangkok; Sergio Lenci, Hon. FAIA, Rome; Brian MacKay-Lyons, Hon. FAIA, Halifax; Wladimir Mitrofanoff, Hon. FAIA, Paris; J. Francisco Serrano, Hon. FAIA, Mexico City; Jean-Paul Viguer, Hon. FAIA, Paris.

The New York Four Seasons Hotel has announced that it will renovate its top floors in a new design by the building's original architect, I.M. Pei, FAIA, 84. Pei's original design for the 52-story hotel was never completely realized when the building was erected in the early 1990s. Architect Peter Marino, AIA, will design the interiors.

John Higgins will step down this year after 13 years as executive director of the Foundation for Architecture in Philadelphia.

NBBJ of Seattle has been selected for the renovation and expansion of the Museum of Flight in that city.

Founded in 1957, van Summern Group (vSG) has been merged into Perkins Eastman Architects. The vSG staff have joined Perkins Eastman Architects' existing office in Stamford, Conn.

Atlanta firm Culpepper, McAuliffe and Meaders is designing a 27-story tower for the Omni Hotel at CNN Center.

Walker Art Center shows addition plans

Calling the collaboration with the Walker Art Center in Minneapolis "wonderfully creative, invigorating, and challenging," Swiss architects Jacques Herzog and Christine Binswanger of Herzog & de Meuron (see story, page 33, and interview with Herzog, page 34) unveiled their conceptual design for a \$90 million, 100,000-square-foot expansion and renovation.

Herzog & de Meuron will create a five-story performance gallery atop a glass-enclosed base that connects new galleries to the existing building. A series of public spaces will link new entrances on Hennepin Avenue with the rest of the museum. New galleries will be in what Herzog calls a "pole of activity" that is "like an answer to Barnes," a reference to the Walker's 1974 brick building designed by Edward Larrabee Barnes. "[We wanted] something of equal weight and dimension so that the whole [would become] stronger," Herzog says.

The inspiration was a simple piece of paper, folded randomly and





The five-story Walker addition is similar in scale to the existing building.

then cut, like an asymmetrical paper snowflake, then fashioned into a cube. The cube will be clad in a material, although not specified, that will change appearance in daylight.

"We're rethinking what it means to be a museum," says Kathy Halbreich, director of the Walker Art Center. "The process is thrilling. The architects are not competitive with the art but deeply appreciative of it."

The architects were asked to design a building that goes beyond mere curatorial exhibition to create a museum where the process of making art and interacting with the artist becomes as much a part of the experience as the viewing of a

finished piece. Inside, three levels of balconies surrounding a central performance area function as intimate spaces for exhibition and observation of art in process. On the outside, more than 14,000 square feet of terraces will overlook the Minneapolis Sculpture Garden. which will be increased from 11 to 15 acres by expanding onto land currently occupied by the Guthrie Theater (see story, below) and an insurance company.

Herzog & de Meuron is working with Minneapolis-based Hammel, Green, and Abrahamson on the project. Construction, scheduled to begin in 2003, will be complete in 2005. Bob Dillon

Jean Nouvel selected for Guthrie Theater in Minneapolis

French architect Jean Nouvel has been selected as the architect for a new \$100 million Guthrie Theater in Minneapolis. This will be Nouvel's most significant project in the United States. The theater's selection committee completed a nine-month search after initially considering 35 candidates. Nouvel has selected the Minneapolis firm Architectural Alliance to be the local firm for the project.





Joe Dowling (left) and Jean Nouvel

The Nouvel-designed theater will be on a new downtown site along the Mississippi River. The existing Guthrie Theater adjacent to the Walker Art Center (see story, above), designed by Minneapolis architect Ralph Rapson in the early 1960s, is likely to be demolished.

"Hard as it is to lose [the existing Guthrie building], both organizations [the Walker and the Guthrie] will be stronger in the end. So, too, will the cultural life of the city," says Joe Dowling, artistic director of the **Guthrie Theater.**

The new Guthrie will be a three-stage, 210,000-square-foot complex that will include a 1,100-seat main theater, complete with the Guthrie's trademark thrust stage; a 700-seat proscenium stage theater; and a 250-seat flexible theater for new and experimental works. It will also incorporate room for storage, props, and administrative functions that are currently housed in five different Twin Cities locations.

The Guthrie is envisioned as a place of learning for both audiences and actors. "Acting is inspiration," Dowling says, "and I believe that [Nouvel] creates spaces that inspire." BD and JEC



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Record News

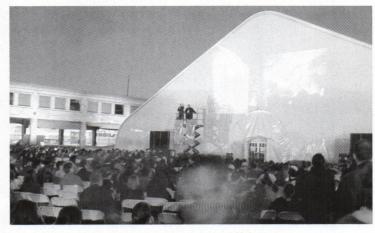
SCI-Arc camps in downtown L.A. as it prepares for new home in renovated rail depot

The school year in a tent is coming to a close for the Southern California Institute of Architecture (SCI-Arc), Since fall 2000, SCI-Arc has operated in a massive tensile structure on its new 10-acre downtown Los Angeles campus. The transition has been smooth, though, from the school's former home on Los Angeles' west side to its new home in a renovated rail depot, which will be complete this fall, next to the tent.

While the tent has become a provocative landmark in downtown Los Angeles, it does not meet all of the school's needs. A nearby warehouse is used for exhibit space and an impressive woodshop, and a downtown performance theater is used for special lectures.

A downtown location seems far more consistent with SCI-Arc's philosophy and reputation as an innovative design school than did its former location on Los Angeles' conservative west side. The new SCI-Arc, which will occupy a renovated 1,250-foot-long Santa Fe Railroad freight depot built in 1907. will be the longest architecture school in the world (about the length of a Manhattan block).

The renovation team includes



An audience watches images projected on the SCI-Arc tent.

school director Neil Denari, Guthrie + Buresh, Studio Works, the Central Office of Architecture, Ray Kappe, FAIA, Gary Page, and students and faculty. When complete, the SCI-Arc site will include the university, student lofts, and retail, office, and additional residential units.

Denari also considers the relocation and renovation to be an invaluable living laboratory for the 385 students and faculty alike and noted that enrollment applications are at an all-time high.

The built-out studio spaces and normal activity taking place inside the tensile structure belie the makeshift character of its exterior. In true SCI-Arc fashion, faculty and students have funneled the tension of impermanence into creative energy.

One alumnus noted, "Even with less than perfect conditions, SCI-Arc students continue to produce the most innovative work on the West Coast." Danette Riddle



When renovation is complete, this 1907 Santa Fe Railroad freight depot will be the new SCI-Arc home in downtown L.A.

Diller + Scofidio chosen for its first major U.S. project: Boston's ICA

The New York-based firm Diller + Scofidio has won a competition for its first major museum project in the United States, the new Institute of Contemporary Art (ICA) in Boston. The Trustees of the ICA, in a unanimous decision, chose the husband-and-wife team of Elizabeth Diller and Ricardo Scofidio for the 60,000-square-foot, \$35 million museum. The ICA, which would be the first museum to be built in Boston in nearly a century, is scheduled to open in 2004.

Diller + Scofidio, the first architects to receive the MacArthur Foundation's "genius" grant, may be best known in New York for their interior renovation of the Brasserie restaurant in Mies van der Rohe's

Seagram Building. "Elizabeth Diller and Ricardo Scofidio have demonstrated that they are capable, ambitious, innovative, and sensitive to our program, our site, and the needs of the public," said Jill Medvedow, James Sachs Plaut Director of the ICA.

"One of the biggest challenges will be figuring out how to handle the crowds that come to museums today without losing the intimate experience that people want from a museum," Diller told RECORD. "[Another challenge will be] how to make a contemporary art museum that still feels contemporary 15 years from now."

Invited firms in the competition were Office dA of Boston, Studio

Granda of Reykjavik, Iceland, and Peter Zumthor of Haldenstein. Switzerland. The ICA's architecture selection committee visited completed projects by all four finalists.

The ICA will sit on the waterfront cove of Boston's Fan Pier development, which could be the largest waterfront project in Boston's history. Proposed by Chicago's Nicholas J. Pritzker, it's planned as a \$1 billion development on the South Boston waterfront, adjacent to the U.S. Courthouse by Pei Cobb Freed and Partners. The Pritzker family, owners of the Hyatt hotel chain, assembled the land over a number of years. Besides the ICA, the Pritzkers are planning just under 3 million square feet of development



Elizabeth Diller and Ricardo Scofidio.

in eight buildings, including offices, retail, approximately 650 condominiums, and two Hyatt hotels. Michael Van Valkenburgh Associates will design the parks and streetscapes. JEC and Clifford Pearson

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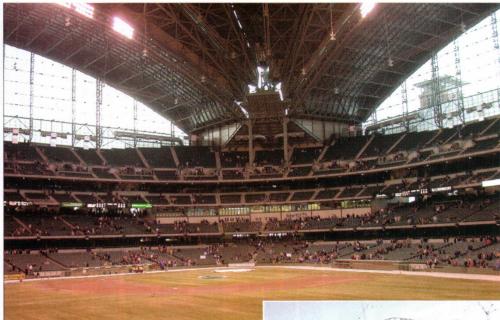
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Record News



New ballparks open in Milwaukee and Pittsburgh

The wave of new major-league baseball parks of the last decade continues with two new ballparks opening for the Milwaukee Brewers and Pittsburgh Pirates this season. Both ballparks, intended to bolster attendance and keep struggling small-market teams from moving, are built adjacent to the stadiums they replace. Pittsburgh's PNC Park offers sweeping views of the Allegheny River and downtown, and Milwaukee's Miller Park has the only fan-shaped convertible roof in North America.

The Miller Park roof covers a 43,000-seat ballpark designed by HKS of Dallas with NBBJ of Los Angeles and Eppstein Uhen Architects of Milwaukee. The seven-panel roof, which weighs 12,800 tons and covers 10.5 acres, opens and closes in 10 minutes on a pivot point behind home plate. Mitsubishi designed and built the roof panels, and Arup was the structural engineer.

The roof added considerable cost to the \$400 million ballpark, but it was essential for owner Bud Selig to keep the Brewers in Milwaukee.

PNC Park, designed by HOK Sport of Kansas City and L.D. Astorino & Associates of Pittsburgh, cost \$262 million. With 38,000 seats, PNC Park is the smallest of the new ballparks; only Boston's Fenway Park is smaller. The Pittsburgh ballpark, a short walk



Inside Miller Park in Milwaukee (top). The last section of Milwaukee County Stadium was taken down in February (above), with Miller Park in the background. Inside Pittsburgh's PNC Park (below).

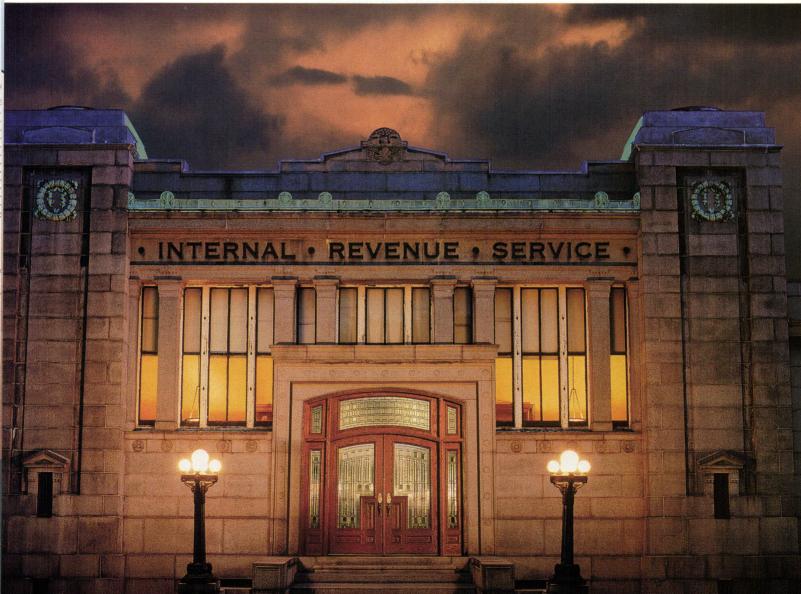
across the Roberto Clemente Bridge from downtown, is more urban in character than Miller Park.

Milwaukee-based Miller Brewing paid for the naming rights of Miller Park, and Pittsburgh-based PNC Financial Services Group did the same for PNC Park. Miller Park replaces Milwaukee County Stadium, which opened in 1953. PNC Park replaces 30-year-old Three Rivers Stadium, which was home to both the Pirates and Steelers. A new football stadium for the Steelers will open next to PNC Park this fall. *JEC*



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Colfax Avenue: Celebrating the Main Line through Central Denver

By Charles Linn, AIA

Arvada

Correspondent's File

Observing the buildings along Colfax Avenue, Denver's 26-milelong commercial strip, is a bit like looking at a gigantic core sample. One can almost view the complete history of this Rocky Mountain city along its length and see how it has prospered, declined, and, in some cases, has been renewed. The street began in the 1850s as a muddy track running through the middle of town. When streetcars were added, it became a commuter artery and gradually extended west through the city of Lakewood, ending in the foothills of the Rockies, and east through Aurora, where it terminates at the prairie's edge.

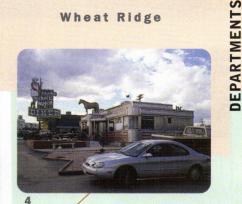
Gateway to the Rockies

Looking east across Lakewood toward Denver (1), one can see how much ground Colfax covers: It is about 8 miles from here to the high-rises downtown, another 18 miles before it merges with Interstate 70. Originally, Lakewood comprised farms and orchards. which have all but vanished. But still in evidence are buildings left from the days when Colfax was part of U.S. 40, "the National Road," established during the 1920s. U.S. 40 was one of the first transcontinental highways, and it made Denver "the Gateway to the Rockies." As automobile travel became ubiquitous, dozens of motels, restaurants, and gas stations sprang up along Colfax. A few remnants in west Lakewood are: Lane's Tavern (2), a roadhouse built in the 1920s (in the 1950s it

featured draft beer, two for 25 cents); an abandoned tourist cabin (3); and Davies' Chuck Wagon Diner, which opened in 1957 (4).

Although these places have nostalgic appeal, Colfax is not a museum, and Lakewood is trying to bring new residential and commercial development here to keep it healthy. An abandoned K-Mart (5) is slated for this redevelopment mix, as are several empty car lots. The Lakewood Theatre (6), reclaimed as a Harley-Davidson dealership, is one example of a successful adaptive reuse.

Wheat Ridge



Lakewood

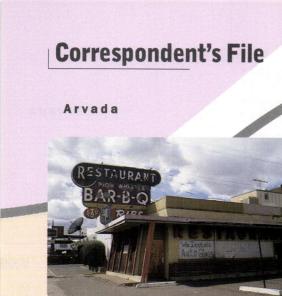
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Colfax Avenue











Wheat Ridge

10

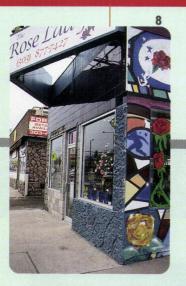
Lakewood







DENVER









REVIVING DENVER'S LOWER DOWNTOWN

The revitalization of Denver's Lodo district could serve as a blueprint for many cities. Its main lesson is that such a revival demands work on many levels. While sites such as Larimer Square had been doing well for over 20 years, they became even more successful because they are no longer just destinations in themselves: With the construction of facilities for Denver's professional baseball, basketball, hockey teams, and with the expansion of programs at the Denver Center for the Performing Arts, their use has been leveraged. Paralleling Lodo is the South Platte River redevelopment, which transformed a river that had been subjected to industrial abuse for decades into a chain of beautiful parks. New housing between the river and Lodo is now under construction (14). Many of the oldest commercial buildings in lower downtown, once a part of Denver's skid row, (11) are being renovated into shops, galleries, and restaurants.

Artifacts and alterations

Some things, such as this CARS sign in original 1950s Googie lettering (7), suit their purposes so well that they remain untouched. But that doesn't always happen. Another used-car lot's office (13) was formerly a drive-in restaurant shaped like a Conestoga wagon.

Moreover, building decorations are often altered to reflect the preferences of the new owners. The facade of this small shop (8) was originally covered by formal blackglass tile. It has been partially recovered with bright blue faux stone, and a Hispanic-themed mural covers its cinder-block side walls.

As Colfax was widened over the decades, first from two to three, then five, and finally seven lanes, driveways and parking lots that originally fronted most of the buildings gradually narrowed until the distance between the curbs and building fronts was only a few feet. The result can be seen on many storefronts, particularly those that were once gas stations. In some cases, display windows, entrances, and overhead door openings were simply closed up (9), either because the new building occupants did not trade with walk-in traffic or because the noise of automobiles outside made it difficult to do business inside.

Colfax also boasted supper clubs and businesses, such as the Pig'n'Whistle (10), a restaurant, gas station, and motel complex owned by former boxer Eddie Bohn, who entertained guests with impromptu sparring sessions. Bohn is gone, and the restaurant and gas station have fallen into disrepair, although the Pig'n'Whistle motel is still pristine. Other businesses live on long after the cultures that established them have disappeared. Still in operation, for instance, are the Lake Steam Baths, a bathhouse that served a mostly Jewish neighborhood which vanished long ago.

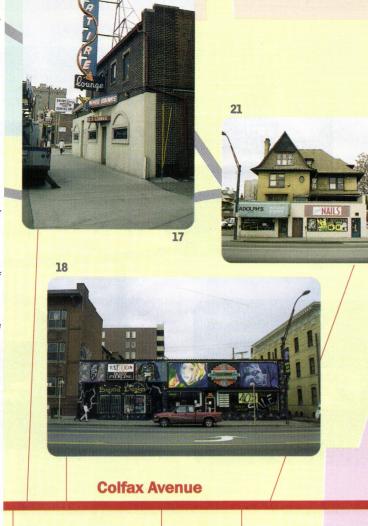
Capitol Hill and east

The central Denver neighborhoods east of the capitol were prosperous for decades—until people began moving to the suburbs in the 1960s. Large houses along Colfax can still be glimpsed behind storefronts that were added later (21). As older property began to deteriorate, low-income housing in downtown Denver was leveled for urban renewal and many people were displaced into the older neighborhoods along Colfax. which had also become home to Denver's counterculture movement. Today, the area is in transition. Less fortunate people still walk the streets, watched over by the Guardian Angels, who occupy a fortress-like Gothic Revival building (19), and served by organizations such as this relief agency that occupies a former office building (16). Still hanging on are a tattoo parlor (18) and the Satire Lounge (17), an infamous vestige of the 1970s, where the likes of Judy Collins and Bob Dylan once performed.

But real-estate values have begun to rebound as new residents and former suburbanites rediscover some of the wonderful residential property nearby. The comeback potential of mid-Colfax commercial property is bolstered both by the reverse-exodus of the middle class and the large quantity of good building stock (20) along the avenue that can be reused.

East to Aurora

When U.S. Interstate 70 opened in 1966, hundreds of cars per day were routed away from Colfax, and the strip went into a slow decline that hit Aurora especially hard. Many landmark motels vanished





20

Aurora

(40)





05.01 Architectural Record

Correspondent's File

www.architecturalrecord.com/archrecord2

his Patina restaurant into a much more sophisticated establishment. Splichal did not want to close his restaurant for more than eight weeks, in which time the construction crew would have to build an almost entirely new building, including a new kitchen, within the skeleton of the old structure. Belzberg and his team spent a year designing and building prefabricated structures that could then be installed on the tight schedule. "Knowing how the contractor would stage all of the elements really helped us out," Belzberg says.

Like many young architects, he would like to tackle more institutional projects, but he is certainly happy with the work that has come his way so far. His office has just moved from Beverly Hills to a warehouse in Santa Monica, where he works with four junior designers and a dog, Nick. Is the dog licensed? "I can't comment on that," Belzberg says, "for insurance purposes." Kevin Lerner

Go to architecturalrecord.com/archrecord2 for more on Hagy Belzberg, including more projects and information on how to submit your own project.



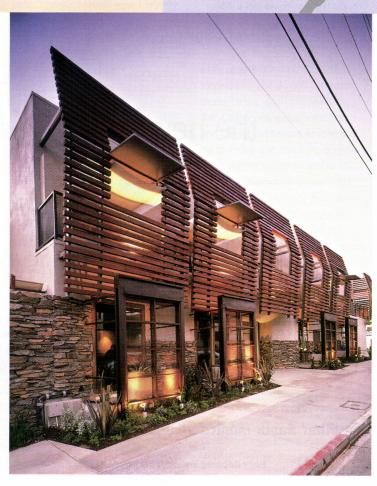
Nick + Stef's Restaurant, New York City, 2000

Belzberg Architects. A steak house in Madison Square Garden takes traditional masculine design elements and recasts them with a minimum of ornamentation.



LA County Museum of Art Plaza Cafe, Los Angeles, 1999

Belzberg Architects. Working on a tight budget, Belzberg transformed the look of the museum's cafe by stretching Spandex "sails" across the ceiling of the space.



Patina Restaurant, Los Angeles, 2000

Belzberg Architects. Since only eight weeks were allocated for construction, Belzberg designed prefab components that could be built and then installed on-site.

WORK

How I made it: Michael Graves

When people would ask me, in front of my parents, what I wanted to do, I usually said, "I want to be a painter; I want to be an artist." My mother, being a conservative Midwesterner. took me aside—I was probably five or six years old-and said, "Michael, if you're not as good as Picasso, you'll surely starve, so maybe you should use your ability in a profession." And I said, "What would that be?" And she said, "Engineering or architecture." After she explained what an engineer

does, I said, "Well then, I'm going to be an architect." "But I haven't told you what an architect does," she said. "It doesn't matter," I said, "I'm not going to be an engineer." Anyway, she did explain it, and I thought it was just the most marvelous thing I could imagine.

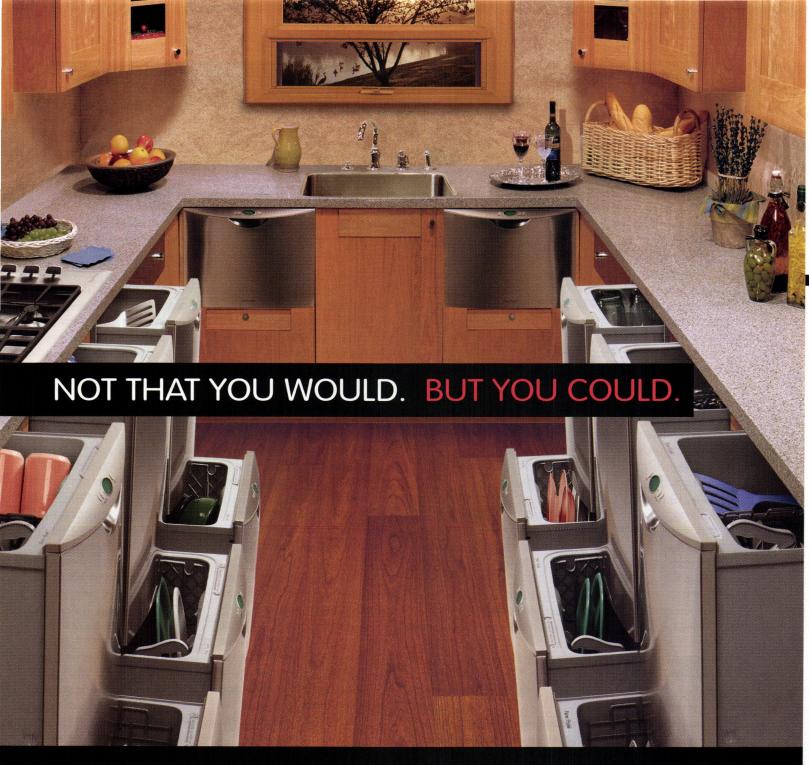
Also, I think a little pat on the back was important to me. My high school entered a competition and most of it was about mechanical drawing, but one part of it was a free category. I had drawn the



Graves at his desk in 1962.

side of the Parthenon, and I won first place and I got a drawing set—a mechanical drawing set—and I thought to myself, Well, if I'm the best in the state

doing this, then maybe this is all right. And it gave me a little confidence. I can't tell you how important that was as a kid, to be patted on the back.



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Critique

certainly has a profound effect on the message's form.

As many critics have pointed out, digital space—created by a computer from a list of inputs—is not the same as traditional perspectival space; or rather, the programs that create digital space do not rely in any fundamental way on perspectival vision. Unlike traditional perspective-based design, spatial animation programs recognize no human subject at the origin, no station points, no privileged vertical or horizontal dimensions.

Certainly, both computer games and virtual-reality environments simulate perspectival spaces in order to create a sense of normalcy; certainly too, the designer can claim that the results of digital design will take their place in a perspectival world, no matter how they have been generated. But, ideally, digital animation will be auto-generated from a full range of

functional and sensate parameters introduced and controlled by avatars setting the design process in motion as a continuous transformation of an external envelope. The spaces produced may be habitable, but more or less in the same way as we might find a natural cave habitable though it was not constructed for us. Greg Lynn has compared this phenomenon to the "inside" of a structure such as the Statue of Liberty: its shell certainly encloses an inside that can be inhabited, but it was designed entirely



New York Guggenheim scheme by Gehry.

with respect to its outside contours.

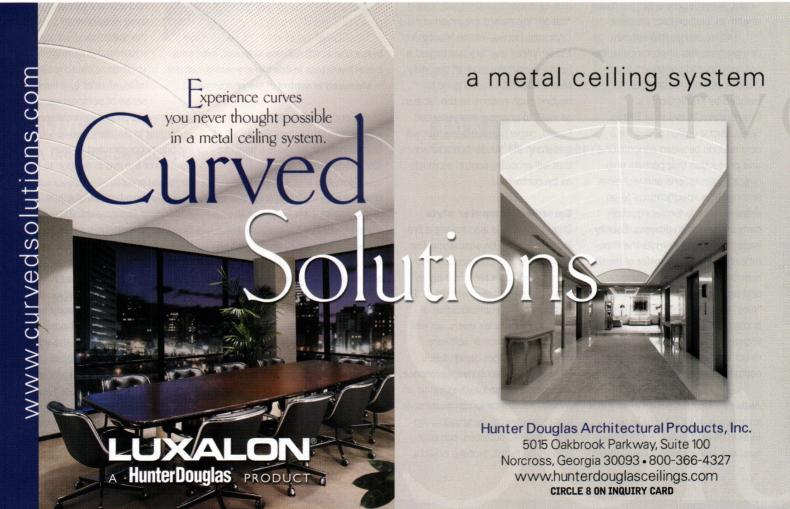
The larger implications of computerization depend on the way in which we develop our understanding of a digitalization process that is not just a way of treating information, but an entire world structure, one within which we have become increasingly absorbed. Digital space, installed rather than designed, is already all around us; it envelopes us in the virtual forms of media. It fights our wars, controls our consumer habits, and ensures the security of our houses.

Architectural practice will continue to explore the digital territory, pushing software and hardware to

the limits. But it is equally important for practice to take a critical stance in order to encourage us to think about the consequences of giving up on perspective. Questions of screens, of the nonformal, the immaterial, the transformation of all information into digital codes all demand serious reflection in practice,

along the lines of recent work by architects such as Diller+Scofidio. Their work shows us the implications and complications of our digital present, while reminding us that we might still wish to have a certain control over our own space in the future.

The last scene of Kubrick's 2001 is set in a surrealistic virtual 18th-century decor staged on the surface of a luminous grid. Within it a human subject ages to infinity, to return to its original embryonic state. This frightening vision is the apparently calm sequel to a rapid sequence of space-warping time travel as riveting as any computer-generated game sequence. These two environments, imagined in the 1960s, are today the commonplaces of digital simulationthe wire-frame space, uncannily imitating but not reproducing "normal" space, and the animated morphing of space through the rapid collapse of time. We are no nearer today than we were more than 30 years ago to confronting the disturbing presence of HAL in our lives.



Maya Lin (finally) speaks! Rem and friends mix it up (again). Rossi draws (alas, no more).

Books

Boundaries, by Maya Lin. New York: Simon & Schuster, 2000, 208 pages, \$40.

Time is not always kind to buildings or designers. Roofs leak, curtain walls fail, reputations ebb. Maya Lin, however, has made time her friend. Since her Vietnam Veterans Memorial was completed in 1982. she has made the passage of time a silent yet powerful element in her designs. She knows time can heal as well as destroy.

Boundaries is the first book on Lin's career, and it captures the range of her work-from memorials and institutional projects to houses and sculptures. Written in the first person, the book reveals many of the whys and hows of her designs. It's fascinating to learn, for example, that she begins each work by imagining it verbally, by writing "what the project is and what it is trying to do." Although surprising because her work is often so visually memorable, such a method makes sense for an artist who has used text as a critically important element in many of her designs.

This book, too, is a deft merging of words and images, designed by Lin herself with Michael Rock and Alice Chung of the graphics firm 2x4. Running through some of the pages is a line of text that imparts a sense of movement-graceful, not hurried. In one of these lines crossing several pages, Lin writes, "I feel I exist on the boundaries . . . somewhere between science and art . . . art and architecture . . . public and private . . . east and west . . ." The

MUTATIONS REM KOOLHAAS HARVARD PROJECT ON THE CITY FANO BOERI MULTIPLICITY HANS ULRICH OBRIST

ribbon of small but clear text, of course, is a boundary itself, and Lin's work straddles it beautifully.

At the end of the book, Lin describes the "last memorial" she would like to create—one that would focus attention on the extinction of species. "A series of markers that would monitor the health of the planet," the design would incorporate seven sites (including Yellowstone, the first national park; Antarctica, the first international park; Tibet, the gateway to the sky; and an Internet link) and would be an ongoing, ever-changing endeavor. Here, the notions of a project withBy Clifford A. Pearson

out end and of time running out converge, explaining a great deal about Maya Lin and her work.

Mutations, by Rem Koolhaas/Harvard Project on the City, Stefano Boeri/Multiplicity, Sanford Kwinter, Nadia Tazi, Hans Ulrich Obrist. Bordeaux: Actar, 2001, 720 pages, \$45.

This mongrel collection of essays, research projects, sloganeering, and punchy graphics is much like its subject, the modern city: messy, engaging, occasionally surprising, and sometimes annoying. There are places here you don't want to go, places where the garbage hasn't been picked up. But there are also some fascinating sections rich in information, visual stimulation, and even enlightenment.

The worst part of the book is a series of unillustrated essays with the dry tone of academic lectures. The best parts tend to be by the Harvard Project on the City, the Rem Koolhaas-led studio that each year "investigates a specific region or a general condition undergoing virulent change." Droll humor and bold graphics give these sections a sense of immediacy, and solid research into urban culture keeps readers hooked. For example, the section entitled "How to Build a City: Roman Operating System" is both a witty send-up of computer manuals and a remarkably concise description of imperial Rome's contribution to city planning. Whether the studio takes aim at the rapid urbanization of China's Pearl River Delta, or the

seemingly chaotic development of Lagos, Nigeria, or the nature of shopping, it boldly covers territory that architects often ignore.

Other intriguing contributions to the book include photo essays on Europe, America, China, and urban Africa by Francesco Jodice, Jordi Bernadó, Alex MacLean, and Edgar Cleiine, and a section on the American city by Sanford Kwinter and Daniela Fabricius that examines places such as Houston and Las Vegas through the filters of television, poverty, and sprawl.

Mutations is a witches' brew of spicy ingredients and predictable filler. It's less than perfect. But it brings a hip, street-smart approach to city planning, which has recently been dominated by either New Urbanists or plodding academics.

Aldo Rossi: The Sketchbooks 1990-97, by Paolo Portoghesi. New York: Thames & Hudson, 2000, 192 pages, \$28.

Aldo Rossi's drawings did not always elicit approval. As Paolo Portoghesi recalls in his wonderful and knowing introduction to this book, one of Rossi's professors at university tried to dissuade the young man from becoming an architect by saying his drawings "looked like those of a bricklayer or provincial builder." It is true that Rossi never had an effortless or graceful hand with drawings. There was always something a tad awkward, a little stiff in his drawings. And that is part of their charm, like Humphrey Bogart's slightly drooping mouth.

Books

Atlas of Change: Rearranging the Netherlands, by Theo Baart, Tracy Metz, and Tjerk Ruimschotel. Rotterdam: NAi Publishers and Ideas on Paper, 2000, 256 pages, \$17 (paper)

The Netherlands has a unique relationship to the land. This is a country, after all, where much of the habitable and arable land has been reclaimed from the sea. Always a crossroads, Holland blends a global outlook with a close attachment to its particular piece of turf. Atlas of Change offers a fascinating look at the Dutch today and their complex and sometimes contradictory relationship with a shifting landscape.

Divided into four sections, the book employs a variety of approaches to understanding urban development and modern life in the Netherlands. RECORD's Amsterdam correspondent, Tracy



Metz, contributes interviews with a cross-section of Dutch residents, such as a business consultant, a barge master, an information-technology specialist, a refugee, and a historical geographer.

Photographer Theo Baart weighs in with a photo essay that works as a glossary of the changing face of Holland, including images of "boomtown," "business park," "carpool parkeerplaats," and "windmolen [windmill] park." A series of

essays by urban planner Tjerk
Ruimschotel examines developments in spatial planning in postwar

Holland and analyzes the government's attempts to manage and direct this change. The book's final piece—created by an urban-design laboratory called Must—is a set of maps that help the reader visualize Holland's changing landscape.

Uncommon Ground; Architecture, Technology, and Topography, by David Leatherbarrow. Cambridge: MIT Press, 2000, 297 pages, \$38.

The times are ripe for arguments favoring restraint in architecture. With the advent of "blob-itecture" and a new "Baroque," on top of the Deconstructivist styles of the 1990s, a new wave of formal excess seems to be cresting. One response to indulgent form-making is *Uncommon Ground*. David

Leatherbarrow, a professor of architecture at the University of Pennsylvania, focuses on "traditional" modern architecture that developed between 1930 and 1960 and the work of three midcentury architects—Antonin Raymond, Aris Konstantinidis, and Richard Neutra. In so doing, he examines notions of architectural topography, which he argues is an interplay of buildings, landscapes, cities, and people.

Great architecture, says Leatherbarrow, is "the work of projecting the modification of sites and technical systems with respect to one another." But great architecture is also centered on the revelation of a specific place. Form must remain a secondary consideration, lest it contribute to the excess of scenography so prevalent in our time. Leatherbarrow's book reminds us that form must follow idea, and ideas are most cogent, in architecture, when tied to the poetry of a specific topography. Reviewed by David Kesler

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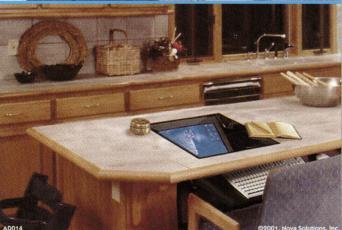
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2 x Mies: A pair of shows at MoMA and the Whitney reveals overlooked aspects of his legacy

Exhibitions

In an unusual act of curatorial cooperation, the Museum of Modern Art and the Whitney Museum of American Art (in association with Montreal's Canadian Centre for Architecture) will present simultaneous exhibitions in New York City this summer on the work of Ludwig Mies van der Rohe. No longer seen as a purely historical figure, Mies is now viewed as vital to contemporary design. Following are excerpts from the catalogs of the two exhibitions.

Mies in Berlin. The Museum of Modern Art, June 21-September 11. Organized by Terence Riley and Barry Bergdoll.

"A varied and creative engagement with Mies' work is in evidence everywhere. The fervently diverse and original interpretations of the Barcelona Pavilion, essayed since its re-creation in 1986, have reopened the possibility of thinking about the physical experience and the ambiguous contingencies of that icon. Until then it had been frozen in black-and-white photography and in an rigidly canonic interpretation of its significance in the history of modern architecture. A creative reengagement with Mies' studies of transparencies, in conjunction with questions about architecture in relationship to nature, technology, and human consciousness, echoes equally in the work of two generations of architects who have come to prominence since 1986. [Such reengagement] can be seen in

everything from Herzog & de Meuron's Napanook winery in Napa, Calif., and Rem Koolhaas' Maison à Bordeaux, to Jesse Reiser and Nanako Umemoto's proposed design for an ambitious rethinking of the American subdivision now under study in Bridgehampton, Long Island. In short, the time seemed ripe to look anew both at Mies' work in its original context and what it has to say about our ongoing critical relationship to the legacy of classical modernism....

The aim of Mies in Berlin is to situate Mies in a series of overlapping contexts that defined his architectural ambitions and practices from the moment of his first emigration, from the provincial city in which he was born-Aachen in the old Prussian Rhineland-to Berlin, which had emerged not only as the capital of Imperial Germany but as a Metropolis, one of the great new cities of exchange, ideas, images, and of course capital." Barry Bergdoll /Terence Riley

Early work

"Mies' family-his father was a master stonemason, running his own small business-belonged to [the lower middle class], which sought to distinguish itself strictly from the working classes at the bottom of the social scale, who were considered a permanent threat to the fragile stability of all late-19th-century industrial societies. Social mobility based on either economic success or academic education had been increasing throughout the 19th century, but remained largely restricted to the middle classes...



Mies at the Riehl House around 1915.

Information on Mies' youth is sparse and is based for the most part on what he himself chose to reveal in his later recollections. Aachen was the seat of a respected Technische Hochschule (technical institute) where architecture was

taught, but a university career was out of reach for Mies, who never enjoyed a higher education. His family background gave him an early introduction to the building trade, where he received some basic training in draftsmanship and building as such, though he apparently never went through any final examinations." Wolf Tegethoff

The Riehl House

"The feature that, once discovered, captures and holds our attention [is] the building's startling transformation from a bürgerlich village house on the entrance facade into a temple poised lightly and asymmetrically over a monumental podium on the garden front.... Rather than setting the house on a podium to be admired from the street, Mies bound house and garden together to form a



The 1907 Riehl House outside Potsdam shows a nascent modernism.

THE THE PARTY OF T

Snapshot

The end-of-the-line station, located within the median of a major highway between 14 lanes of busy commuter traffic, comprises two levels: a 700-foot-long platform, slightly higher than the elevated highway, and the concourse 20 feet below. Pedestrian/vehicular entry is at grade on both sides of the highway (right and below). Steel canopies shelter patrons arriving by bus and streetcar.



tions. San Francisco firm SmithGroup interviewed and secured the commission for the East Dublin/Pleasanton station.

According to Roger Hay, project designer for the station, SmithGroup intended to create a landmark for the region and thus paid special attention to the station's visual impact. The undulating sine-wave form of the canopy became symbolic of travel, movement, direction, time, and energy, and it reflects the rolling hills in view. Because the station is underground

and both between and under a highway, the challenge was to feature strong forms while using materials durable enough to withstand the aggressive environment. "The palette is very simple," says Hay, "concrete (poured in place, precast, and block), stainless steel for all the exposed metal, and glass. These materials are extremely rugged and require very little maintenance. We had to design a facility with a 50-year operational

Built to provide East Bay commuters with an enduring, iconic gateway to the Bay Area, the station has taken on a personality of its own. Hay reveals that because of its shape, local residents have likened it to Scotland's Loch Ness Monster, affectionately referring to it as "Nessie." ■

Americal astitute **Architecture** p. 98 **Interiors** p. 122 **Urban Design** p. 142 25-Year Award p. 146 Honor Awards Firm Award p. 150 Gold Medal p. 164

he scope of the American Institute of Architects 2001 Honor Awards program coheres at a single event. Held annually at the National Building Museum, Accent on Architecture brings together the recipients in a space as grand as America and says, "Look and see what architecture can do." Subsequently, ARCHITECTURAL RECORD disseminates the results, not for the exercise, but as a survey of the state of American architecture. In a single issue, you can rapidly assess who has been building what, where—as well as gain some feeling for the quality and kind of work being done by American architects.

What did this year's crop of honors for individuals tell us? The choice of Herbert Lewis Kruse Blunck as Firm of the Year proved that accomplished work can occur smack-dab in the middle of the continent. As images from that firm's work flashed across the screen at Accent, the audience nodded their heads in collective assent and a sort of wonder. "Where did this work come from?" they seemed to ask. Des Moines was the answer.

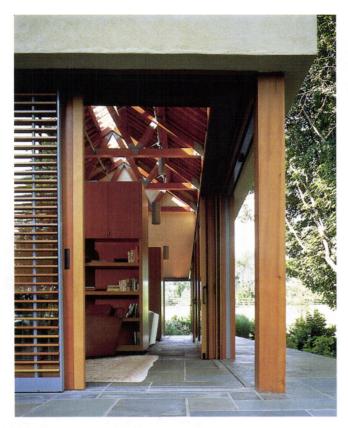
For Michael Graves, an architect, teacher, and industrial designer,

selection as the Gold Medallist brought peer recognition to a man who has elevated the visibility of architecture and architects around the world. (He may be one of the two or three best known of us internationally). His wildly successful foray into product design has proved that design intelligence can breed value for the larger culture.

The terraced Weyerhaeuser headquarters in Tacoma, which garnered the 25-Year Award, seems perpetually attractive. Set beside a lake, it could be a textbook on thoughtful office design.

Winning architectural projects tell their own stories. Unlike the 1980s, when flush times encouraged excessive building as seen in the marbleand brass-clad behemoths that clutter downtown Boston or Houston, the projects funded by the capital-intensive late '90s seem restrained and almost puritanically spare, as if chastened by earlier excesses and wary of show. Their elements seem to be more ephemeral, made from light and air. A number exhibit community or social concerns. Draw your own lessons from the book of American architecture that follows. Robert Ivy, faia

ARCHITECTURE



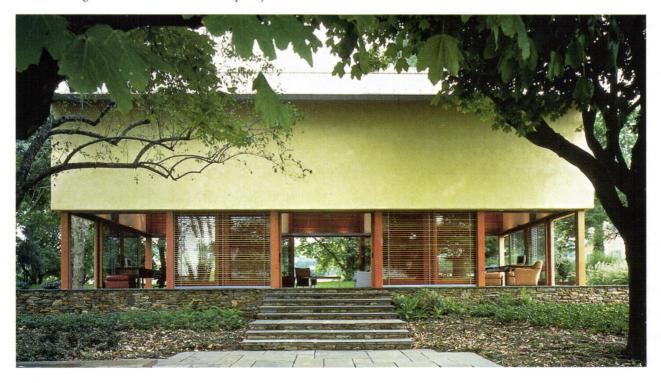
Conference Barn Middleburg, Virginia Architect: Sant Architects, Inc.

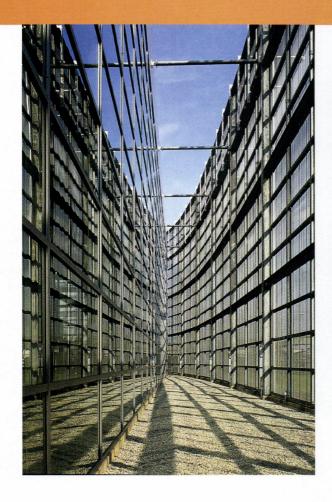
The building's inspiration came from the vernacular farm buildings that are its neighbors. Great

restraint has been exercised in the development of the overall design concept; the detailing of the glazed, shuttered walls, the interior lighting, and the plinth, upon which the building meets the ground, reflect its simplicity.

"EXTREMELY ELEGANT AND THOROUGHLY DETAILED, YET ONE IS LEFT WITH THINGS TO THINK ABOUT. PERHAPS THE BUILDING'S SIMPLICITY DISGUISES ITS THOUGHTFULNESS."





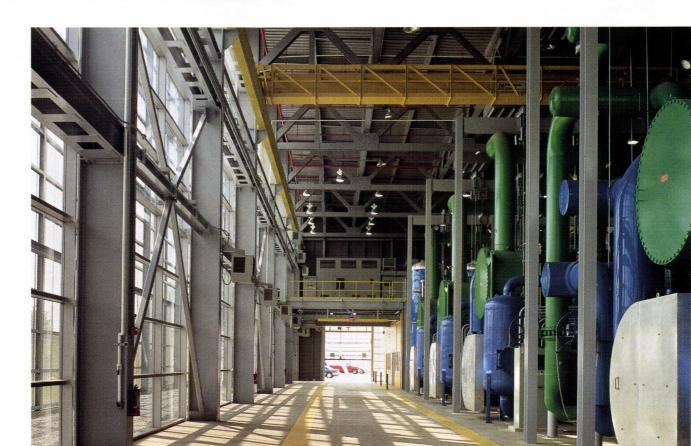




University of Pennsylvania Modular VII Chiller Plant Philadelphia Architect: Leers Weinzapfel Associates

The stunning oval steel-mesh wall of the plant is located next to an active expressway, from which it derives its aerodynamic curves. Its carefully detailed, industrial design is a beautiful, honest expression of technology and shines with a milky luminosity at night.

"EACH VIEW MOVES SEAMLESSLY TO THE NEXT IN THE FLUID, ELLIPTICAL PLAN, GIVING THE BUILDING A SURREAL QUALITY."









McCormick Place South Building

Chicago

Architect: Thompson, Ventulett, Stainback & Associates, with associate architect/architect of record A. Epstein and Sons International

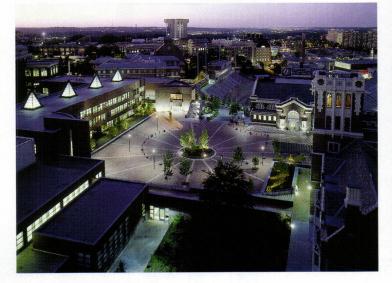
This is a successful solution to the very difficult problem of giving scale and clear circulation to an array of vast spaces, and linking all three buildings of the complex into a cohesive whole. Moreover, the architects created a major entrance of appropriate scale for this city's convention center. Users feel a clear sense of direction in the series of multileveled spaces.

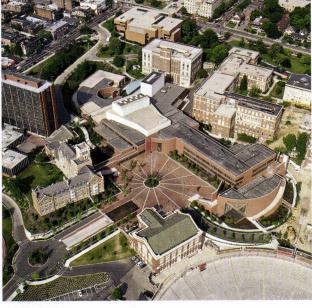


"THE BOLD STROKE OF THE **GRAND CONCOURSE ALLOWS PEOPLE TO MOVE THROUGH THIS BUILDING WITH CONFIDENCE."**

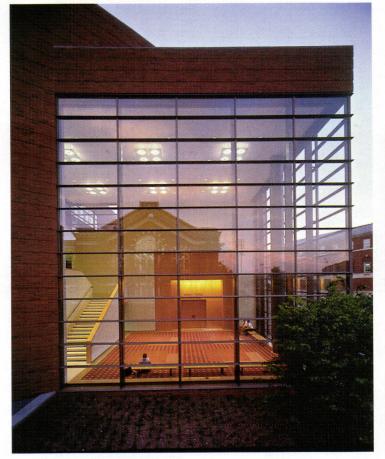








"A COMPLEX PROGRAM HOUSED IN **NEW AND OLD STRUCTURES IS GIVEN URBAN FORM THROUGH A** SIMPLE YET STRONG DESIGN."





College Conservatory of Music, University of Cincinnati Cincinnati

Architect: Pei Cobb Freed & Partners Architects LLP, with associate architect/architect of record NBBJ-Roth

The architects unified the new

and rehabilitated structures of this project by creating a wellproportioned entry court. The details of public circulation, as well as the jewel-like performance spaces, are effectively rendered through the use of a restrained palette of materials and colors. A simple yet strong design.



"SUBTLE AND INFORMAL, YET WITH AN ORDER THAT SHOWS THE ARCHITECT'S RESTRAINT."

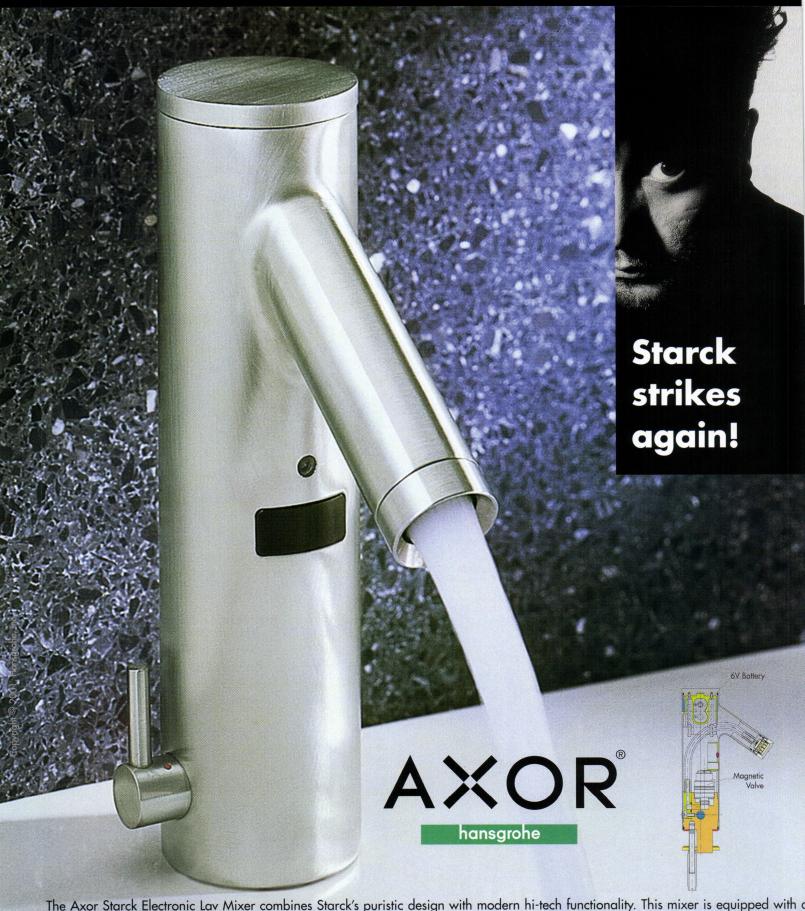




Rifkind Residence

Wainscott, New York Architect: Tod Williams Billie Tsien and Associates

Careful, yet not self-conscious, in its detailing, this house is the successful result of a close partnership between the architects and the owner. It is clear that in both parties' minds there was a strong desire to site the house to the land in the most sensitive manner possible.



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Eleventh Avenue Townhomes Escondido, California **Architect:** Studio E Architects

This very impressive low-income, low-density residential project provides housing that is affordable, attractive, and responsive both to its inhabitants and the larger community of Escondido, a town of

fruit pickers, packers, and tradesmen. The development, with its rhythmic arrangement of homes, provides rental units of two, three, and four bedrooms and does an excellent job of creating community space. Low-income housing designed with such sensitivity can be as beautiful and friendly as an upscale neighborhood.



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CIRCLE 92 ON INQUIRY CARD

PHOTOGRAPHY: © MICHAEL MORAN

Williams Natatorium at **Cranbrook Educational** Community

Bloomfield Hills, Minnesota Architect: Tod Williams Billie Tsien and Associates

There is a playfulness as well as freshness about this design. The combination of bold color and attention to detail reveals the

architect's enthusiasm, which transfers to the end user. The blue ceiling, with its two openings to the sky and recessed lights that appear as stars at night, is magical. The architect meets the programmatic requirements of a natatorium, while creating a place that is not only functional, but expresses a strong affinity for the existing spirit of the place.



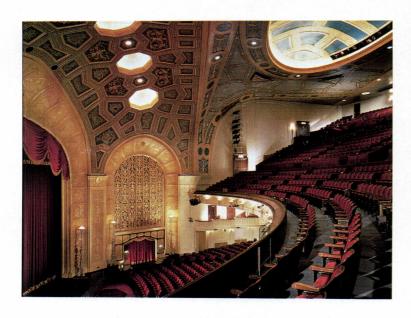


"FRAMING DISTANT VIEWS, THE CALCULATED ARRANGEMENT OF WINDOWS PROVIDES AN **EXCELLENT EXAMPLE OF** WHAT KAHN REFERRED TO AS THE 'UNMEASURABLE' AND THE 'MEASURABLE.'"



INTERIORS

"AUTHENTIC MATERIALS AND METHODS
CREATE A FAITHFUL AND
PAINSTAKINGLY ACCURATE INTERIOR."





Detroit Opera House

Detroit

Architect: The Albert Kahn Collaborative, Inc.; programming and preliminary design, JPRA Architects

The original amalgam of flamboyant color and dramatic lighting was carefully re-created throughout the theater. Forensic analysis revealed an original color palette dominated by gilded ochre, browns, and blues. The architect salvaged and saved this historic building from demise—a courageous move to bring back one of Detroit's first downtown buildings.

"THE DESIGN TREATS THE SPACE AS A LANDSCAPE, RESPONDING TO THE DAILY AND SEASONAL CYCLES OF THE SUN-LARGE OPEN SPACES ARE FLOODED WITH NATURAL LIGHT FROM SEVERAL EXPOSURES."





SoHo Loft

New York City

Architect: Architecture Research Office

This transformation of two floors and a rooftop of a warehouse to modern living environment is all about light, space, and elegant

expression. The materials were selected for their color, texture, reflectivity, and transparency. A cascading glass-supported stair, the prominent sculptural element on the main floor of the loft, provides access to a roof garden above and defines discrete spaces

for the living and dining areas.





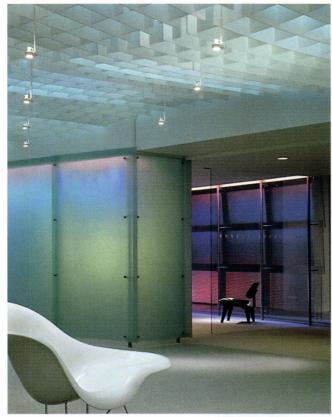
"DISPLAY OF PRODUCTS BECOMES A POETIC STATEMENT OF LIGHT, SPACE, AND TRANSPARENCY."

Herman Miller National Showroom

Chicago

Architect: Krueck and Sexton Architects

This project elevates a showroom to the status of an art gallery. It advances the design philosophy and traditions of the client through a series of rich and diverse experiences, combining rigorous attention to craft with sensuous layering of materials, colors, and light. The inventive ceiling echoes the organic shapes found in the furniture.











"THIS PROJECT PRESERVES THE BEST OF THE PAST WHILE INSERTING A DRAMATIC CONTEMPORARY EXPRESSION."

Alliance Française de Chicago Chicago Architect: DeStefano and Partners

Fusing a two-building campus together entailed the adaptive reuse of a bank and the imaginative linking of properties. The steel prismatic walkway, with its clear, fritted-glass envelope, enlivens the courtyard.

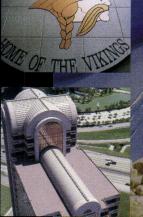


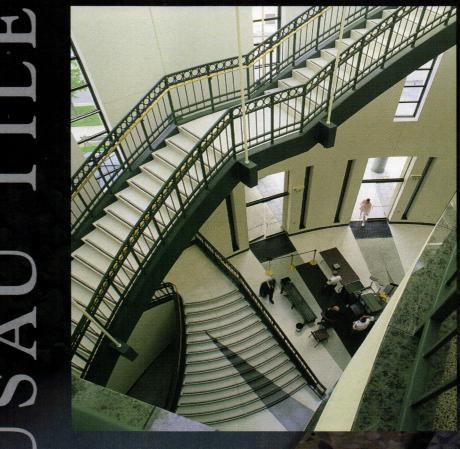












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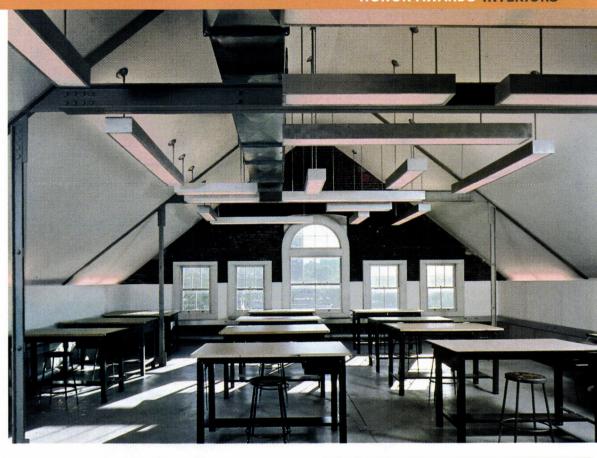


PHOTOGRAPHY: © DAVID SUNDBERG/ESTO

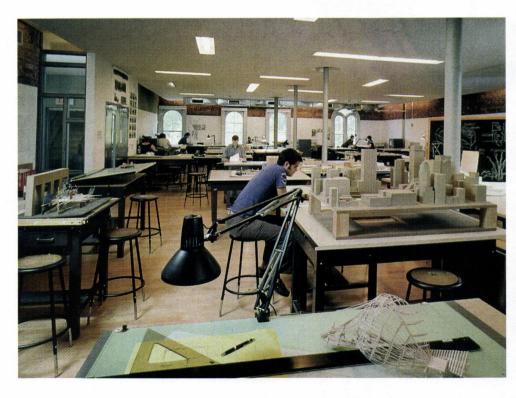
Higgins Hall, Pratt Institute **School of Architecture**

Brooklyn, New York Architect: Rogers Marvel Architects PLLC; preservation architect, Ehrenkrantz and Eckstut Architects

The architect revealed the bones in this 130-year-old academic building that has survived four additions and a major fire. Classrooms, well lit with natural and artificial lighting, have been reconceived to support new uses for architecture students. The design reveals parts of the original construction and systems of the building, and thus acts as a living laboratory of architecture.



"THIS SENSITIVE AND CONSISTENT INTRODUCTION OF NEW DESIGN **EFFECTIVELY CONTRASTS AND LIES** WITHIN THE RUINS OF THE OLD."

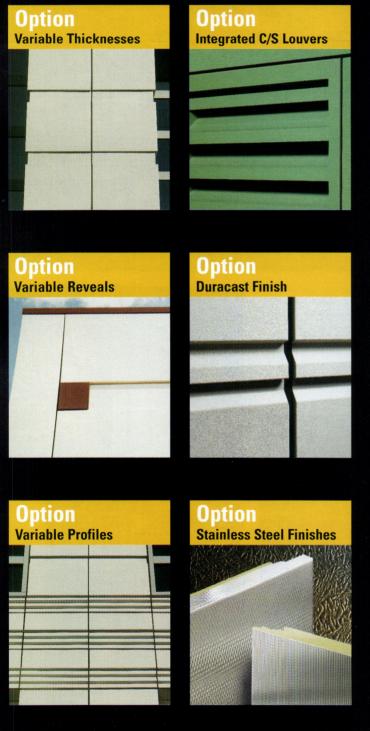


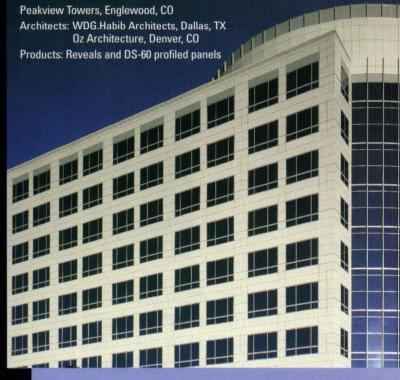




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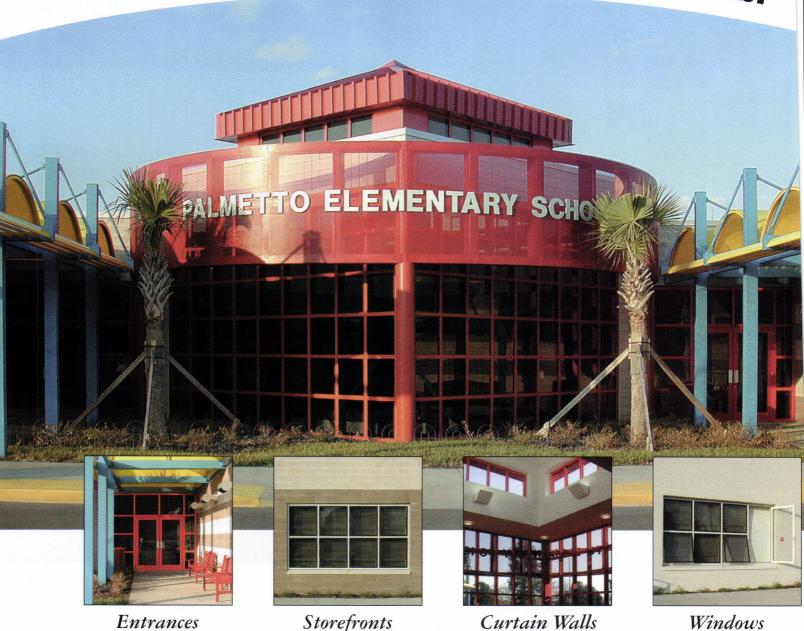
Jin Mao Tower

Shanghai, China

Architect: Skidmore, Owings & Merrill LLP; associate architect, Shanghai Institute of Architectural Design and Research

The tallest building in China and the centerpiece of Shanghai, this metallic building is a monument to Shanghai's confidence in its future. Large-scale interiors are mostly glass and steel, and soft hues of accent color identify a network of bridges that traverse a vast interior space.

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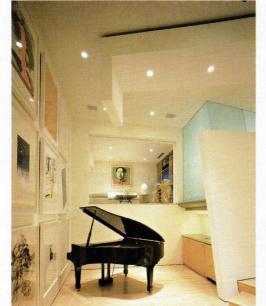


Jacobs Residence Subterranean Sherman Oaks, California Architect: Patrick J. Tighe, AIA

An outstanding use of daylighting in a below-grade space provides needed room to expand this residence, severely limited by hillside terrain. This oasis of angled walls and multiple floor planes offers an imaginative backdrop for the owner's art collection.

"KILLER IDEA PROJECT—A SINGLE SCULPTURAL FORM IN WHICH PROGRAM PIECES ARE NEATLY AND DEFTLY ACCOMMODATED."











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CIRCLE 100 ON INQUIRY CARD



HONOR AWARDS INTERIORS







"LIKE FILMMAKING, THE STORY IS TOLD THROUGH STRONG VISUAL IMAGERY, INCLUDING A **COMPELLING COLLAGE OF MATERIALS."**



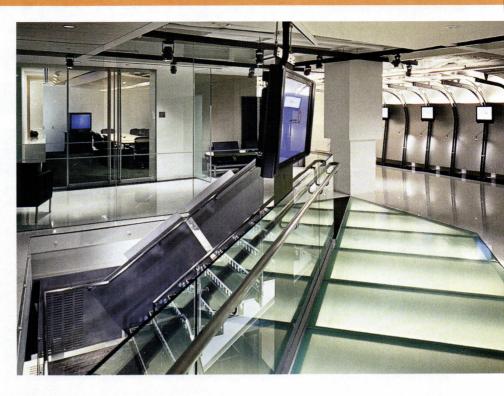
Reactor Films

Santa Monica, California Architect: Pugh + Scarpa

This modestly sized and priced renovation of a 1930s art deco masonry building into a state-ofthe-art office and work space for commercials and music-video production was completed on a fast track. A street-level conference room, inventively created from an ocean shipping container, is the defining feature of the project.







"BOTH LARGE-FLOOR-PLATE OFFICE SPACE AND SMALLER PUBLIC AREAS ARE HANDLED WITH THE SAME DESIGN ENERGY AND INTENSITY."



Lucent TechnologiesWashington, D.C. **Architect:** Group Goetz
Architects

The architect worked closely with the company's president to turn this 80,000-square-foot headquarters into an intensely evocative workspace that succeeds as a strong image-maker for the high-tech company. The sophisticated and unusual use of materials, such as aluminum, steel, glass, wood, and terrazzo, creates an elegant and highly technological environment.



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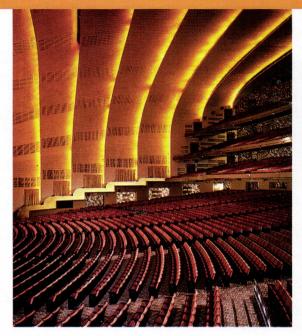
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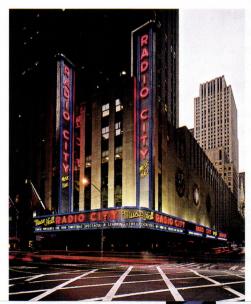


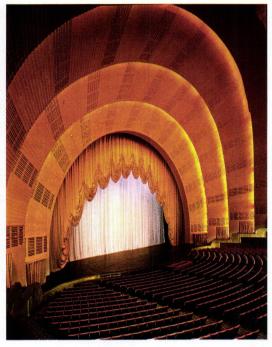




Radio City Music Hall New York City Architect: Hardy Holzman Pfeiffer Associates

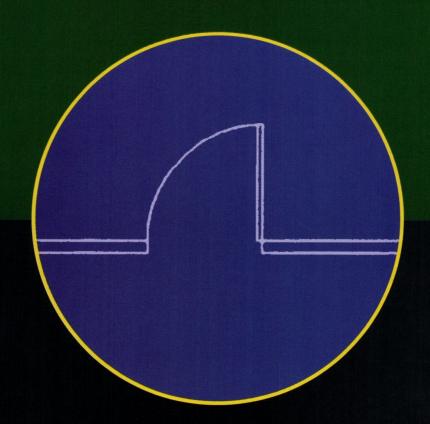
A major restoration returns this world-renowned performance hall to its former brilliance. Extensive archival research facilitated re-creation of the exact details of the carpets, walls, murals, art, and lighting.



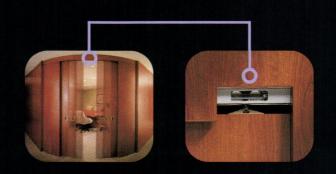




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ANSWERS

CIRCLE 104 ON INQUIRY CARD



"CREATING ORDER OUT OF CHAOS WAS THE ARCHITECT'S CHALLENGE. THIS **MEANT A FUSION OF ARCHITECTURE** AND THE INFORMATION AGE."





New York Stock Exchange Trading Floor Expansion

New York City

Architect: Skidmore, Owings & Merrill, New York City; architect of record, Parsons Main of New York, Inc.

The architect had to reinvent the trading post, based on tight ergonomic and functionality criteria road-tested by traders. The design process consisted of solving a stream of industrial-design problems. Signage and information-display methods were critical to operations and to the visual identity of the trading room.

URBAN DESIGN

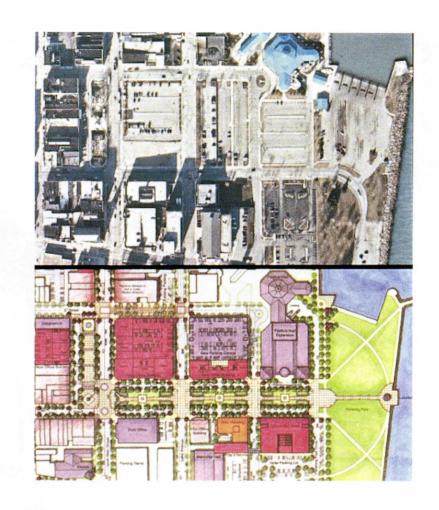
The Downtown Racine **Development Plan**

Racine, Wisconsin

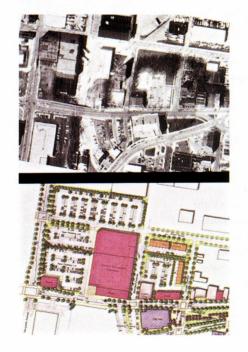
Architect and urban designer:

Crandall Arambula PC

A very thoughtful planning process has achieved a clear, flexible, and realistic vision and has generated a high level of public confidence that will allow the plan to overcome any difficulties in the implementation. The plan incorporates the lake and river to reflect their historic and visual worth, as well as their potential for public use. Integrating residential uses into Racine's historic core will bring an important and much needed dimension back to the area. While the plan responds to the necessity of automobile access and parking, it does not compromise the pedestrian environment, which is given first priority. Community residents and business leaders rolled up their sleeves and worked hard to bring Racine back from the brink.



"PRIOR TO THE PLAN, PEOPLE SAID, WHY NOT JUST **BULLDOZE DOWNTOWN AND BE DONE WITH IT?** BUT NOW THE LOCAL GOVERNMENT, BUSINESSES, AND THE CITIZENS ENTHUSIASTICALLY ENDORSE IT."



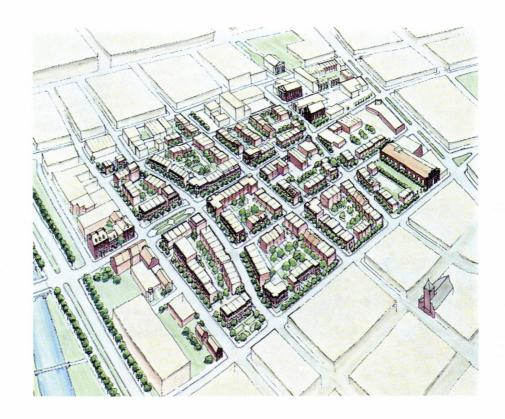


Flag House Courts Revitalization

Baltimore

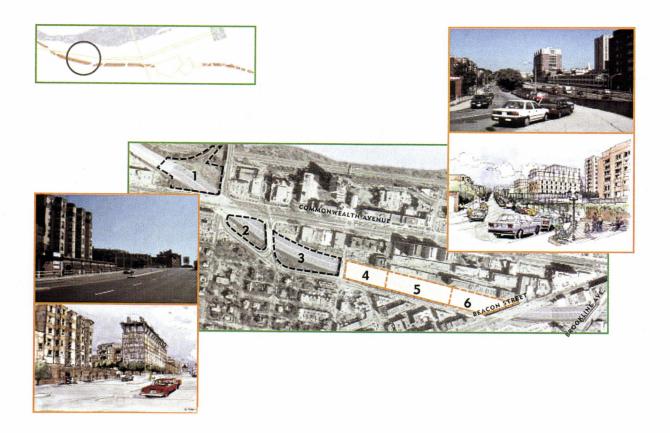
Architect: Torti Gallas and Partners • CHK, Inc.

This plan uses the street system to give the new community a dignified identity, a human scale, and a neighborhood square that opens a vista to two landmarked buildings and connects the neighborhood to the city. The clever integration of parking into midblock locations gives residents security and control, while reinforcing the civic character of the public spaces. The plan incorporates both existing buildings and new housing that respects Baltimore's strong tradition of rowhouses and streetscapes. The invisible integration of residents' income levels is commendable, as is the fact that 40 percent of former occupants will be returning.



"AN EXCELLENT EXAMPLE OF AN AFFORDABLE HOUSING PROJECT THAT CREATES A SENSITIVE RELATIONSHIP WITH THE SURROUNDING CONTEXT, WHILE CLEARLY ADDRESSING THE COMMUNITY'S NEEDS."





A Civic Vision for Turnpike Air **Rights in Boston**

Boston

Architect: Goody, Clancy and

Associates

The design's diverse mix of commercial, retail, campus, residential, and open space reflects the priorities of a livable city. This is one of the most notable projects to heal an urban scar created by the highway construction of the 1960s.



"THIS PROACTIVE, CITIZEN-**BASED DEVELOPMENT PLAN EMPOWERS THE NEIGHBORHOOD TO BE A REAL PLAYER IN THE REBUILDING PROCESS."**







"THE JURY APPLAUDS THE SIMPLE AND EFFECTIVE RECOMMENDATIONS OF THE URBAN DESIGN, WHICH WILL **IMPROVE THE EVERYDAY LIVES** OF PEOPLE WHO LIVE AND WORK ALONG THE LENGTH OF THE HIGHWAY."

Santa Monica Boulevard Master Plan

West Hollywood, California Architect: Zimmer Gunsul Frasca Partnership; landscape architect, Patricia Smith, ASLA, **AICP**

This project reclaims a state highway (Route 66!) by placing it under local control and developing its entire length as an important civic amenity, including bus-stop gardens, public art, reintegration of landscape, and a

new focus on pedestrians. The urban design respects the adjoining neighborhoods by adjusting the street's character accordingly as it moves through neighborhood zones. This is a prototypical corridor project—a wonderful model for other cities. The jury hopes that other communities will feel emboldened by its success and will be inspired to "take back their streets" too. The procedure underlying the urban design was very well communicated and indicative of very good public process.



25-YEAR AWARD

Nature joins art and business in this enduring corporate campus

The Weyerhaeuser headquarters is a milestone project in two respects. First, it is perhaps the most famous and one of the earliest examples of a large corporate headquarters complex that has been integrated with the existing natural landscape by the skillful work of landscape architect Peter Walker. Equally noteworthy, the interior "landscape," which helped generate the design, is an ambitious effort to create a totally partition-free

interior. Designed by the San Francisco office of Skidmore, Owings and Merrill LLP (SOM) in collaboration with Knoll International and Rodgers Associates, it was the first major open-space office plan in this country. Together, the exterior and interior landscapes give the Weyerhaeuser headquarters lasting architectural value.

The building's pristine condition clearly shows the love and care of

Located in Tacoma, this five-story, 358,000-square-foot headquarters for Weyerhaeuser, a natural resources company, is set in a

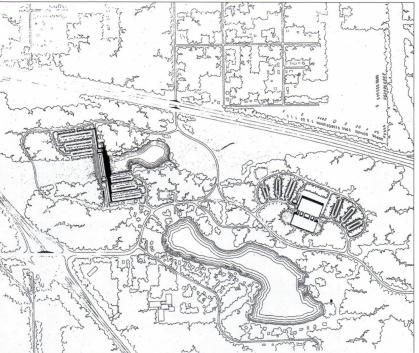
its owners and occupants. The design has withstood the test of time beautifully, and the original elements are as effective now as when they were first built and planted.

It's a very simple statement—a number of terraced floors planted with ivy, linking the world of nature to the world of man. This building by a lake is a modern landscape of such potency that the building seems to emerge from the earth. It has a spirit

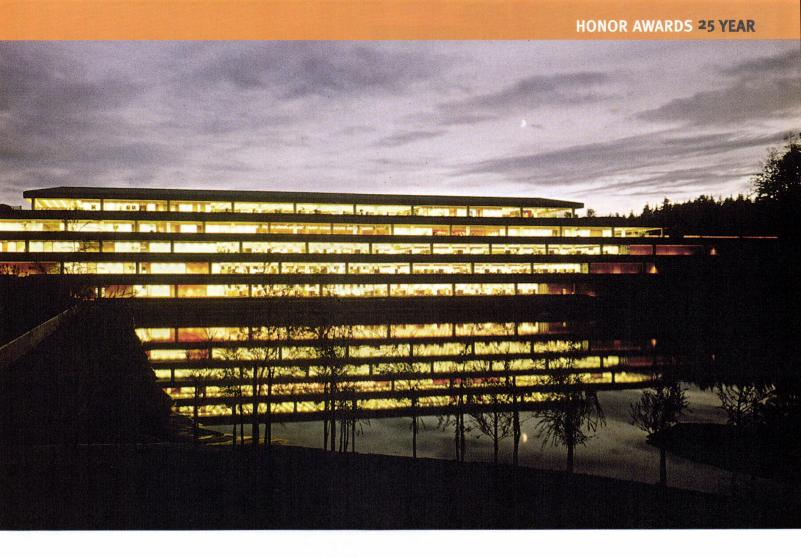
230-acre wooded campus planned and designed by SOM's Edward Charles Bassett as lead designer and landscape architect Peter Walker.

of its own, an inevitability.

The building has been influential since its completion, referred to in the literature of the corporate workplace as a landmark in environmental sensitivity and innovation. The bold design demonstrates the effectiveness of a cleanly honed idea, well-executed. This timeless, clear, professional solution to the office building type continues to have lasting value in the present.







"THE ARCHITECT WANTED TO FIND A POINT WHERE THE LANDSCAPE AND THE BUILDING WERE SO MUTUALLY DEPENDENT THAT THEY COULD NOT SURVIVE ALONE."





FIRM

HERBERT LEWIS KRUSE BLUNCK ARCHITECTURE named Firm of the Year

for four decades of superb work in the Midwest and beyond

Below: The staff of Herbert Lewis Kruse Blunck Architecture in a 1999 photograph in Des Moines.

Bottom: The firm's principals, from left to right: Charles "Chick" Herbert, FAIA (retired); Calvin F. Lewis, FAIA; Rod Kruse, FAIA; Kirk V. Blunck, FAIA; and Paul D. Mankins, AIA.

By Deborah Snoonian, P.E.

harles "Chick" Herbert, FAIA, once made a deal with his father-in-law. He would spend two years in the family business as a beer distributor, but if he didn't fall in love with the job, he'd go back to his old line of work. When his two years were up, he thanked his father-in-law and promptly returned to his true passion, architecture—a decision that has enriched both the profession and the state of Iowa ever since. The Des Moines firm Chick founded in 1961—then Charles Herbert and Associates, now Herbert Lewis Kruse Blunck Architecture—garnered the 2001 AIA Firm Award, cementing its reputation as a world-class design firm and a paragon of architectural practice. This firm has spent 40 years designing a diverse array of private and public works mostly on Iowa's fertile soil. That's right, Iowa, a landlocked state that is terra incognita to most architects. Yet the impact of HLKB's work has reverberated throughout the region and beyond.

A commitment to excellence and education

So how does a Midwest firm with only 38 employees manage to turn out high-quality designs so consistently? The principals believe their deeply held philosophy gives them the edge: a commitment to design excellence carried out by emphasizing client service, team decision making, and aesthetics. The firm's founder, who retired a year and a half ago, was the visionary. "Chick











IF YOU BUILD IT, THEY WILL COME

lowa is perhaps best known as the setting for Field of Dreams, the 1989 film starring Kevin Costner in which a farmer hacks away his cornfield to build a baseball diamond. But the myth of the Midwest as a mere expanse of agrarian landscape and simple farm communities dies under the lens; those who know the territory describe it as a land of enlightened pragmatism. Iowa quietly enjoys a first-rate educational system: Student test scores and literacy rates have been at or near the nation's high point for two decades. And few are aware that Des Moines has been a proving ground for work by architects such as Saarinen, Pei, and Meier. More than any other firm, HLKB's work has amplified the status of architecture in the state and the region. Lewis says, "When we won the firm award, we received many gracious responses from other Midwest firms, thanking us for representing them. We're lucky to be recognized, but our peers are also working very hard to do intelligent, inspirational architecture out here." In a perfect world, we would all have—and be—such good neighbors. DS

believed that every decision made on a project is an opportunity to enrich the design," says Rod Kruse, FAIA, who joined the firm with Kirk V. Blunck, FAIA, in 1987. The strength of the firm's projects can be gauged not only by their elegance but on how well they serve their clients' needs, and how clearly their architectural ideas are expressed in concept and detail—from site orientation and materials to hardware.

Calvin F. Lewis, FAIA, who joined the firm in 1970, credits Chick for his humility and tenacious beliefs about how firms should operate. "Chick has tremendous skills as an architect, yet he used his talent to build a firm rather than promote his own name," he says. Their studio is renowned for its teaching culture, in which mentoring is favored over watch-and-copy. Each project begins by establishing an architectural idea—a framework used to guide all decisions on the project. Ideas are conceived by teams comprising seasoned architects and interns; the winning idea survives based on merit and consensus, not the approval of veteran staffers. Informal crits help teams make refinements, so the results are a distillation of the experience of all the architects involved. Lewis recalled that Chick never voiced his opinion about a project during crits; instead, he'd ask what inspired the choices the architects made. "We called his methodology 'planting the seed of doubt,' because his questions were always pertinent and made us come to grips with the challenges of designing, which allowed us to develop solutions on our own. It wasn't typical of how other firms did things. But it worked extremely well."

An architecture of substance

In an increasingly style-driven profession, HLKB resists imposing a signature aesthetic on its work, striving instead for a consistently high level of design quality. This practice certainly hasn't backfired; in 1996, for instance, six of the nine winners of AIA Iowa Chapter awards were designs by HLKB. Aaron Betsky, curator of architecture for the San Francisco Museum of Modern Art and a juror that year, recalls, "The jury was impressed by the variety of scales and architectural strategies in the winning projects, and it surprised us to learn that so many came from the same firm."

What's obvious when looking at HLKB's work as a whole is the firm's singular skill in creating an architecture of substance, with an understated strength of concept and execution. The projects manage to be modern and urbane without making the dubious leap to fashionable or flashy. No project is too small or mundane. "In their hands, [even] a neglected parking structure becomes an inspiring experience," says Steven Holl, AIA (see page 160 for an example of a parking facility). This ability to elevate the modest into something special is especially significant for a firm that practices in a place like Iowa, where frankly, people don't expect to find great architecture.

Think globally, work locally

Despite HLKB's national reputation—its projects have won over 160

national and regional awards—a full 90 percent of its work is built in Iowa. And its track record of winning repeat work is exceptional for a firm of its size. Eight clients have been with them for 10 years or more, and of those, four—the University of Iowa, Iowa State University (where Lewis chairs the department of architecture), the City of Des Moines, and Wells Fargo—have each worked with them for over 30 years.

These figures speak profoundly to the firm's allegiance to its fellow citizens, to say nothing of the faithfulness of its clients. In taking on more projects outside Iowa's borders, the firm has considered expanding but is reluctant to disrupt the team-oriented practice for the mere sake of growth. And unlike many local firms, they are true denizens of their backyard: the principals have long been active in city affairs, serving on advisory panels, juries, and boards of artistic organizations in Des Moines. "This firm has had a 40-year commitment to this city, and we think it's important that we continue to contribute to its vitality," says Blunck.

HLKB's dedication to quality architecture in an enlightened heartland is a reminder that a commitment to regional excellence can inspire those beyond its borders. That a modest-size Iowa firm won this year's highest honor may have come as a surprise to some. But to those who know HLKB's work, it's a well-deserved nod to the firm's exceptional contribution to the art, science, and craft of the profession. ■

CLIENTS ON HLKB: "DES MOINES IS DOTTED WITH THEIR GENIUS"

HLKB's clients have been as generous with their praise as their peers have. As Robert Sturgeon, the owner of Barr-Nunn, an Iowa trucking company whose offices were redesigned by the firm, puts it, "In our new offices I think different, I dress different, I come to work different now. The building completely changed my life." Michael G. Gartner, chairman of the Greater Des Moines Baseball Company, enlisted HLKB to renovate his home and his former workplace (the newsroom of the Des Moines Register, where he was once editor). Most touch-

ingly, when juvenile diabetes claimed Gartner's 17-year-old son in 1994, Cal Lewis-who had been the boy's soccer coach years earlier-designed a soaring greenhouse in his memory on the campus of Orchard Place, a Des Moines school for troubled children. "The firm has given me the most wonderful places to live, to work, to remember," Gartner says. "And best of all, it's never their project when it's doneit's your hopes and dreams, made far more practical and beautiful than you could have ever imagined." DS

Meredith Corporation

Des Moines, 1998

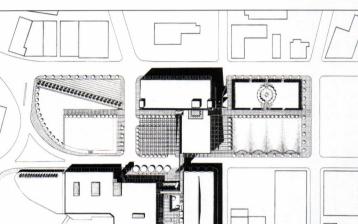
The architects expanded and designed interior spaces for the corporate headquarters of this publishing company. The site (opposite, left center) is located at a critical nexus of three major arterial streets in Des Moines, and the building extends and marks the promenade of "Gateway Green," a six-block linear park proposed to promote new development in downtown Des Moines. Daylighting strategies, such as clerestory windows and skylights (opposite, top left), along with indirect lighting equipped with sensors, provide a consistent level of ambient illumination. Inside, circulation pathways are marked by bold colors (opposite, bottom left). An open-string stairway (opposite, below right) is expressed strongly with stainless-steel railings and fasteners, painted steel plate, and granite treads.





"THE LION'S SHARE OF OUR WORK IS WITH **LONG-TERM CLIENTS, AND WE'VE BEEN LUCKY** TO HAVE WONDERFUL RELATIONSHIPS WITH THEM."











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HONOR AWARDS FIRM





M.C. Ginsberg Objects of Art West Des Moines, Iowa, 1997

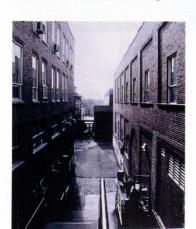
The owner of this jewelry and fine accessories shop wanted a flexible, gallerylike space that would induce shoppers to focus on the items for sale. Nondescript materials were used to establish a quiet backdrop for the precious metals and stones on display. The materials and cabinetry, anchored by stainless-steel bolts and screws, can be dismantled and reassembled elsewhere when the owner's current lease in an anonymous strip mall expires.

"WE WORK VERY COLLABORATIVELY HERE.

NONE OF OUR ARCHITECTS CAN POINT TO A
PROJECT AND SAY, 'I DID THAT' IN TOTALITY."

Friendship Court, Palmer College of Chiropractic Davenport, Iowa, 1998

A service alley (below) was converted to an enclosed two-level circulation court connecting the entryways of six buildings at this campus of 1,800 students. The court provides a central orientation space for the college, which has about a dozen buildings located on either side of an arterial roadway. Existing facades were left virtually unchanged. Central columns (near and far left) bear the full structural load of the sloped roof, thus sparing the aging parapets of the older buildings.





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THAT EXCEEDS
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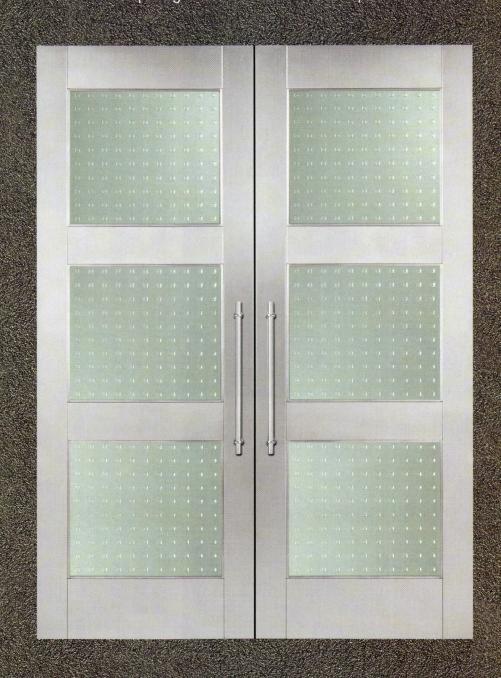
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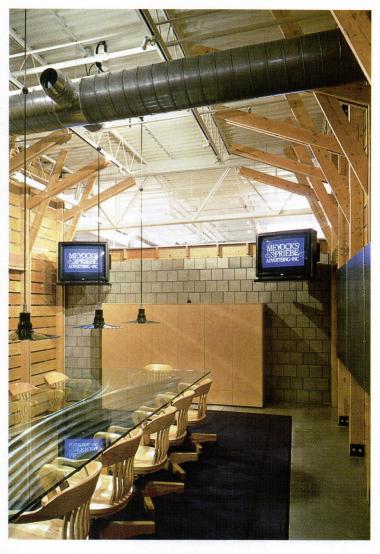




Meyocks & Priebe Advertising West Des Moines, Iowa, 1995

The clientele of this Midwestern ad agency comprises almost exclusively agribusinesses. Agrarian imagery and farmhouse vernacular were used throughout the interior as a thematic element. Corrugated metal grain bins (left, top, and bottom) are

used as meeting areas for staff and clients. A conference room (below right) is enclosed in simple slat walls, and sidewall studs extend upward to anchored crossbracing and stud rafters. The design team brainstormed extensively with the client and studied catalogs of farm implements, machinery, and agricultural supplies to develop design concepts.



"SOME FIRMS WANT TO BLAME BAD DESIGN ON PROBLEMS WITH THE CLIENT, THE **BUDGET, THE SITE. THOSE THINGS ARE ALL** JUST GIVENS. THERE'S NO REAL SECRET OR MAGIC TO IT-GOOD DESIGN IS SIMPLY VERY HARD WORK."



Center Street Park

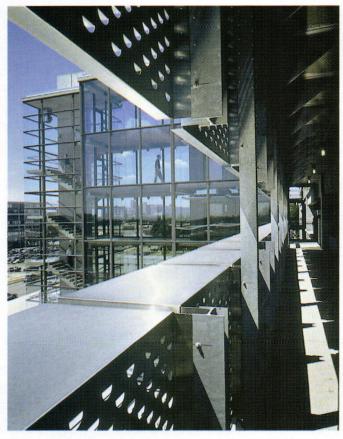
& Ride Facility
Des Moines, 1999

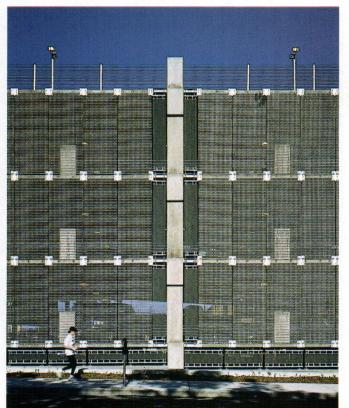
This project comprises a 1,815-vehicle parking structure, a daycare center for 100 children, and a bus station serving the central business district of the city. The service elements, pulled from a simple rectangular parking structure, give architectural

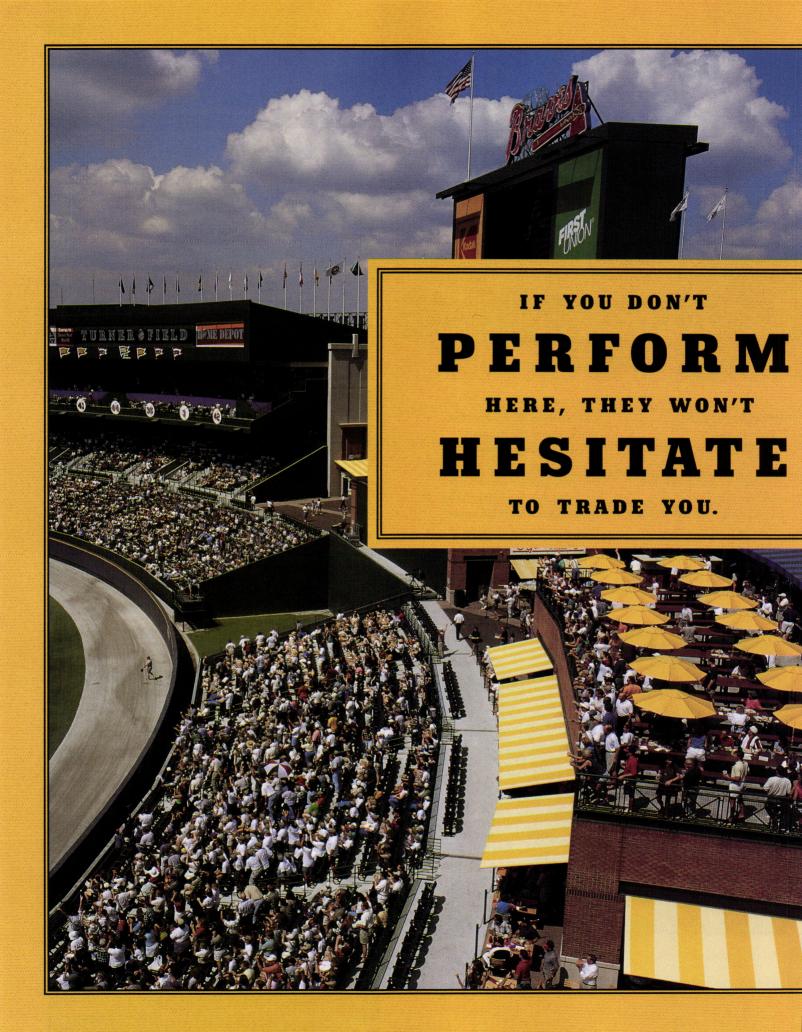
expression to the project. The south edge of the structure (above) is set back from the street to form a public plaza and play area for the daycare center at the interface between the garage and the downtown area. The glassed-in elevator and stair towers (right and below left) humanize the scale of the garage and provide unique views of the city from within.



"WE TRY VERY HARD TO NURTURE IN OUR STAFF A SENSE OF CIVIC RESPONSIBILITY TO DES MOINES."





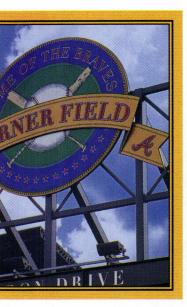


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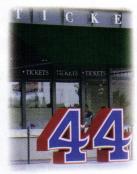
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Michael Graves The road to gold

RECORD sits down with this year's AIA Gold Medalist to find out how fame, controversy, and academia have defined his role as an architect

Princeton architect Michael Graves, FAIA, the recipient of this year's AIA Gold Medal, joins a panoply that includes Frank Gehry, FAIA, Ricardo Legorreta, Hon. FAIA, and Thomas Jefferson (posthumously). Known for his signature buildings and products, as well as the immensely popular wrapping of the Washington Monument during its restoration, he also has served as an influential professor at Princeton University for the past 39 years. Arguably one of the first architects to bring "branding" to architecture, Graves has helped elevate the recognition of architecture in the public consciousness. Returning to the early Modernist interest in designing furniture and objects as well as architecture, Graves has an inventory that includes more than 900 products for the Target chain alone. He spoke with RECORD's editor-in-chief, Robert Ivy, at his domestically scaled studio in Princeton, surrounded by his drawings and his dogs.

AR: What meaning does fame have for you?

MG: What it does, I suppose, is give you a familiarity with people who might be willing to call you to design something. I find that it more often occurs in product design, and that the knowledge of a name is somehow more important to that sphere of what we do than to architecture.

AR: Is fame all positive?

MG: There is a backlash. If somebody is too well known, there's an assumption that they're too busy, they'll be too expensive, that they will be unavailable, that this is just a small project. This happens a lot. But generally if I get a call—as I did a couple weeks ago from somebody in France to design crystal for a well-known company—it's because of the name recognition.

AR: Can you improve your recognition and your position in the market-

MG: Name recognition has a kind of value, I suppose, that one can't go after. It won't work if you go after it. If you had some PR guy out there trying to push your name, people would smell a rat immediately.

AR: And your position as someone of individual vision has resulted in recognition. You've always been considered a star. What has this aura meant for your work?

MG: Well, I think I would like to blur or fuse the distinction between, not stars, but architects of great energy, worth, and vision with real work. I don't see the difference. I refuse to be a paper architect on one hand, and I refuse to be, you know, some three-letter corporate thing on the other. I'd rather practice law than do either of those. But then you have somebody like John Hejduk, who made a contribution to architecture greater than most. And John built very, very little, almost nothing.

AR: There's a lot of construction going on. What's the difference between mere building and architecture?

MG: There's a lot of construction. But when you're around other architects, you can sense very quickly those who are engaged in their craft in a way that is their life. And there are some who are engaged in their business that is their life. And sometimes they're one and the same person, or same firm. But I don't think it's confusing, where the ideas are coming from and how they're translated. Sometimes the translations by commercial firms are very interesting.

AR: How did you, a modern man, develop a love of history? Where did your interest in history begin?

MG: Well, you find in that kind of rigor, if you'll call it that, that there are ways of broadening the idea, especially when you're reading people like Colin Rowe [the late influential theorist and RIBA gold medal winner], who was reinterpreting Le Corbusier in a way where he's even linked to Palladio and Palladio's grid. You think, my goodness, is this possible? Is the language continuous? Where does it break and where is it continuous, and what are we doing here? All of that gave me—and I think Colin is key here—a way of looking at people like Le Corbusier in a more cultural way than if you were looking at him stylistically, as some people in school did.

AR: Do any other individuals stand out in your development?

MG: Arthur [Drexler, former director of the architecture and design

Left: Graves in the library of his Princeton, N.J., home.

department at MOMA] was interested. He wanted to know what was going on in academia, he wanted to know what was going on in young architects' minds at that time, and it was quite by coincidence that Peter Eisenman and I met him. He came for a lecture in art history, which was the next building over, but he came to the school of architecture [at Princeton]. Peter and I were working in the basement, where our little office was, doing an urban design project for what we called the Jersey Corridor back then, the New Jersey megalopolis.

I remember that Peter and I were lobbying people like yourself to get a conversation going in the journals. And I remember Peter Blake [then editor of Architectural Forum] saying to us, "The only time I'll publish you is when your buildings get built." Period, end of story.

But later we did convince Architectural Forum to allow five other architects to criticize us. So that was the article called "Five on Five." And in that article, [architect] Charles Moore [1991 Gold Medal

Now I'm criticized because I'm still refining that language and people want me to throw it out and start again with something else. That's what I hear. We are a society that wants a new aesthetic every Thursday morning.

AR: Could you ever see yourself evolving, as you've been evolving this language, or do you see yourself changing? You've certainly made shifts in terms of your work. Corbu changed.

MG: I think the language is a lot different today. But there is a lack of breadth today that always astonishes me. That architects—not all architects, but some architects—can only talk about their latest commission or competition or whatever it is. It's a kind of one-upmanship, instead of talking about architecture itself.

AR: Architectural theory has been the coin of the realm for the last decade. You seem more drawn to graphic expression.

MG: On my side of it, if I think about a theoretical proposition in archi-

"NOW I'M CRITICIZED BECAUSE I'M STILL REFINING THAT LANGUAGE, AND PEOPLE WANT ME TO THROW IT OUT AND START AGAIN WITH SOMETHING ELSE. WE ARE A SOCIETY THAT WANTS A NEW AESTHETIC EVERY THURSDAY MORNING."

winner] made a comment about the Hanselmann House, which I thought was charming and wonderful and devastating. He said, "Michael tells us that this means that and the other...and everything is a metaphor for something in the landscape." But he went on, "I'm sorry

I caught so few points [in the book Five Architects], and I'm rather angry about it, since I test well for this sort of thing." He did test well. And I thought, well, if I can't reach Charles Moore, then I can't reach the man on the street.

AR: Where did you see your own work fitting into this cultural matrix?

MG: I didn't want to be populist, but at the same time I didn't want to be private. And I knew the work of Wallace Stevens, the poet. And Stevens had said, "You have to be literal enough to get the individual into the text. You have to be abstract enough to keep him there." And somehow I needed to find that balance between what was abstract and what was figurative, and that's when I started to rethink things. It was an important moment for me to take stock.

AR: But after you changed to what you have called more "figurative" work (and what others have labeled Postmodernist), it wasn't all smooth sailing, critically, was it?

MG: I remember being attacked, I think it was after a lecture, and I had a pretty good ability to think on my feet. It was almost like going back to school, where you would put your work up and somebody

would confront you. It was a pretty hostile attack, and I remember coming through it in a way that I was able to verbalize things that [I had not articulated] working alone in my studio at that time. It was all new to me. I mean from the Fargo Bridge to the Portland Museum to San Juan Capistrano Library.

AR: Did you feel you were onto something at the time?

MG: We were onto something that was, in itself, compelling enough. Not necessarily just to last a lifetime, but that it would keep me going. It cost me dearly in terms of my domestic life and so on, but I was working, working, working all the time. As I do now, but, I mean, it was a moment of discovery.

tecture, I'm drawing it. Drawing and thinking are not one and the same thing, but they are part of the same attitude of making something. If you take on the role of [Fountainhead's] Howard Rourke and you say, "No, it can only be this way," then you're finished. AR: You work at radically different scales, from megahotels down to kitchen utensils. How do these two things interplay?

MG: [In product design], there's a wonderful relationship between the small scale and the larger scale. Now I can somehow be a Modernist or a Minimalist, in making something this big and I couldn't lift it, without two hands; I might find a clever way to disguise the handle within the vessel. I've elected never to do that. I don't try to hide the parts but try to celebrate them. And that tactility is very important to me.

It's like the apocryphal story that Philip Johnson once told me-I think it was apocryphal-about two women who came into his Glass House. They were unfamiliar with the Barcelona chairs and said, "Oh, what dreadful chairs. They must be very uncomfortable. Are they, Mr. Johnson?" He said, "To you, they will be uncomfortable because you've already judged them as uncomfortable. To me, they're very comfortable."

AR: Has product design made you rich?

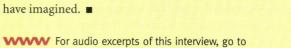
MG: No, but the way it operates is completely different from architecture. I made that little frame up

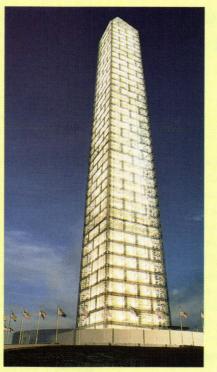
there and I said, "Will that be there forever?" They said, "If it sells, but only if it sells." Made us rich? No, but it does help pay for architecture. I'm not getting rich, but I can pay my bills.

AR: What do you want to do next?

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MG: More of the same. I mean, it's like your cup runneth over. You just have so many nice things to deal with today and it's just a joy. I'm a positive character by nature, but this is better than I could ever







Left: Washington Monument restoration scaffolding. Above: A Michael Graves oil-on-canvas landscape, 1993.





Hanselmann Residence Ft. Wayne, Indiana 1967

This award-winning house for a family of two adults and four children featured Corbusian forms, which provided no clue to Graves' future role as one of the fathers of Postmodernism. The house and the space immediately in front of it make a double square in plan and a double cube volumetrically.

"MICHAEL'S WORK IS POETIC, PERSONAL, AND
LITERATE. HIS COMMITMENT TO DRAWING
AND PAINTING HAS BEEN TRANSLATED INTO AN
ARCHITECTURE OF INCREDIBLE RICHNESS AND
ANIMATION: COLOR, MATERIALITY, TEXTURE,
AND FORM COMBINE TO EVOKE AN ARCHITECTURE
OF INVENTION."—CHARLES GWATHMEY, FAIA

Benacerraf House Princeton, New Jersey

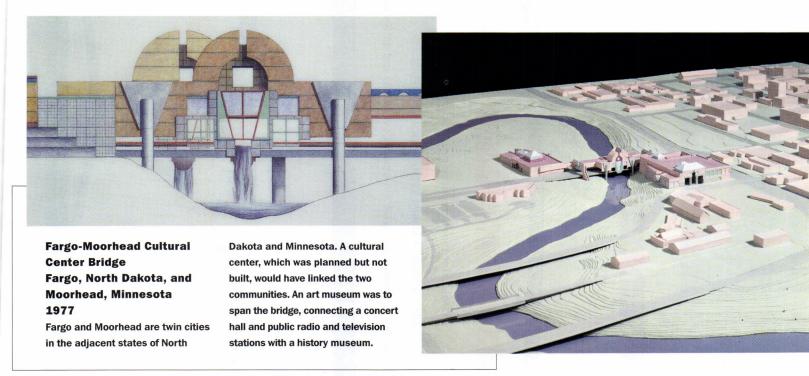
The Benacerraf House addition was intended both as a freestanding pavilion in the garden and as an extension of the living spaces of the original house. Shown here is a view from the garden.





Snyderman House Ft. Wayne, Indiana

Perhaps the best example of the Modernist work of Graves' early career. Although efforts are under way to save the house, a developer that owns the property is planning to raze it. [OCTOBER 2000, page 38].



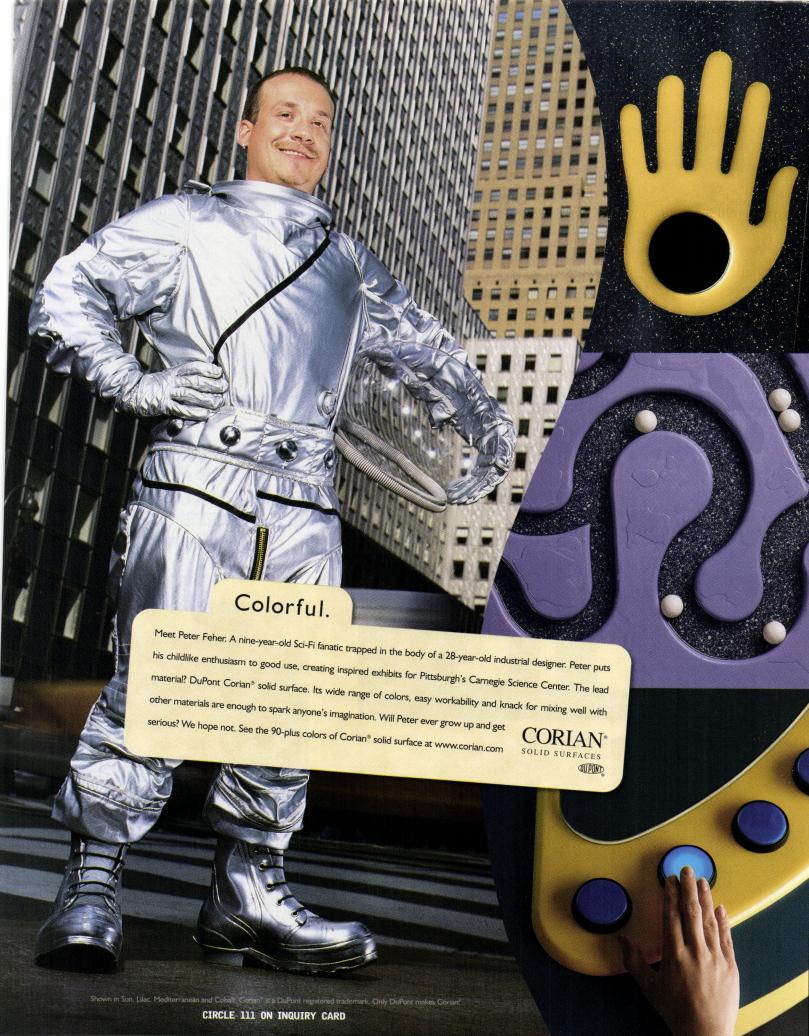
"IN MY HUMBLE OPINION, MICHAEL GRAVES IS ONE OF THE MOST TALENTED ARCHITECTS ON THE PLANET **TODAY. HIS CAREER HAS BEEN ONE OF HIGH RISK** TAKING, AND I BELIEVE THE PAYOFF HAS **BEEN EXTRAORDINARY."** -FRANK O. GEHRY, FAIA



Gunwyn Ventures Professional Office Princeton, New Jersey 1972

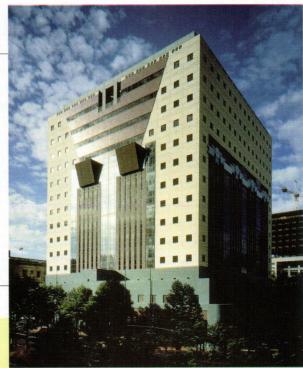
The upper three floors of an existing 19th-century office building were renovated for a capital investment firm. Major sections of the structure between the second floor and the roof were removed, and an independent system of columns and beams was erected.

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Portland Public Office Building Portland, Oregon 1982

The Portland Building was a designbuild competition sponsored by the city of Portland. Located on a 200by-200-foot downtown block, the building houses the city's municipal offices. The facades are organized in a classical three-part division of base, middle or body, and attic or head. View from Fifth Avenue shown.



"HE ATTEMPTS TO REACH A WIDER

AUDIENCE AND TO COMMUNICATE BY

THE WAY IN WHICH HE RELATES HISTORY TO THE PRESENT MOMENT,

MAKING US LOOK AGAIN AT OUR PAST WITH RENEWED INTEREST AND RESPECT."

-RICHARD MEIER, FAIA



Michael C. Carlos Museum, Emory University Atlanta 1993

The museum is a 35,000-squarefoot expansion of Emory's ancient art and archeology museum. It is connected to a historic 1916 building on Emory's original quadrangle, featuring a steel frame, Georgia marble, and a clay tile roof.

Tajima Office Building Tokyo 1993

This nine-story corporate office building for Tajima is located on the banks of the Kanda River in Tokyo. In addition to Tajima's corporate offices, the building contains a showroom for the company's tile product line. The upper portion of the building is composed of a stacked colonnade with a pattern of blue and white tiles.







The Humana Building Louisville 1982

A 26-story office tower in downtown Louisville, Humana is the headquarters for an American healthcare

company. The 525,000-square-foot building includes two parking levels below grade, retail shops on the first floor, and offices and a conference center above. Above: the entrance lobby.

"HIS POWERFUL EARLY ARCHITECTURE SENT SHOCK WAVES THROUGH THE PROFESSION AND OPENED THE EYES OF ALL YOUNG ARCHITECTS TO A WHOLE NEW (AND OLD) WORLD THAT WAS OVERWHELMINGLY RICH IN OPPORTUNITIES, ESPECIALLY IN COMPARISON TO THE ONE THEY HAD BEEN TAUGHT WAS THEIR LIMIT." - DAVID M. CHILDS, FAIA

Walt Disney World Resort Swan Hotel/Dolphin Hotel Lake Buena Vista, Florida 1990

The 1,500-room Dolphin Hotel faces the 12-story, 758-room Swan Hotel across a large man-made lake. Both hotels contain extensive convention facilities, restaurants, and retail shops. The 2-million-square-foot project features a reinforcedconcrete-and-steel superstructure and EIFS with painted murals.

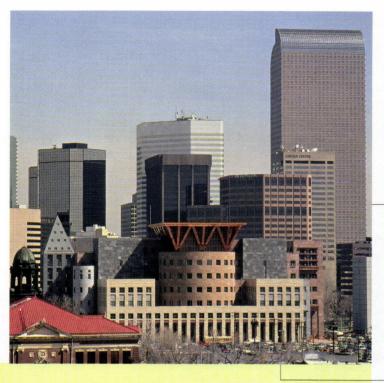




Sunar Furniture Showrooms Multiple locations 1980-1986

Graves designed 11 furniture showrooms and offices for Sunar, including spaces in Chicago, Dallas, Los Angeles, New York, and London. The Houston showroom (above) was organized to offer a variety of spatial sequences, accommodating various pieces of furniture and office systems.







Denver Central Library Denver 1996

The winning design in a competition for the renovation and expansion of Denver's landmark library building, designed in 1956. Above right: interior of the Western History reading room.

"MICHAEL ENGAGED THE DENVER PUBLIC LIBRARY STAFF AS FULL PARTNERS. HE ALWAYS ACTED UPON HIS BELIEF THAT GREAT BUILDINGS **RESULT FROM GREAT COLLABORATIONS** BETWEEN ARCHITECTS AND CLIENTS." -RICK J. ASHTON, CITY LIBRARIAN



The Charles E. Beatley Jr. **Central Library** Alexandria, Virginia 1999

This 60,200-square-foot library features a multipurpose community meeting room with 154 seats set up auditorium-style, a full-service library for the blind, data ports at carrels for personal laptops, children's storytelling and quiet reading room, and an outdoor courtyard for reading and storytelling.



Miramar Resort Hotel El Gouna, Egypt 1997

A five-star resort on the Red Sea consisting of more than 400 guest rooms and public spaces built using traditional Egyptian construction methods and materials.



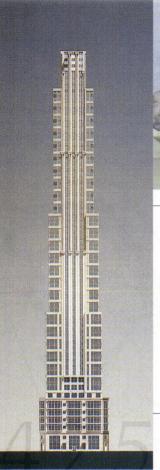
El Gouna Golf Hotel El Gouna, Egypt 1997

A 122-unit golf hotel and club, with numerous single-family villas organized around a lagooned 18-hole golf course in a resort on the Red Sea.



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425 Fifth Avenue New York City Under construction/ Anticipated completion 2002

Graves' firm is completely redesigning the building facade and interiors of this 55-story mixed-use tower. The building contains offices and 176 residential units on the corner of 5th Avenue and 38th Street.

Museum of the Shenandoah Valley, Winchester, Virginia Schematic design/ Anticipated completion 2003

The museum is currently under design and will welcome visitors to the Glen Burnie estate and gardens. The site contains 25 acres of gardens and 264 acres of farmland.

Rice University: North campus master plan for three residential colleges, Houston Under construction/ Anticipated completion 2003

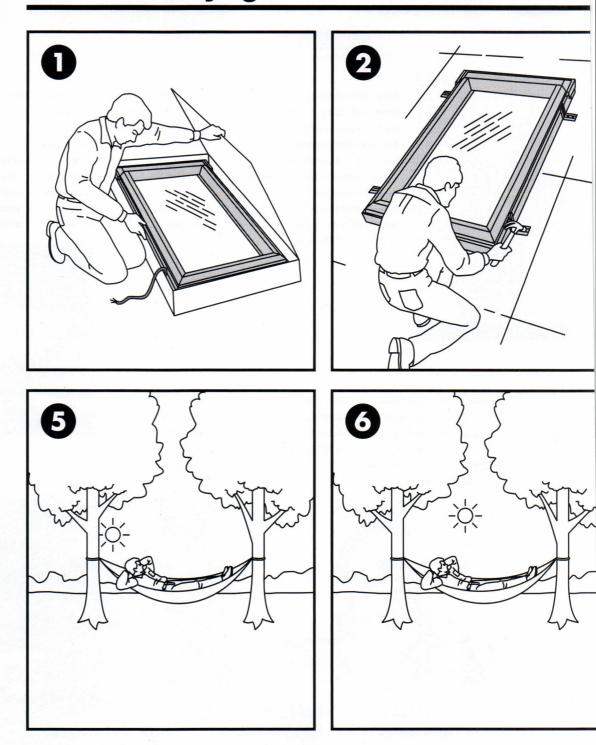
Master plan for a new residential college within a framework that provides for the upgrade and expansion of two existing colleges (below).



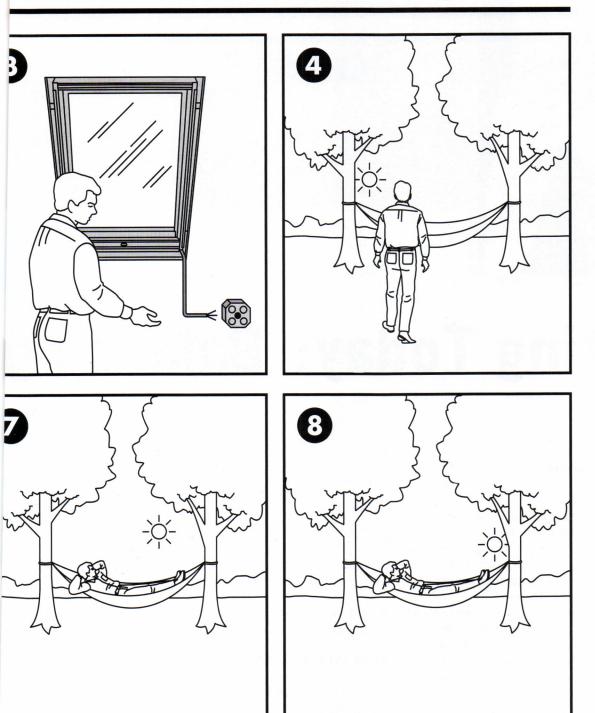
PRODUCTS: (Reading clockwise) Alessi kettle, cream pitcher, and sugar bowl, 1985; Alessi mantel clock, 1986; Carpet designs for the Dialog collection by Vorwerk, Germany, 1987; Oculus chair, manufactured by Atelier International, 1989; Watch for Markuse, produced by Pierre Junod, 1992; toaster from the Michael Graves Design collection for Target, by Black & Decker, 1999; clock radio for Target, 2000.



Electric Skylight Installation







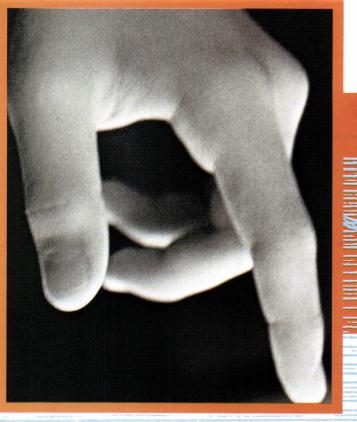
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Lessons from America's Best-Managed Firms

Marketing Today: Balancing

By Jane Kolleeny and Charles Linn, AIA

arketing and communications in architectural firms have been profoundly influenced by the phenomenal growth of the Internet. We now see firms performing considerable market research online and using their Web sites to attract potential clients. Their geographic reach has been vastly expanded, so that a two-person firm can appear to be a 200-person firm. People are bypassing conventional information sources for the convenience and speed of the Internet: Notices for upcoming projects and awards programs are announced on Web sites; online architectural Web-zines are proliferating; and e-mail has become the established form of communication for almost everyone. As a paperless, timesaving vehicle for giving and receiving information, the Internet has changed the way marketing people do their work, but it hasn't lessened their importance.

We don't think we'll ever see clients who actually buy architectural services online, any more than they would from a telemarketer. "If that happens," says Lisbeth Quebe, director of marketing services at RTKL in Chicago, "we've sunk from being an idea-driven service to a mere commodity." While the Internet, which has forever changed the way services are sold, demands the attention of marketing people and architects alike, it still has its strengths and weaknesses. In this final installment of our marketing series, we address this subject, as well as the issue of finding and training qualified marketing staff and understanding the

strengths and weaknesses of the marketing education offered to the current generation of architects.

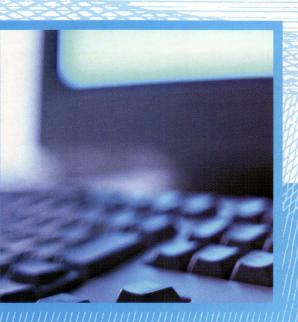
Your Web site and Internet resources

The reality today is that if your firm does not have a Web site, you don't exist. If a potential client knows your name, he or she is likely to look first on the Web before contacting you. Cynthia Kracauer, managing principal in Swanke Hayden Connell Architects' (SHCA) New York office, says, "Historically, architectural firms have had their work exposed most publicly through specialty publications. The Internet creates a platform where even a sole practitioner can gain worldwide exposure for his or her work."

As a business investment, the establishment of a Web site is one of the most cost-effective marketing tools available to a firm in terms of reach and exposure to potential clients. It works 24 hours a day, seven days a week, 365 days a year. It allows others to learn about your INTERNET-BASED TECHNOLOGY HAS BECOME DE RIGUEUR FOR MARKETING, AND THERE IS MUCH TO KNOW ABOUT IT. YET, IN THE FORESEEABLE FUTURE, THERE IS STILL NO SUBSTITUTE FOR SHARP MARKETING STAFF. WHY IS THERE SUCH A SHORTAGE OF THESE PEOPLE, AND HOW DO YOU FIND THEM?

People and Machines





THE REALITY IS THAT IF YOUR FIRM DOES NOT HAVE A WEB SITE, YOU DO NOT EXIST. YET, EVEN SOLE PRACTITIONERS CAN GAIN WORLDWIDE EXPOSURE FOR THEIR WORK.

firm at their leisure and is one of the most polite, noninvasive forms of marketing today.

According to Elizabeth Geary-Archer, president of Out of the Box Marketing Strategies in New York City, "The perfect Web site will be easily updated in-house; it will contain a resource library of information that could include discoveries, case studies, new products, and/or creative solutions that are useful to your clients; recent news about your firm; a recruitment page; a referral form for those who would like to receive information about you; a page for projects that will soon be bid; a portfolio of past and current work; and a password-protected portal to access an intranet/extranet site where clients can view the progress of their project, consultants can make updates, and projects are managed and documented."

As a communications vehicle, the Internet is limited by its immense size and content. How does a firm grab an audience when the audience and competition are unfathomably huge? Geary-Archer suggests spending minimal time registering your site on search engines, focusing instead on listing your firm in directories, or placing links to your site in strategic locations on the Internet where your clients may look. Focus on building an informative Web site that clients will return to again and again.

Steve Goldberg, FAIA, partner at Mitchell/Giurgola Architects of New York City, says his firm's Web site seeks to establish interactive Web relationships with clients and to employ the advantages of Web media. "By linking the projects on our Web site to the client's Web site, we allow potential clients to better understand the context of the building. Similarly, a potential client searching our current clients' Web sites will be linked to our site, where they will see further examples of our work." Mitchell/Giurgola uses Web-media exposure, encouraging readers to explore the subject of an article in greater depth by following links, embedded in the text, to the firm's Web site.

CAVEAT: Although a Web site has great potential as a two-way custom communications tool for firms, many remain one-way mass communication vehicles. Karen Courtney, director of marketing at NBBJ in Seattle, points out, "The next challenge in making a firm's Web site an effective marketing tool is to understand a few specific objectives that your audience wants to achieve and respond to them exceedingly well. This means sharing ideas, having opinions, and creating useful information for your audience, not just posting project information." Nancy Fishman, marketing principal at Zimmer Gunsel Frasca Partnership, in Portland, Ore., echoes the sentiment: "We all need to remember that in a world already overwhelmed with information, the solution is not to shout more and louder, but rather to focus the message and the audience."

Getting work electronically

Particularly among institutional clients, Web sites are becoming the most widely used means to communicate with architects and consultants interested in working for their institutions. Such clients conduct consultant prequalification processes electronically and request that proposals be submitted via the Web; they outline their capital campaigns and building projects. Some describe what projects are under way and upcoming; others publish shortlists and winning firms or illustrate the status of work in

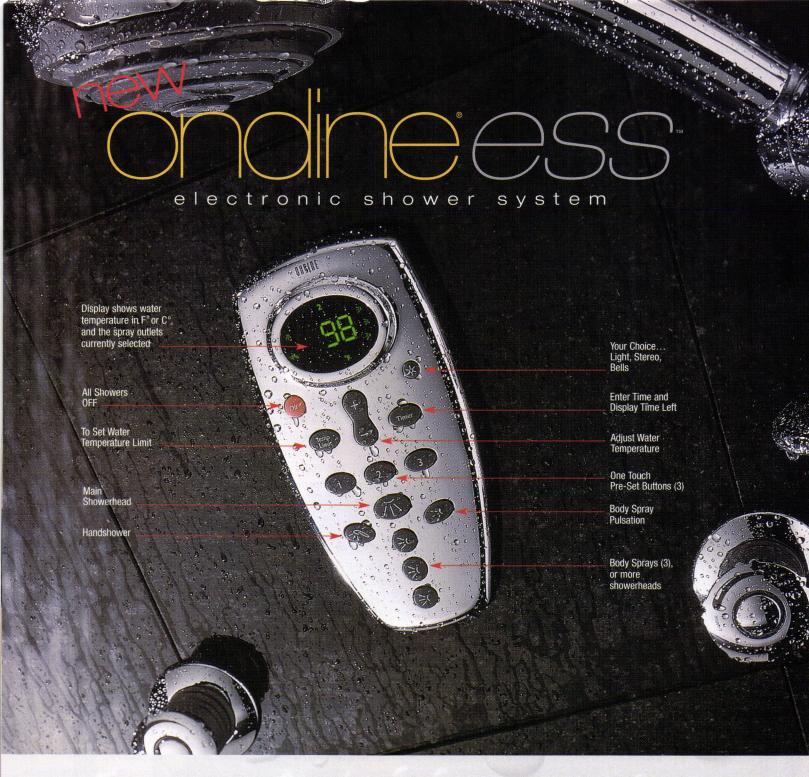
Web hints for architects

By Guy Esberg

- 1. Develop your site design with the Web in mind. A beautifully printed graphic design can be disappointing as a Web site, since the Internet is inconsistent with traditional graphic-design parameters, such as colors, fonts, and the high resolution that graphics and photography demand.
- 2. Test your site on the most popular screen sizes (15, 17, and 19 inches) and commonly used resolutions. Color and contrast can range significantly. Also, there can be pronounced differences between Macintosh and PC systems, even with the same monitor.
- 3. Test your site on the most popular browsers, such as Microsoft, Netscape, and AOL. The look and performance can differ radically from browser to browser, so don't expect that others will see what you see.

Guy Esberg is a marketing consultant with his own firm, Guy Esberg & Company, in Marin, Calif.

- 4. Design your site to work well for users with slower connections. A number of people still use dial-up modems, and corporate users with T1 or T3 lines are often saddled with slow performance due to heavy volume on their networks.
- 5. Keep your files small—the larger your files, the longer they take to load, and the more likely that people will lose interest waiting. Keep your pages and individual graphic images as simple as you reasonably can.
- 6. Avoid unnecessary plug-in software. Unlike casual and consumer Web users, business users want fast, easy-to-access information. Plug-ins slow down the user, take extra hard-drive space and memory, and users without the plug-in or the version you've used will have to download new software. Considerably interesting and useful effects can be achieved
- 7. Choose a Web host with the speed and storage capacity required for your current and anticipated needs. Look for around-the-clock technical support, a client control panel, and the ability to download reports on your site traffic.



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behind a curvy glass partition, fill the center of the floor. Though each level corresponds to a "different mode of communication between people or between people and different types of media," says Ito, within each floor functional borders are blurred and fixed barriers are few.

Hybrid public buildings are not uncommon in Japan, but the process of realizing Mediatheque was unique because programming, design, and construction took place simultaneously, not sequentially. While design professionals, city officials, and concerned citizens were up in Sendai debating what Mediatheque ought to be, Ito was down in Tokyo

MEDIATHEQUE'S GREATEST CONTRIBUTION MAY BE TO SET HIGHER STANDARDS FOR CIVIC ARCHITECTURE IN JAPAN.

trying to design it. But even as late as a year before the completion of construction there was no definitive program. "Up until now, with every building I've ever designed I always thought I could see how it would come together," says Ito. "This time, however, there was no telling where the project was going till the very end."

In response to the city's call for a building so forward-looking that no one could quite define it, Ito pared down his architecture to three fundamental elements: plates, tubes, and skin. He developed these elements into a building system consisting of honeycomb slabs, hollow tubes that run irregular vertical courses through the building, and transparent or translucent exterior walls. Interior partitions, doors, elevators, and stairs were plugged in as the project evolved from an abstract competition entry

to an actual building. "The intent [of this system] is not necessarily toward an industrial productivity or spatial uniformity, as with Le Corbusier or Mies, but rather toward a site-specific uniqueness," explains Ito.

Visually, Mediatheque's most extraordinary feature is its 13 structural tubes that hold up the entire building. Inspired by the image of seaweed buffeted by underwater currents, the tubes—each differently shaped and irregularly placed—seem to undulate as they thread between floors. As they rise, the tubes contract and expand in width and their center points shift from side to side, causing them to tilt this way and that. The antitheses of conventional solid-section columns, the hollow tubes range from 7 to 30 feet in diameter and are composed of white, steel pipes 5 to 10 inches in diameter, ringing their perimeters. Ito arranged the pipes of the four tubes closest to the building's corners in trusslike triangles to counteract seismic forces, while those of the remaining tubes carry only vertical loads and stand in straight but slanted lines.

Determining the precise profile and position of each tube was a challenging puzzle that entailed balancing structural loads, impact on the surrounding space, and functional roles. From roof to basement, the tubes retain their airy, fluid image, but most double as conduits for vertically circulating air, water, electricity, people, and even light. Capped by rotating, mirrored panels on the roof, two tubes guide shafts of daylight down into the center of the building. But glass encases these tubes and the others that cut through floor plates to create fire separation zones.

Designing the tubes, though, was practically a cakewalk compared to designing the floor plates. Like the tubes, these surfaces are not consistent throughout the building. Composed of two thin steel panels

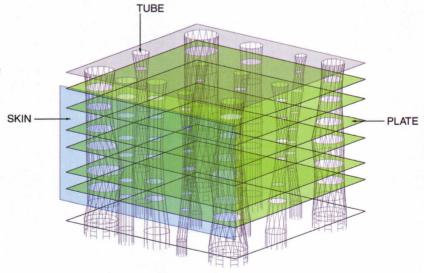


While the main elevation on the south side of the building beckons the public inside, the east (opposite) and west elevations (above) offer varying degrees of privacy and transparency.

An unorthodox structure

Instead of a typical concrete or steel frame, the architects and engineers devised an unusual structural system that employs 13 bundled "tubes" to support steeland-concrete floor plates. Wrapping around the entire structure are glass-and-metal skins that allow a high degree of transparency.

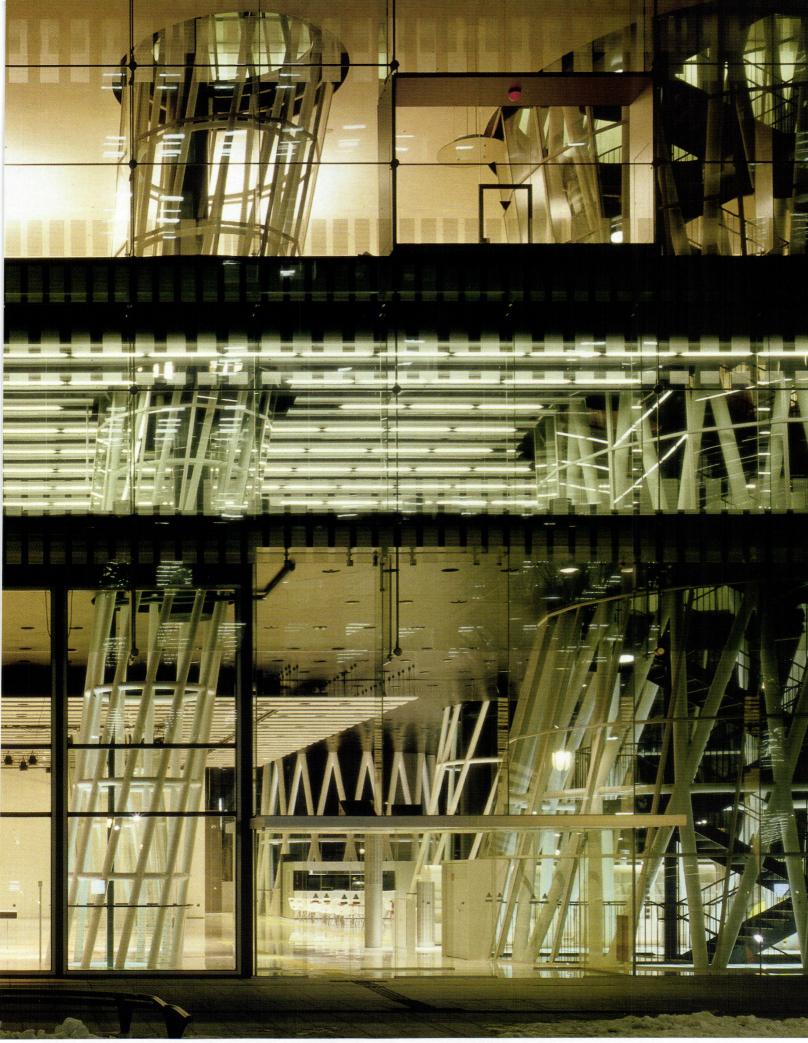
Inspired by an image of seaweed swaying underwater, Ito designed the tubes so they change contour and diameter as they move up through the building. In addition to their structural role, most of the tubes also serve as conduits for mechanical systems, daylight, or people. The tubes, which range in diameter from 7 to 30 feet, are made of steel pipes that are 5 to 10 inches in diameter. Floor plates supported by the tubes are made of two layers of steel plate with



ribbing in between and three inches of lightweight concrete on top.

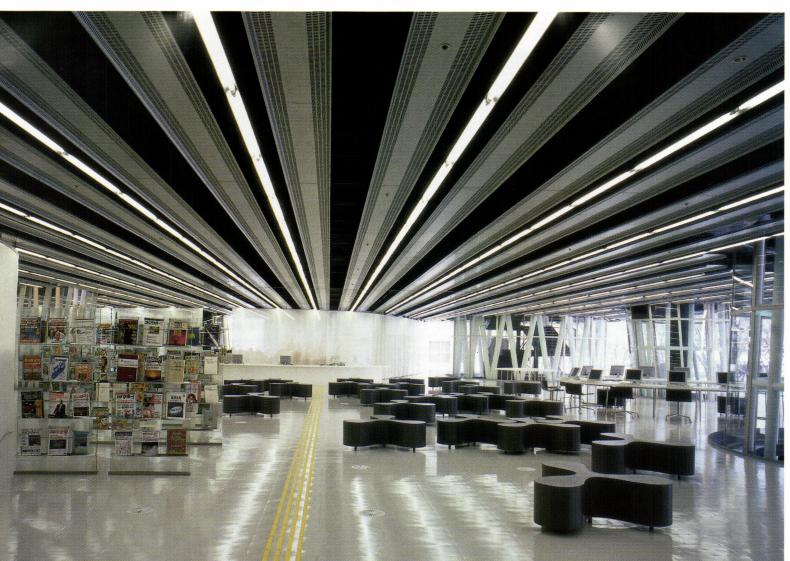
Although it required complex calculations and fabrication, the unorthodox structure creates a remarkably open perimeter and flexible interior.







The audiovisual center on the seventh floor has furniture by Ross Lovegrove (left), while the library features clover-shaped seating on the second floor by Kazuyo Sejima (below). A stair climbs one of the building's 13 structural tubes (opposite).





articulate casual seating areas. By contrast, Karim Rashid's bright yellow seating for the art gallery and brilliant red reception desk on the first floor are whimsical sculptural pieces that guide visitors through the building rather than mark territory. And Ross Lovegrove's eye-popping, chartreuse chairs, tables, CD-listening stations, and screened video-viewing booths for the audiovisual center help identify certain functional areas while also creating circulation paths. Together with different materials and lighting on each floor, the furniture helps establish a unique identity for each level.

This stratification is projected onto the building skin as well. "We cut away a 118-foot-high cube from the space of the city and exposed the volume in cross-section," explains Ito. Indeed, the building's east and north elevations are composed of horizontal stripes of transparent and semitransparent glass and metal, exposing the diverse activities on each floor. But the south-facing facade has two layers of clear glass with a three-foot-wide air space that insulates the building's interior in winter and draws hot air up and out in summer. The west side, on the other hand, is completely obscured by a lightweight metal, louvered screen, which conceals egress stairs racing up the side of the building and a concrete wall behind. The roof, which is treated as the building's fifth facade, is bedecked with a louvered metal screen that hovers overhead as if to contain the tubes jutting out from below.

Even though construction is finished and the building opened in January, Mediatheque is still in design. But now the job is in the hands of local citizens, who must figure out how best to use their new \$100 million facility. This marks a clean break with the set programs of many recent libraries, museums, community centers, and other public buildings commissioned by various Japanese government agencies over the past 10 years in an effort to jump-start the country's flailing, postbubble economy. While many of these buildings have been criticized for being poorly managed and underutilized after gala opening events, they laid the groundwork for this building by identifying potential pitfalls. It is hoped that, by endowing the public with the freedom to use and modulate the building as they see fit, Mediatheque will have a lasting impact on the next generation of Japan's public architecture.

Sources

Elevators: Mitsubishi Electric Corporation

Electrical installation: Yurtec Co. Ltd., Taihei Denki Co. Ltd. and Tohzan Denki Co. Ltd. joint venture Electrical signal line: Nippon Densetsu Kogyo Co. Ltd.

Lobby reception desk and furniture on fifth and sixth floors: Karim Rashid

Tables, wheeled chairs, and clover seating: Kazuyo Sejima & Associates Wood-and-steel library benches: K.T. Architecture

CD-listening stations, tables, and chairs: Ross Lovegrove

WWW For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com



Elliott+Associates creates a cyberage "blue box"

for ACKERMAN MCQUEEN ADVERTISING

that "broadcasts" the company's inner workings



ight is both the medium and the message at Ackerman McQueen Advertising in Tulsanatural light, artificial light, light as insight and idea. This is the ninth project that Elliott + Associates Architects has designed for the agency, and it is easily the most ambitious, combining sophisticated telecommunications technology with inventive and frequently playful details.

Ackerman McQueen occupies two floors of an ornate 1917 office tower in downtown Tulsa with 18-foot ceilings, massive concrete beams and braces, and dramatic skylights. In a 1992 renovation, Elliott + Associates turned the 12th floor—originally a drafting room for the Getty Oil Co.—into a laboratory for creative play. Visitors see the company logo projected on the beams and columns as they approach the front door. A path of carpet winds from the reception desk through the offices like an unfolding idea, with the adjacent walls serving as a gallery for the agency's work. And in the center of everything sits a large videoconference room where clients and ad directors turn raw concepts into polished marketing campaigns.

The 12th-floor spaces were attractive and serviceable but were invisible to the public and lacked the heightened visual punch that Angus McQueen wanted for his agency. "Our clients want theater," he told his architects, "so let's blow this [new] space out."

In 1999, Elliott + Associates translated the mandate into a transparent studio, stage, and videoconferencing center that resembles a large Minimalist TV set without dials or buttons. They located their "blue box" on the first floor, at the foot of the building's escalators and next to a wide public corridor that runs from the main lobby to the parking garage. Offices and small conference rooms line one side of the corridor, the blue box plus executive offices and a library line the other, with the curious public strolling in between.

Ackerman McQueen produces many television commercials (Leap Frog toys and Six Flags amusement parks are among its accounts) so they were comfortable with the concept of a gigantic TV set. It also satisfied the desire for theater by blurring the line between inside and out, observer and participant. Every day, the corridor audience peers through blue glass walls-created by sandwiching a blue gel between clear glass layers-at



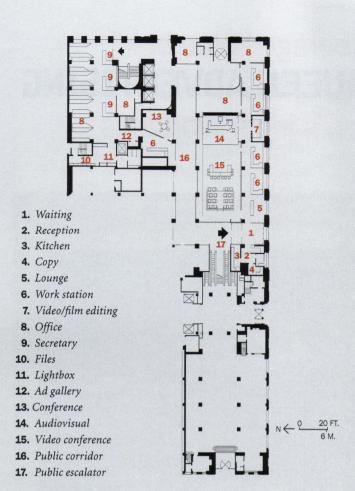
clients, ad directors, and others playing out a high-tech drama in front of a 10-screen video wall that throbs with images and information. The result is a surreal blend of video game and The Today Show. The video wall is backed with enough electronic gadgetry for a moon shot, including a cyclorama for projecting real scenes behind talking heads. Blackout shades are available for privacy, but they are rarely used.

"Ackerman McQueen is in the idea business," explains Rand Elliott, "and this space is designed to communicate the power of ideas. It demonstrates how they can surprise, soothe, or move you to action. It shows the inside of an idea."

But getting inside an idea is only part of the story at Ackerman McQueen. Through clever lighting and creative use of materials, Elliott +

Project: Ackerman McQueen Advertising executive offices and videoconferencing center, Tulsa Architect: Elliott + Associates Architects—Rand Elliott, FAIA, principal Associate architect: Bill Yen, AIA Engineers: Flynt & Kallenberger (mechanical and electrical); Eudaley Engineering (structural)

General contractor: Lassiter Richey Co.



Associates turned the entire space into an ad. Flanking the blue box is a row of small offices, separated from one another by gray fiberglass scrims that provide a soothing counterpoint to the fireworks on the video wall. An exposed-steel column and a recycled revolving door serve as reminders that these cyberage quarters have been carved out of a historic building. The bathroom, a slick gray-on-gray affair, contains a stainless-steel prison toilet; printed backwards on a facing wall and reflected in its mirrors are aphorisms from chairman McQueen, such as "the most expensive advertising is advertising that doesn't work." Such wry details undercut the preten-

In the blue panels (this page and opposite, top), a colored gel was laminated between sheets of glass. The office area is gray-ongray (opposite, bottom left) with riveted steel columns (above, right) original to the 1917 structure. The video wall (opposite, top) is the videoconferencing centerpiece with a control area (opposite, bottom right) tucked behind it.

sions implicit in the phrase "corporate communications," suggesting that a successful company is one that doesn't take itself too seriously.

But it's the big "blue box" that makes the design. The combination of light, color, movement, and reflection creates a memorable kinetic portrait of an ad agency promoting the next new thing.

Sources

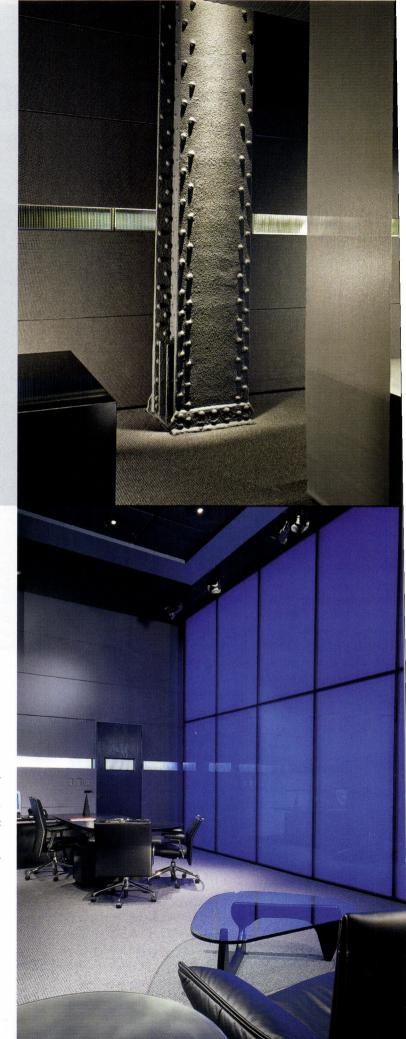
Curtain wall: Kawneer

Glazing: Bendheim, Glass Pro, Saflex

Windows: Vimco

Glass doors: Alpha Glass Hardware: Corbin, Hager Paints and stains: Sherwin Lighting: ELP, Halo, Lumiere, Lithonia, Artimede, Concealite, Tubelighting, Supervision, Con-Tech, Norbert Belfer

For more information on the people and products involved in this project, go to **Projects** at **www.architecturalrecord.com**







Randy **Brown** exposes 19th-century brick walls and inserts a collage of inventive elements at the POULSON/KJELDSETH AD AGENCY

The offices of two advertising agencies—Poulson/Kjeldseth in Sioux City, Iowa, and Ackerman McQueen in Tulsa, Okla. [page 210]—provide a striking study in contrasts. Each of the two spaces, by Randy Brown Architect and Elliott + Associates, respectively, was inserted into a late-19th- or early-20th-century office building, but they differ dramatically in architectural language.

By David Dillon

'm in a hurry and don't have a dime. What can you do for me?"Architects hear this bleat from clients all the time and either throw up their hands or rise to the challenge of making something out of nothing.

Omaha architect Randy Brown got such a call from Poulson/Kjeldseth, a small advertising and public relations firm in Sioux City, Iowa, looking to convert a downtown corner loft into new offices. The space in a 19th-century building measured barely 1,500 square feet, and had passed previous lives as a warehouse, brothel, and communal wastebasket. By the time these new owners got hold of it, its historic character had nearly vanished behind decades of dirt and makeshift partitions. The renovation budget was a miserly \$75,000.

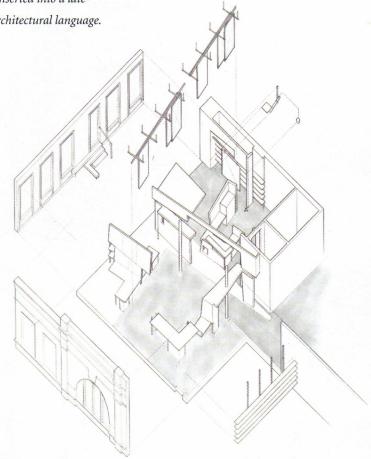
Brown's solution was obvious but sensible given the constraints: Peel the existing space back to the studs and float a collage of contemporary elements within it to create a dialogue between old and new, whole and part, order and apparent disorder. He exposed the brick walls and wood flooring, replastered the ceiling, and rebuilt the tall, double-hung windows that had once flooded the interior with light. An original, flared steel column now marks the entrance; panel joints and screw-head patterns serve as spare decoration.

Within the third-floor shell, Brown created four zones—studio, office, conference room, and reception—separated by half-walls and thin fabric panels that travel in shallow tracks suspended from the ceiling. With canted partitions and strategically placed slots and cutouts, providing views across the room and out to the city, space flows continuously from one zone to another. The interplay of many different materials, textures, and geometries creates privacy without isolation and a general sense of improvisational energy.

"People tell me they expect to see spaces like this in New York but not in Sioux City," says Kevin Kjeldseth. "They assume it must have been very expensive. I reveal nothing." (Until now, that is.)

Sioux City is hardly a center of fashion. It is corn-and-cattle country, where people pore over seed catalogs. But much of the freshness of the Poulson/Kjeldseth offices resides in simple custom details that owe more to Agway than to trendy design magazines. Brown's design celebrates manual labor and making do the way Elliott + Associates' Ackerman McOueen

David Dillon is the architecture critic of the Dallas Morning News and a contributing editor of ARCHITECTURAL RECORD.



agency in Tulsa [page 210] celebrates high technology.

"Every chance we got to create a new detail, we took," says Brown. "It was a way to explore and enrich the design, but without spending a lot of money. Here, we were able to continue the design process through construction. You don't get to do that when you're working only on paper."

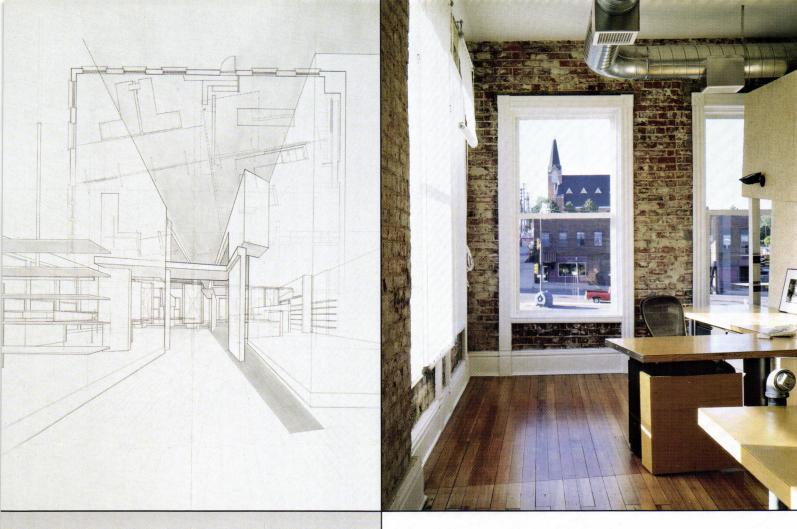
To control costs further, Brown fabricated most of the furniture, cabinetry, and hardware in his Omaha studio and trucked it to Sioux City,

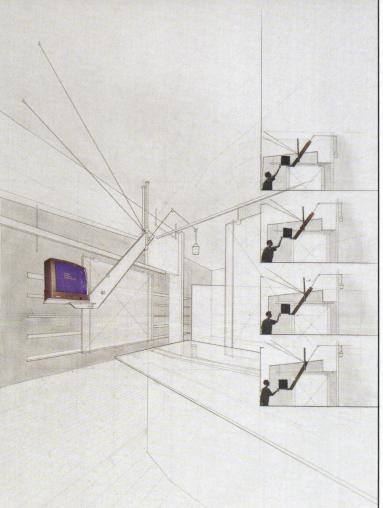
Project: Poulson/Kjeldseth Ad Agency + Graphic Design, Sioux City, Iowa Architect: Randy Brown Architect-Randy Brown, AIA, principal-incharge; Matthew Kruntorad, Geoff

DeOld, Cory Hoelker, project team Client: Jan Poulson, Kevin Kjeldseth, Terri Kjeldseth

General contractor: WA Klinger, Inc., John Gleeson







where he and the owners and their families installed it over three weekends. Wood doors were edged in steel and turned into desks and tables; plumbing pipe was used to support tables, bookshelves, and light fixtures. The window shades were constructed from burlap, steel rods, pulleys, and other hardware-store items. And in a witty, low-tech turn, the television monitor in the conference room sits at the end of a simple steel-and-wood arm counterbalanced

Wood doors with plumbing-pipe legs became desks (opposite, top and bottom right). A simple contraption, counterbalanced by a weighted bucket (left and opposite, left), adjusts the TV height.

by a weighted galvanized bucket. Like the window shades and fabric partitions, the arm must be raised and lowered by hand instead of by switch.

"We all enjoyed blending old-fashioned technology with new," Brown explains. "It maintains a sense of continuity." And it also confirms the role of limits in good architecture. Poulson/Kjeldseth is a small project with a miniscule budget in an old building in the middle of the prairie. Within these unlikely circumstances, the architects created a space that serves the client, enhances the building, and in small but significant ways expresses the pragmatic spirit of the place.

Sources

Doors: Brite Vue (frameless glass) **Hardware:** Blum (cabinet hinges
and door slides); Johnson Hardware
(sliding-door track)

Paint: Diamond Vogel
Stain: Clear polyurethane

Seating: Cassina, Herman Miller

Lighting: Metalux

Drywall: Tecktum

For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com



TEN Arquitectos visually transforms the

PRINCETON PARKING GARAGE

by wrapping it in a veil of stainless steel

By Sarah Amelar

ike great venetian blinds, hanging scrims of sheer stainless-steel fabric sheathe Princeton University's newest parking garage. Though rather simple, the wrapper changes character with weather, light, and season—rippling in the breeze, appearing opaque and glowingly metallic when struck by intense rays of sun, glinting through icicles in winter, and becoming veil-like when backlit at night. While the underlying structure is straightforward, the skin transforms it.

But before the outer membrane was even considered, the university set out to create 740 parking spaces efficiently and economically. Accordingly, it hired Walker Parking Consultants, rather than world-famous architects. Some 10 years earlier, Princeton had engaged architects Machado & Silvetti for all phases of a parking structure, but that project had to stand amid historic campus buildings—and ultimately carried a sizable price tag.

This new site, by contrast, borders railroad tracks, with an indoor hockey rink, physical plant, and office structure nearby. At Princeton, however, even the railway station is picturesque—and while the property was unencumbered by the architecturally sensitive issues facing the earlier garage, Walker's structure would have high visibility from the quaint one-car train that brings passengers here. When the university's trustees and members of the Grounds and Buildings Committee caught sight of the consultant's scheme for an ordinary-looking precastconcrete garage with 53,000-square-foot floor plates, they balked.

And so, enter stage left: architect Enrique Norten, Hon. FAIA, of Mexico City's TEN Arquitectos. Norten was already well known at Princeton School of Architecture, not only for his designs, but also as a guest lecturer. He soon accepted the commission to wrap a skin around the building and stair tower.

The architect also had ideas about siting. Rather than place the garage beside the hockey rink, Norten convinced his client to shape a future green space (an area currently used for outdoor parking) with a building the hockey rink, office building, or garage—on each of its three sides.

But sheathing clearly offered the greatest opportunity for invention. TEN Arquitectos had long experimented with visually light building skins, including the glass envelope of Hotel Habita in Mexico City [MARCH 2001, page 106]. For this garage, the firm initially considered a range of materials, including perforated metal and stone, and various meshes. A code issue influenced their choices: To meet the requirements for an open parking structure (one without, for example, sprinklers), the outer shell would need open areas on at least 20 percent of its overall surface, and the total

length of those openings could measure no less that 40 percent of the building's perimeter. "We knew we didn't want punched openings," recalls Norten, "and so, we decided to look for a material that would comply with this formula at every square inch." Thus, they found a microsolution that simultaneously resolves the macrocondition.

The durable material TEN selected is a German-made stainlesssteel fabric that hangs from steel "curtain rods," attached to precast-concrete spandrel panels at the top. Embedded steel brackets prevent the curtains



Project: Princeton Parking Garage Architect: TEN Arquitectos— Enrique Norten, Hon. FAIA, Bernardo Gómez-Pimienta, principals; Julio Amezcua, Francisco Pardo, Rubén Garnica, Martine Paquín, Miguel

Ríos, project team

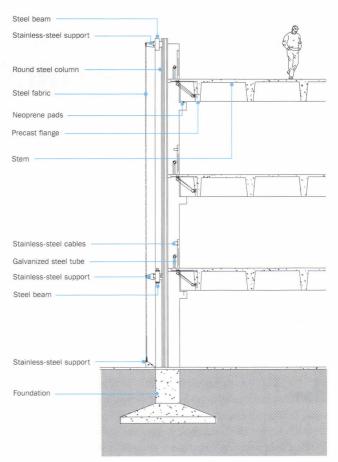
Architect of record: Walker Parking

Client: Princeton University Engineer: Walker Parking

Consultants







WALL SECTION

The stainless-steel skin changes with the quality of light, appearing more opaque and glowingly metallic as the illumination intensifies (left). Spring connections fasten it at the bottom (opposite).

from billowing out fully. Elegantly simple spring connections at the bottom hold the fabric fairly taut while allowing it to ripple. As the material moves, it casts shadows, creating a gauzy moiré effect.

To keep the prefab structure as transparent and airy as possible, the size of exterior openings was maximized. The architects also tinted the concrete black, allowing the precast members to recede optically behind the steel veil.

Norten wanted to place the stair within the garage's main volume, but for security reasons, his client asked him instead to finesse the details of a prefabricated, separately articulated stair tower. "The stair, like much of the building," he says, "came right off the shelf." The architects enveloped the tower in clear glass, layered with steel grate. An adjacent bus shelter, also by TEN, will have an orange glass canopy.

TEN's original design called for wrapping the building's four faces in steel fabric, but Princeton ultimately economized and left one side uncovered—a place where, Norten hopes, a screen of ivy will eventually grow. The uncovered face now offers a compelling contrast between the bare structure and the sheathed elevations, which manage—by remarkably simple means—to take on visually greater lightness.

"We found it amusing that such a big building could be, more or less, unloaded from a truck," says Norten. "In the end, we were pleased to give it such a metamorphic skin." ■

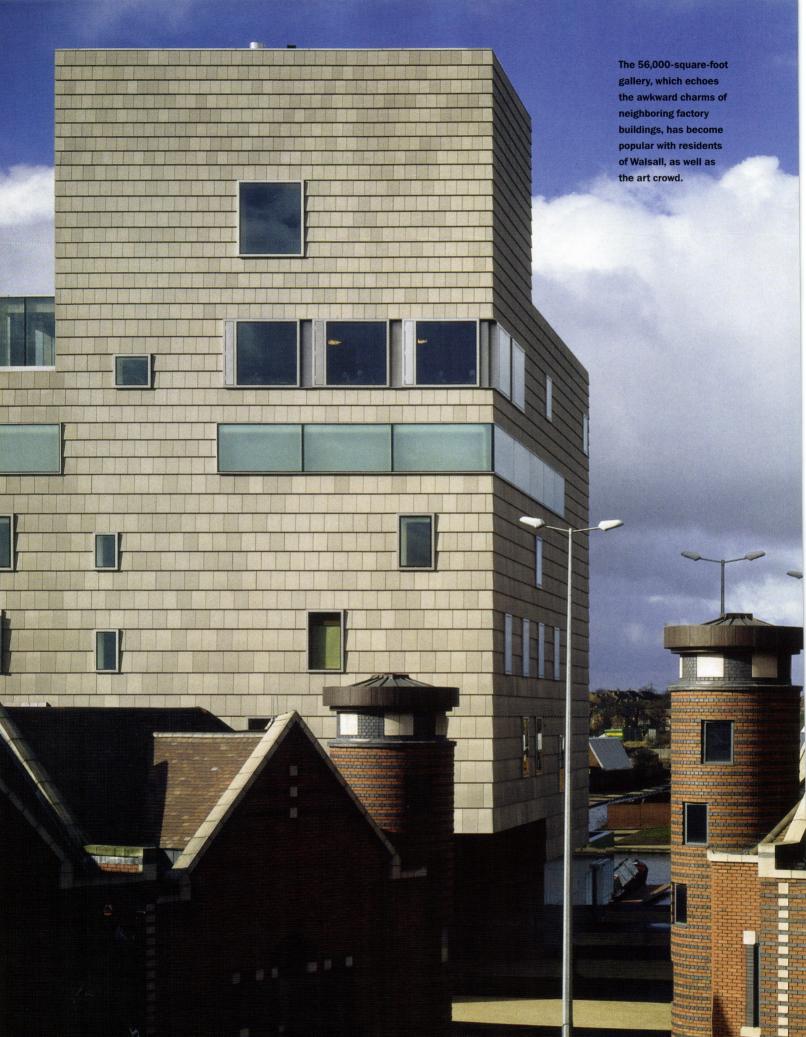
Sources

Structural system: *Precast-concrete* beams and columns

Cladding: GKD (stainless-steel mesh)

For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com





Rising from its industrial setting, Caruso St John's WALSALL GALLERY is taking Cool Britannia to the country's unglamorous Midlands

By Penny McGuire

he town of Walsall lies a half hour's train journey north of the unlovely but prosperous city of Birmingham (cars, trade fairs, Bourneville chocolates), in Britain's Midlands. It is probably safe to say that most people in Britain have not visited Walsall and, until the advent of Caruso St John's New Art Gallery, had no intention of doing so.

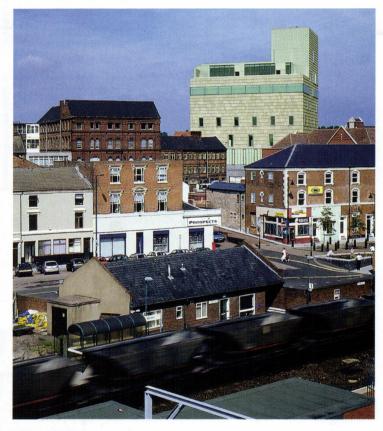
In the 19th century, the town was a leather-working center with factories linked to a great network of canals that still threads the country. These days, long after the decline of manufacturing, the town of 263,000 suffers from a host of economic and social ills, including the highest mortality rate in the country and a shortage of doctors. Although most of Walsall's factories stand idle, a few still operate, including the gallery's neighbor—a massive, redbrick building with the characteristic big windows and shallow rooms needed to bring daylight to 19th-century workers.

"We're interested in the direct and awkward character of industrial buildings, the very abrupt volumes," says Peter St John. "They're purely functional but also adjusted over time so that you get rich volumes and compositions." St John and his partner, Adam Caruso, an American, are based in London and won the Walsall commission in a design competition in 1995. The format for the competition (which called for only two sheets of text and four drawings) discouraged large firms from entering and allowed the talents of a youthful practice, hitherto unknown, to rise to the top.

Arriving by train, visitors can see the gallery's broken profile as they pull into Walsall. With its five-story tower rising from a main block, the gallery emerges from the town's untidy streetscape. Above a stainlesssteel-clad base, the building is uniformly covered in overlapping terra-cotta tiles and perforated by a random arrangement of glazed openings. At first glance, the gallery resembles the stacked volumes scattered around the Midlands, so that for a second you are in familiar territory.

The entrance to the gallery, which stands on axis with Walsall's Victorian canal, is at the west end of town, off a new square (whose paving is painted in broad, flat stripes by artist Richard Wentworth). Along its north and east sides, the square is flanked by prosaic buildings for Woolworths and British Homes Stores. Visible from afar, the gallery

Penny McGuire is senior editor of Architectural Review in London and has written for architecture and design publications such as Domus and Abitare in Italy and Belle in Australia.



anchors the top of the high street and corresponds with the town's other landmark, the parish church of St. Matthew.

On the town side, the gallery's facade is formally strong, "like a sphinx," says St John, so it stands up as a focal point for the disparate collection of buildings around it. In spite of its distant monumentality, at close range the exterior has a textural, at times even a chameleon, quality. The silvery gray tiles are composed of different mixes of clay, so their color varies subtly, and the building's skin, sensitive to changing temper-

Project: New Art Gallery, Walsall, England

Architect: Caruso St John Architects-Adam Caruso, Peter St John, Laurie Hallows, Alun Jones, Martin Bradley, Andres Martinez, Silvia Ullmayer

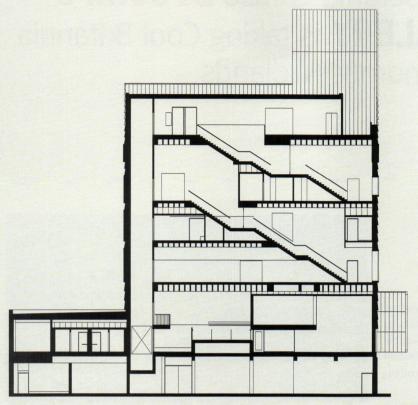
Engineers: Arup (structural, services, facade, acoustic)

Consultants: David Bonnett Architects (access); Bruce McAllister (art handling); Michael Nash and Jane Chipchase (graphics); Lynn Kinnear (landscape); Andy Baskeyfield, David Young (security)

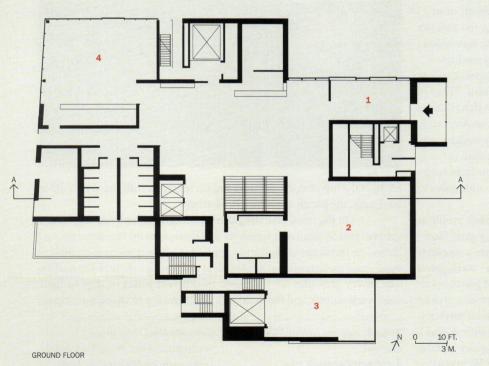
Project manager: Citex—Simon

Whelan

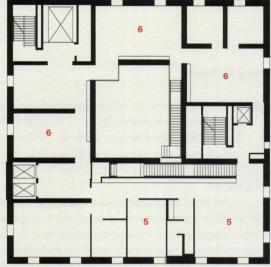
Contractor: Sir Robert McAlpine Ltd.



SECTION A-A

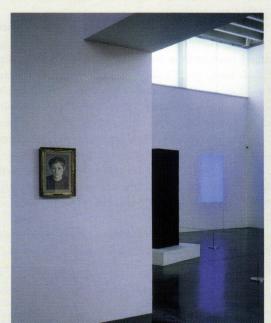


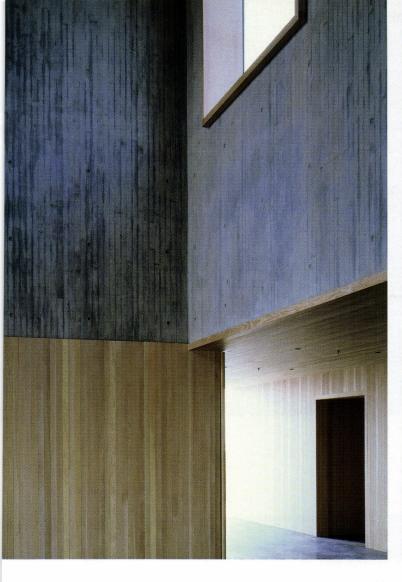
- 1. Entry lobby
- 2. Children's gallery
- 3. Loading dock
- 4. Bookshop/cafe
- 5. Staff offices
- 6. Garman Ryan Collection



THIRD FLOOR

An all-concrete structure, the building combines poured-inplace and precast members. Timber cladding picks up the board markings of poured-concrete walls (opposite left). Wood adds warmth to large spaces, such as the grand stairway (opposite right). Daylight is brought in from clerestory windows in many galleries (below).







ature and light, turns black and cold on a dark day, almost red in the evening. As the tiles diminish in size toward the top, they create a modest optical illusion: walls seem to depart from the vertical, their outlines blurred by the jagged silhouette of overlapping scales.

"We chose a material that had some connection with the tradition of clay-brick buildings in the Midlands, that would not make everything else feel dowdy," says St John. "For the same reason, we wanted the building to be ambivalent, almost familiar, and didn't want it to be immediately legible. We're not interested in architecture in which functions have diagrammatic clarity. We tried to create a building that was like an awkward friend, somebody who's not easy to get on with, but who, once you know him, is a friend for life."

A showcase for two women's passion for art

The gallery has generated a great deal of public excitement—a response, in part, to the client's intention to create a contemporary civic building in 19th-century tradition, constructed for the benefit of local people to celebrate a local bequest. Commissioned by the town's Metropolitan Borough Council, funded by the national arts lottery and European Regional Development Fund, and run by an inspired young director, Peter Jenkinson, the gallery houses the Garman Ryan Collection. The artwork was left to the town in 1973 by Kathleen Garman, a local resident and wife of the sculptor Jacob Epstein. Garman had assembled the collection over a period of 14 years with her friend, the artist Sally Ryan. There are no grand works, but the collection is a beguiling testament to

personal passion. Along with Epstein's sculptures and works by friends and relations such as Augustus John and Lucian Freud, there are also intimate studies and drawings by Rembrandt, Monet, Degas, Constable, Modigliani, Van Gogh, Durer, and others.

The history and personal nature of the collection, as well as the small size of many of the works, encouraged the architects to look to the English country house for inspiration—in particular, Hardwick Hall, a late-16th-century mansion in Derbyshire, by Robert Smythson. "It's one of my favorite buildings," St John explains. "At the time, it was technically very innovative. It had more glass than any other house in Britain, tall windows onto the landscape, and a fantastic roof and profile. We felt that the image of [this] house was something people could relate to."

The building is replete with diverse references, some more obscure than others, drawn from English medieval and 19th-century industrial architecture, the Palazzo Vecchio in Florence, heroic Modernism, and Louis Kahn's precepts on spatial hierarchies. Not all of these references are immediately recognizable, but they contribute richness to the gallery's austere composition.

From such models the architects derived the Walsall Gallery's distinctive scale, character, and rich variety of spaces. In addition to galleries for the permanent collection, the architects had to provide flexible gallery space for temporary exhibitions, educational facilities, shops, and a restaurant. Like an Elizabethan house, the Walsall Gallery is tall and compact, with a complex arrangement of intersecting volumes that vary in size. Staircases run through the building, linking the main exhibition







spaces with stacked mezzanines on the south side, which are devoted to offices and accommodations for staff, educational programs, and a resident artist. On the first floor is a house-within-a-house containing the Garman-Ryan Collection. Here, a double-height hall is surrounded on two levels by a sequence of small rooms in which works are arranged thematically. From the main staircase on the third floor, visitors get a tantalizing view of the hall and a balcony overlooking it; but, in a teasing fashion, they must descend to get there.

Intimately scaled on the lower floors to accommodate the Garman Ryan Collection, the museum's interiors expand on the fourth floor into a sequence of high-ceilinged exhibition rooms with translucent clerestories. On the fifth floor, the spaces stretch once again—into a double-height restaurant with windows on the east and north. Throughout the building, the simple glazing is sparely framed in stainless steel and inserted flush with the cladding. The placement of windows follows an interior logic, articulating the functions of rooms and spaces, rather than any exterior compositional scheme.

Pattern, material, and texture work with scale to define the character of the various spaces. Within the building's poured-in-place concrete shell, each floor asserts its own identity—heroic in places, intimate and embracing in others. The essential monumentality of the large public spaces is toned down by wood. Exposed concrete displays the imprint and grain of wood forming boards; concrete joists animating ceilings recall fine timber construction. A more obvious echo of tradition

is present in the wainscoting of Douglas fir that continues the ghostly traces of the concrete formwork and in the wood that entirely lines the modest spaces of the Garman Ryan Collection. Here, Douglas fir underfoot replaces black-tinted concrete used for floors in the rest of the building.

The museum's physical presence, dignity, and neighborliness work together to create what is now a hit with the public. Local people come here in droves, together with visitors from other parts of the country and, now, from abroad. An essential part of the project's success stems from Jenkinson's social vision and determination. "There are 263,000 people here and we wanted our museum to be accessible to the broadest section of the community, especially to lottery-ticket buyers," says Jenkinson. "We weren't going to cut corners and compromise. We were determined to get a building that was world-class, not second- or third-class." ■

Sources

Terra-cotta tiles: NBK Janinhof Poured-in-place concrete: Code Stainless-steel roof: TR Freeman Flat roof: Shrewsbury

Interior stainless steel: A. Edmonds and Co.

Ironwork: Allgood; FSB Precast-concrete fire stair:

Birchwood

Precast-concrete stair treads:

Evans Concrete

Fire-stair balustrades: Metallic

Fabrications Spotlights: Erco

WWW For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com





esplanade, EDC's commercial real-estate arm selected the Guggenheim Museum to proceed with a development plan for land including Piers 9, 11, 13, and 14. The only trouble is that Gehry's hugiyama scheme embraces (shall we say, swallows?) the territory on which the ferry terminal sits. The EDC states it cannot really predict what will happen to the newly built terminal, since details of the Guggenheim scheme are still being negotiated. It will only say for the record, "The design will incorporate a ferry pier."

Meanwhile, the 570,000-square-foot Guggenheim project has to pass the environmental and traffic hurdles required in the approval process. The situation is ambiguous, to say the least. In the best of all worlds, Gehry's Guggenheim-the latter-day equivalent to Lincoln Cathedral—and Smith-Miller + Hawkinson's ferry terminal—the latterday bicycle shed-would both be recognized as "Architecture" vital to the public realm. After all the effort to upgrade public architecture, the agency that gave us both schemes might end up virtually taking one away. As they say, only in New York.

Sources

Metal-and-glass curtain wall:

Kawneer

Aluminum windows and doors:

Kawneer

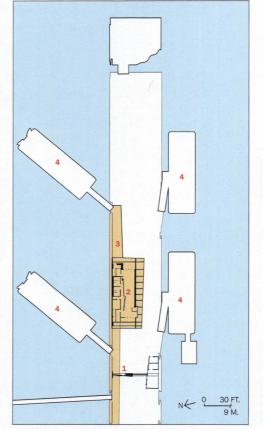
Terne-coated steel roof:

Follansbee Steel

Hangar door: Fleming Steel Glazing: PPG Industries

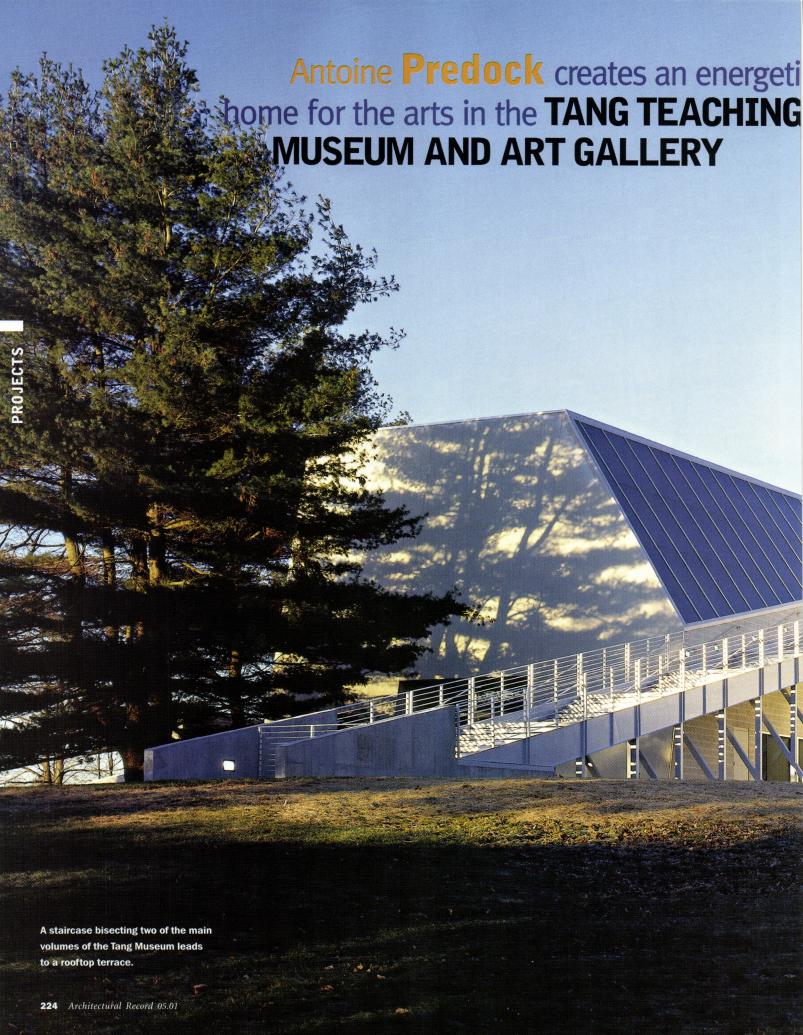
Locksets: Mortise Schlage Hinges: McKinney, Rixson Lighting: Zumtobel, Edison Price

WWW For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com

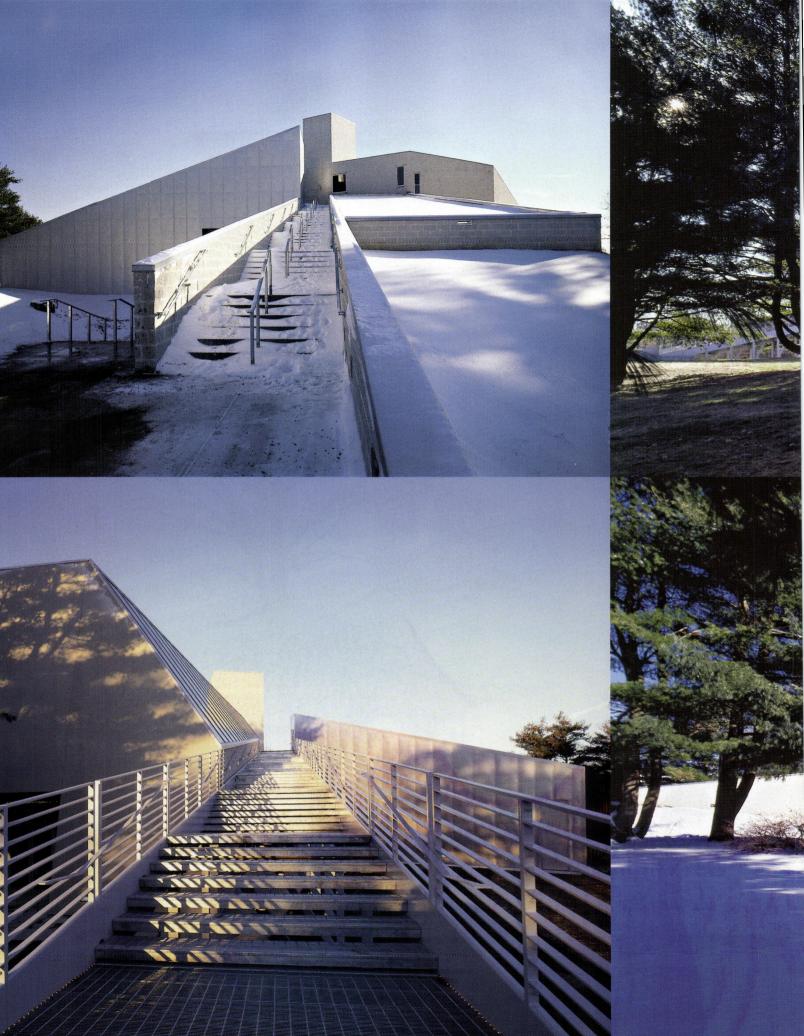


- 1. Entry gate
- 2. Terminal pavilion
- 3. Outdoor seating
- 4. Ferry slips













Transparency within the building allows views from a second-floor gallery space (left) to a pedestrian bridge and the lobby below. From the staircase in the lobby (right), one can see into galleries on both floors. The ladder and phones were part of an exhibit on sound.

of the earth and to engage the earth—as if it was absolutely meant to be within the shade of a seemingly sacred circle of white pine trees. Predock wanted the building to relate to the limestone outcroppings around the campus, left from glaciers that receded. He would have loved to have clad the building in stone, but the construction budget for the 30,000-square-foot museum was a mere \$8.2 million, limiting the palette of possible building materials. A few aspects of Predock's original design, including vegetation on at least one of the sloping roofs, were ultimately omitted.

Still, Predock made the most of fairly conventional building materials, such as concrete masonry block and steel. Concrete masonry units were used for exterior cladding and masonry bearing walls, while a fairly straightforward steel structure was used for specific portions of the building, such as the main gallery, which are clad in metal panels. With these rather ordinary building materials, Predock offers an example of how the art of architecture can transcend mundane building construction. "For a modest-scaled budget, we put together a pretty impressive building," said Tang director Charles Stainbeck. "Our whole point was to redefine what a museum could be."

Stainbeck is thrilled to direct a museum that is driven by ideas, not by artifacts or collections, and one that offers possibilities for learning throughout. Exhibitions are held in two galleries, one on each floor, but artwork can be viewed elsewhere as well: Ground-floor storage spaces, for example, have windows to the outside, and selected works in storage, such as pottery, are placed in the windows as a kind of showcase.

On the interior, windows offer views and permit daylight to filter from the two-story lobby to exhibition spaces, a second-floor print room, and office spaces, allowing traditional museum hierarchies to break down. "It's a kind of demystification of the museum," Predock says. "That unexpected moment is really fabulous." ■



Masonry: Custom blend split-face CMU as supplied by Dagostino Building Blocks, Schenectady, N.Y. Metal/glass curtain wall: Kawneer 1600 Curtainwall system, Supersky Products (sloped glazing)

Metal roofing: Overly Manufacturing Company (precision profile-metal cladding)

Steel windows: Overly Custom SS

Aluminum windows: Kawneer 451T Interior lighting: Lightolier, Yorklite, Concealite, LSI

Exterior lighting: Bronzelite, Exceline, Cardco, Hadco, Celestial Lighting

WWW For more information on the people and products involved in this project, go to Projects at www.architecturalrecord.com





HOTELS

Rooms with a Viewpoint

THE PROLIFERATION OF HOTELS WITH A DESIGN-CONSCIOUS APPROACH IS FEEDING A GROWING PUBLIC APPETITE FOR FANTASY AND FORM AS WELL AS FUNCTION.



Lucerne, Switzerland

Paris architect Jean Nouvel plays twodimensional and three-dimensional effects against each other in his design for The Hotel.



Sedona, Arizona

The New York firm of Gluckman Mayner brings its minimalist imprimatur to the design of Mii amo spa and casitas.



Miami Beach, Florida

Jordan Mozer of Chicago shows how you can create a quixotic, low-budget getaway by the sea at the Royal Hotel.



New York City

The French designer Philippe Starck once again gets the joint jumping for hotelier Ian Schrager at Hudson.

www

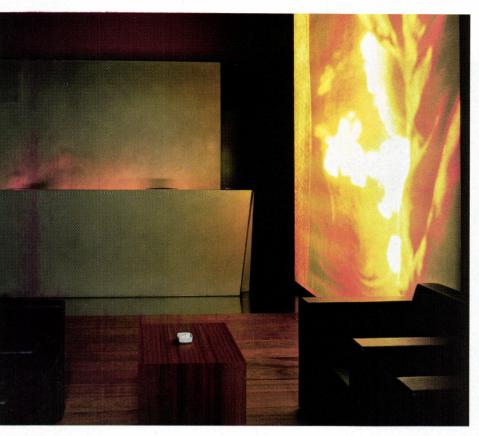
For additional hotels and more information on the people and products involved in the following projects, go to Building Types Study at www.architecturalrecord.com

By Suzanne Stephens

t has been a good year for "designer" hotels. True, 1998 was the peak year for all hotel construction, when \$9.1 billion was spent for over 93 million square feet, according to figures provided by the F.W. Dodge division of the McGraw-Hill Companies. While the figures recently have been dropping, due to overbuilding of the limited-service storage-bin-type hotels, other more comfortable forms of accommodation, including resort, central-city, and convention-center hotels, are still on a roll. Current projects for this year come to a total of \$7.6 billion for 69 million square feet of hotel construction—not bad compared to the recession-hobbled 16.4 million square feet built in 1991. As can be seen from the selection on the following pages, and additional ones on architectural record's Web site, www.architecturalrecord.com, designer hotels are arguably the most visible and seductive element in this economic picture.

In the hands of Jean Nouvel, a small building in Lucerne, Switzerland, has been transformed into a hotel by a three-dimensional manipulation of section and plan, augmented by a two-dimensional exploration of reflective surfaces and cinematic imagery. In the case of a really low-budget renovation, the Royal Hotel in Miami Beach, Fla., by Jordan Mozer, custom furniture is made to do most of the architectural work. At the Enchantment Resort in Sedona, Ariz., a complex of new buildings by Gluckman Mayner takes advantage of the landscape, dramatically integrating indoor and outdoor spaces. And, as demonstrated so vividly by Philippe Starck's design for Hudson, the mega-hip (1,000room) hotel in New York City, space, scale, material, and quirky objects, combined with a certain madness, are all you need.

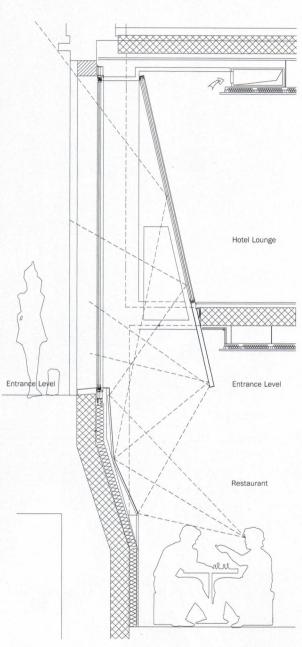
In terms of raising architectural awareness with the American public, all this is good news. But more architects and designers need to be attuned to the functional (as well as aesthetic) desires of their multiple clients. We may be willing to have a tiny ship cabin for a room, but we want a counter for toiletries in the bathroom, and storage drawers somewhere to unpack (and find) things. In terms of ambience, it would seem obvious that color, lighting, and scale of furniture need as much attention as spatial planning, but often architects seem too wary of being decorator-y to take risks. That is why this selection of hotels emphasizes bold furniture design, eccentric objects, idiosyncratic colors, and unusual or exotic materials. Much of the architectural opportunity—particularly with hotels in renovated buildings—is on that level. It does make the difference.

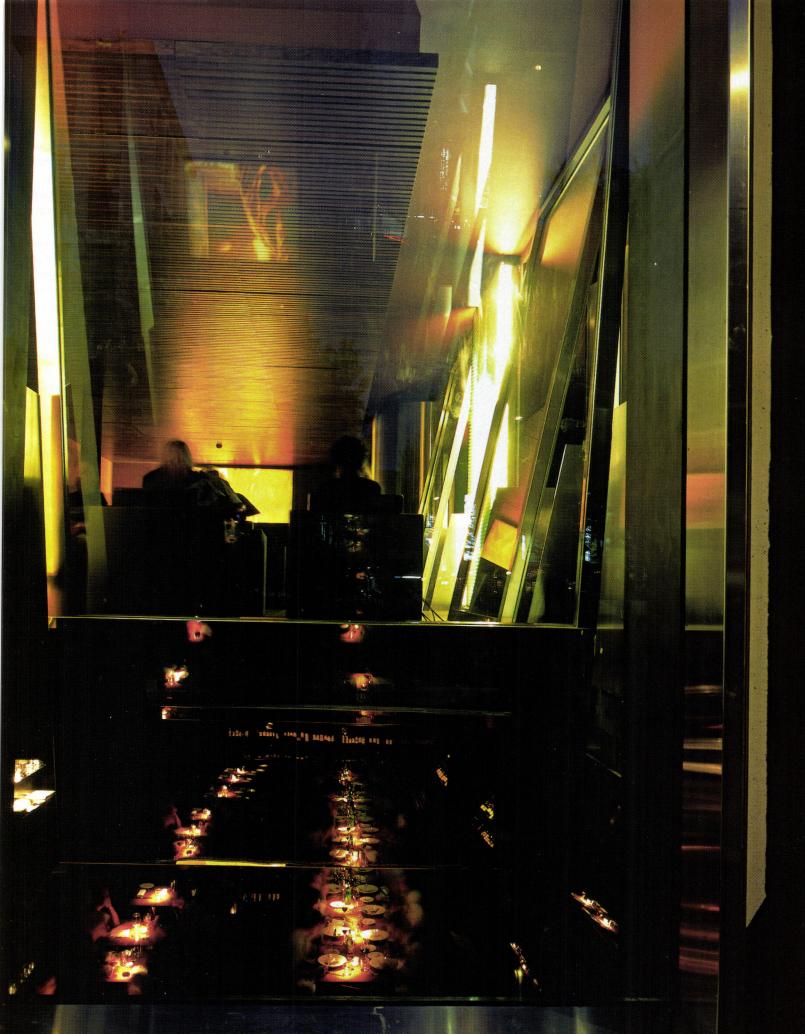


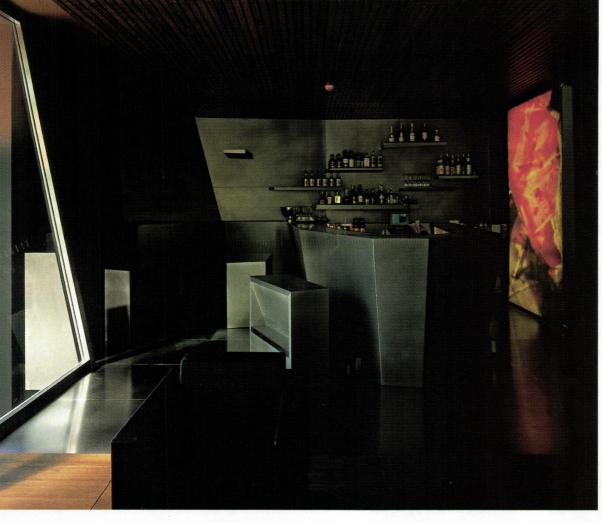


The lobby's stainlesssteel reception desk (top) is flanked by a backlighted film still. In the restaurant downstairs canted mirrors reflect light and

scenery thanks to the windows upstairs. Viewing the bar (opposite) through the windows on the street increases the sense of spectacle within.







Nouvel designed the bar on the lobby's mezzanine (above) with angular stainless-steel elements worthy of the film, "Dr. Caligari's Cabinet." His guest rooms (right) exude a Miesian minimalism and luxuriousness, owing to the stainless-steel and Jatoba wood furnishings.



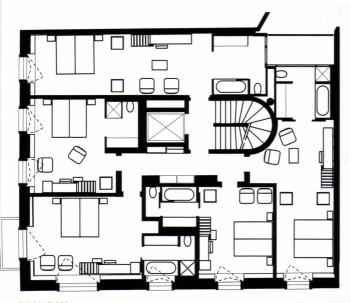
walls to look something like blurred afterimages of the film stills above. The abstract effect adds a rich effulgence to the dark walls, without detracting from the ceilings.

Downstairs, Nouvel opened up the public spaces by having the lobby occupy one-half of the ground floor with the bar and restaurant in a stacked arrangement on the other half: The bar occupies a mezzanine overlooking the lobby, while the restaurant is carved out of the lower level. Entering the lobby you can peer down into the restaurant through a low glass window; however, the mezzanine bar is concealed behind a high, black parapet wall. Instead vou see the reflection of a backlighted film still mounted on the wall behind you (see photo on page 239).

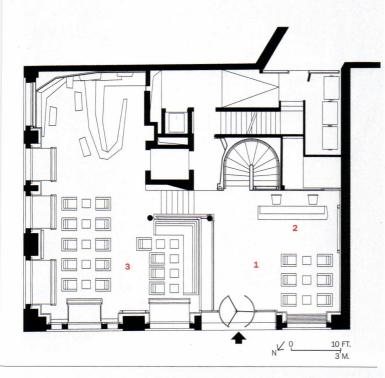
The subterranean restaurant, with its black pigmented walls, receives a striking amount of daylight via vertical slots of space around the perimeter that extend up past the mezzanine bar to the double-height ceiling. At street level, Nouvel installed floor-to-ceiling windows, which are canted inward. Below grade, the windows are optically extended by two mirrored panels placed at angles to both refract daylight into the restaurant, as well as reflect fragments of the outdoor scenery above.

Commentary

The small hotel is easily identifiable as you approach it by night, since the ceiling murals, uplighted by the sconces, turn it into a vibrantly colored cinematic lantern. Entering the lobby, you can appreciate—without being disoriented—the masterful spatial and visual effects that Nouvel creates through his sectional composition, framed views, refracted light effects, and reflective surfaces. The tiny elevator and plain, gray corridors purposely suspend the mood, giving little hint of what awaits behind the closed doors. Entering, you are virtually thrust into a dark commodious guest room (you might need a flashlight to find the buttons operating the lights and blinds) where calm, luxury, and voluptuousness rule. ■



TYPICAL FLOOR



- 1. Lobby
- 2. Reception
- 3. Bar/Lounge

The walls are painted atmospherically to look like blurred afterimages of the film stills on the ceiling. The rooms have large plank floors and automatic blinds on double glazed windows—some of which pivot open to small balconies.





Mii amo Spa Sedona, Arizona

2

GLUCKMAN MAYNER ARCHITECTS RECKONS WITH A SPECTACULAR NATURAL SETTING AND NAVIGATES THE NUANCES OF NEW AGE THERAPIES.

By James S. Russell, AIA

Architect: Gluckman Mayner
Architects—Dana Tang, Gregory Yang,
project architects; Marwan Al-Sayed,
Mark Fiedler, Carolyn Foug, Alex
Hurst, Antonio Palladino, Nina
Seirafi, Michael Sheridan, Julie TorresMoskovitz, Dean Young, project team
Client: Sedona Resort Management
Engineers: Rudrow & Berry, Inc.
(structural); Clark Engineers (SW,
MEP); Shephard-Wesnitzer (civil)
Consultants: Ten Eyck Landscape
Architects (landscape); Sylvia Sepielli
(spa consultant); Water Technology
(pool consultant)

General contractor: *Linthicum Constructors*

Size: 24,000 square feet (spa building), 10,000 square feet (casitas) Cost: \$7.2 million (total construction)

Sources

Masonry: Mexican fired adobe brick **EIFS:** Sto Corp.

Venetian-style plaster: *ARD, Lime Rasato plaster*

Elastomeric (TPO) roofing: Carlisle

Syntec Systems

Aluminum windows and doors: Western Insulated Glass; Brite-Vue Skylights: Therm-O-Weld system; Velux-America

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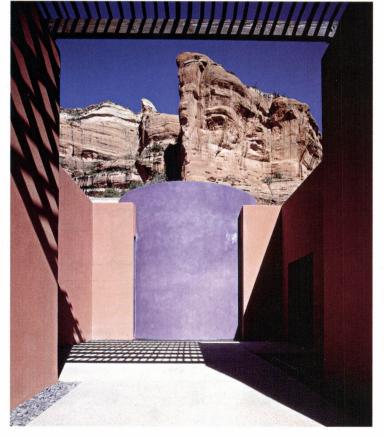
For additional hotels and more information on the people and products involved in this project, go to Building Types Study at www.architecturalrecord.com

The situation

Just about any holistic, mind/body treatment you can name is available in Sedona, Ariz. The therapeutic energy emitted by its red-rock gorgeousness is said to have been recognized by Native Americans. You can see a myropractor (as the Los Angeles Rams do), commune with crystals, or be treated Avurvedically. Beyond the town's faux Santa Festyle shopping strips lies Boynton Canyon, an intimate, small-scale recapitulation of the area's craggy splendor. Rock formations tower over a scrub-shrouded resort called Enchantment. Striated in a rainbow of reds and earth tones and carved into jagged ravines, looming promontories, and needlelike towers, the rocks present a preternaturally still snapshot of millions of years of primordial geological violence.

Sedona Resort Management, which owns and operates the resort, wanted to recognize the unique beauty of the landscape and at the same time tap into the healing capacity of the place by adding the deluxe mind/body Mii amo Spa. So they hired Gluckman Mayner, a firm known for museums and galleries in urban settings.

Huh? "We wanted architecture that was simple and sensuous," explained George Lidicker, the company president. "With Gluckman Mayner, we were impressed by the retail connection [the firm has designed stores for Helmut Lang





Adobe-brick towers containing two-level treatment areas project above the roof (right). Quiet evocations of regional traditions are evident in the casitas (opposite, bottom) and the cafe (below). The drumlike crystal grotto greets clients at the entrance (opposite top).

and others] and the museum orientation—especially the sensitive treatment of light."

Lidicker envisioned a facility catering to a sophisticated clientele seeking both pampering and healing. It would perfectly fit the locality's holistic, therapeutic orientation while also widening the appeal of a resort built for tennis in the early 1980s that had failed to live up to the potential of its unique setting. Within its 24,000 square feet the spa needed treatment rooms to house a wide range of therapies. The program included both indoor and outdoor pools, as well as an exercise room, yoga room, library, cafe, demonstration kitchen, and outdoor area for tai chi and stretching, while accommodating customized programs ranging from weight loss to drugand-alcohol detoxification (a three-day package can range from \$1,890 to \$2,790).

The solution

Perched atop a tall ladder, arranged to simulate the position of various rooms, Dana Tang, of Gluckman's office, took photo after photo to be sure spaces within the building focused on key elements of the landscape, such as the Kachina Woman, a dramatic eroded-rock needle (top right). "We were anxious to push further than they may have expected," commented principal Richard Gluckman, FAIA. The firm





High-walled outdoor courtyards offer privacy and diffuse the powerful local light within the bamboofloored casitas (below). A woodfloored bridge leads to the cylindrical crystal grotto—the

earth-floored spiritual center of the spa anchored in its own pebble-lined pool (above).

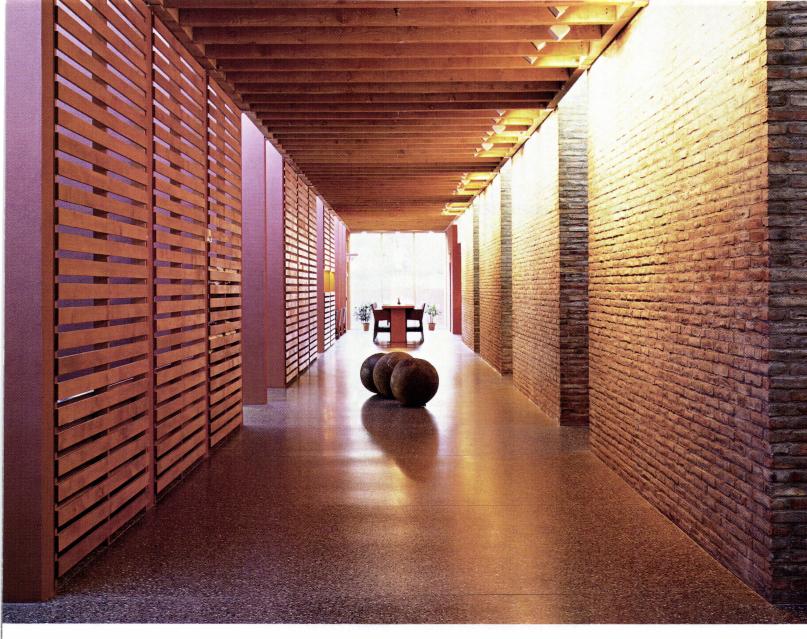


calculated sun angles and tapped Sedona's rich trove of New Age therapists to advise on auspicious arrangements, particularly of the drum-shaped Crystal Grotto, an earth-floored, templelike central space containing a backlighted petrified log and small fountain, and quartz crystals aligned to cardinal points. Recognizing the spiritual nature of the place while avoiding what Lidicker called "the spaceshiptaking-people-away aspect" made finalizing a design take much longer than anticipated. But the deliberative process created precisely the facility he sought. Open only three months, occupancy already exceeds expectations, he said.

The complexities of site and program might have resulted in a sprawling, informal layout. The architect instead created an exceptionally disciplined plan, responding to both a small site and the firm's own design proclivities. From a central northsouth corridor that stretches the entire length of the structure, treatment clients enter a dressing area with lockers, sauna, steam room, and whirlpool. They ascend within adobebrick-clad towers to the upper level, where they are greeted by their assigned therapists, who conduct them to one of 16 treatment rooms. The simplicity of this organization, which disguises the numerous ancillary preparation spaces, is appreciated by clients who are not made uncomfortable wandering down winding corridors wearing only a robe. Skylights open onto the cliffs looming above. The pool deck opens to a Cinemascope-sized canyon panorama.

Clients come to this "destination" spa for three- to seven-day experiences and stay in one of 16 casitas—handsomely appointed rooms opening to a shared patio or to intimate courts or decks.

Elegantly striated stone countertops quietly echo the geologic drama outside. Sunlight dapples deep tile-clad tubs, and, diffused by the enclosing walls of the outdoor spaces, spreads evenly over wood cabinetry and woven, striped carpet runners.



Commentary

The biggest surprise here is the spa's introverted nature-it is organized for contemplation, not exclamation. The rigid rectilinearity of the plan evokes the modular rigor of a Japanese temple. And, as in such temples, the careful framing of views enhances the appreciation of the setting. The architecture is so softspoken that it's easy to overlook the calibrated evocations (never quotations) of regional precedents in touches like the tint of the stucco cladding (over concrete block) or the vigalike wood-ceiling framing, and the contemplative cool of the polished-concrete terrazzo. The monastic calm is perfect for those seeking to keep a clamorous, demanding world at bay.

A corridor runs the entire length of the spa, dividing the treatment areas (in the adobebrick-clad towers) from the cafe, lounge, and pool areas.

- **1.** Entrance court
- 2. Reception
- 3. Crystal grotto
- 4. Cafe/lounge/indoor pool
- 5. Library
- 6. Corridor
- 7. Treatment
- 8. Fitness/yoga
- 9. Tai chi lawn
- 10. Outdoor treatment
- 11. Outdoor pool
- 12. Casita







Clemente mural on the ceiling that suggests carpet and a light grid on the floor that suggests an office ceiling. The whimsy, including Starck's solid acrylic urns that serve as tables or stools, conjures a playful, free spirit. Casual placement of eclectic inherited furniture—mismatched Starck, Droog, Versace, flea-market finds, and other pieces—suggests an informal, found elegance throughout the public spaces and the garden planted in the courtyard of the Ushaped building.

Upstairs, 21 floors of dimly lighted corridors painted dark gray lead to the guest rooms, which, though resembling ship cabins, are cheerfully lighted oases, rosy with cherry-stained makore-woodpaneled walls and jatoba-wood floors. With just enough room for a queen-size bed and two small bedside tables (with an urn stool tucked underneath), the standard rooms are highly efficient. Televisions and sound systems are stowed in builtin cupboards, and ashtray-like fixtures affixed to one wall provide a catchall for keys, loose change, and other pocket-fillers. The proportionately small bathrooms are done in

The guest rooms of the 1,000-room Hudson are paneled in plain quartered makore wood (above); the Hudson Cafeteria (left), an open-kitchen-style restaurant, has refectory tables.

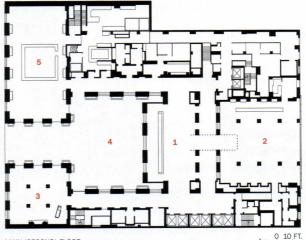
- 1. Entrance lobby
- 2. Bar
- 3. Library bar
- 4. Courtyard cafe
- 5. Cafeteria

nurse's white, and the wall between the tub and bedroom opens up with a curtained interior window that lets light into the bath and simultaneously seems to expand the space of the bedroom.

The crowning elements of the small rooms are twofold: A sheer white drape, like a piece of protective gauze, separates the entry from the room; and bedside lamps feature Clemente paintings of sweetly odd faces, giving each room a unique version of the requisite hotel art without touching the walls.

Commentary

Just inside Hudson's street lobby, the warm bath of chartreuse light gives the hotel instantly cool karma. Two white cocoon forms interrupt the rectangular space, from which guests step onto an escalator that glides up a yellow trough of light to the lobby. The massive reception desk is carved with tree trunks and branches that seem to support the bower of ivy covering the glass roof overhead. This enchanted forest is a childhood fantasy, where cocoons and treetops suggest everything sweet about being young. The tidy rooms, already compared to ship staterooms, can also be seen as a children's place-either neat, cozy nurseries or rooms in the attic, as Andrei called them. The layers and layers of decorative detail amuse the eye and cleverly conceal what is still basically a mundane brick dormitory building. But in offering a lifestyle for the young who don't want to face growing old, Schrager and Starck have struck a lucrative chord.



MAIN (SECOND) FLOOR

Here's the Dirt on Green Housekeeping

TO ENSURE THAT THE INDOOR ENVIRONMENT REMAINS HEALTHY OVER A BUILDING'S LIFE CYCLE, ARCHITECTS SHOULD CONSIDER MAINTENANCE PROCEDURES AND INCORPORATE MONITORING SYSTEMS.

By Nancy B. Solomon, AIA

ost architects enter the profession because they are enamored with design and fascinated by materials, technology, and systems. Nevertheless, the issues involved in making healthy buildings can be equally compelling, especially if you consider the benefits of proper pollution prevention, cleaning, and maintenance on the ongoing health of a building and its occupants and, ultimately, on the financial health of the client. According to International Performance Measurement & Verification Protocol, published by the U.S. Department of Energy's (DOE) Office of Energy Efficiency and

Renewable Energy in October 2000, analyses of existing scientific literature and calculations based on statistical data indicate that improvements in indoor environmental quality could potentially yield cost savings and productivity gains of \$30 billion to \$170 billion nationwide. And basic housekeeping plays a critical role in this endeavor.

In the past few decades, the profession has heard a lot about indoor air quality and sick building syndrome (the puzzling condition in which a majority of occupants experience a variety of health or comfort problems linked to time spent in a particular building, but for which no specific illness or cause has been identified). And we have learned about the many ways to design a healthy building, from minimizing materials that release volatile organic compounds (VOCs) to providing adequate

Contributing editor Nancy B. Solomon, AIA, writes about computers, building technology, and practice topics of interest to the architectural community,

CONTINUING EDUCATION

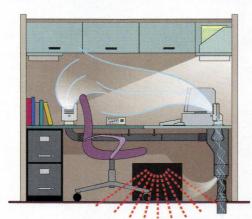


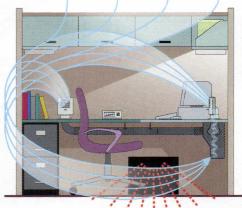
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 382 and follow the instructions.

LEARNING OBJECTIVES

- After reading this article, you should be able to:
- 1. Describe ways to maintain healthy buildings.
- 2. Explain the importance of building commissioning.
- 3. Discuss the benefits of selecting materials according to their cleaning needs.

For this story and more continuing education, as well as links to sources, white papers, and products, go to www.architecturalrecord.com





Johnson Controls' Personal Environments system allows employees to control their own HVAC. These modules can be connected to an underfloor air supply (left) or can recirculate room air (right).

ventilation and lighting. But how does the architect ensure that a building that was designed to be healthy will stay that way once it is occupied?

"It's a real-world problem," admits Ben Kishimoto, AIA, of Kishimoto/Gordon Architects in McLean, Va. What good is careful design if, within months, occupants are tracking in lead-contaminated soils, cleaning crews are mopping floors with VOC-emitting products, and the maintenance workers can't access the drain pans to see if mold is growing in the mechanical system?

The nitty gritty

One man who has studied housekeeping issues closely is Stephen P. Ashkin of Healthy Housekeeping in Bloomington, Ind. Ashkin consults with architects and organizations on how to design buildings that can be cleaned efficiently and safely.

"It's well documented by the EPA that cleaning and maintenance affect the health of the building and its occupants," says Ashkin. In recent years, the government agency has produced a number of resources, including Building Air Quality: A Guide for Building Owners and Facility Managers and IAQ Tools for Schools Kit, to address these issues.

With regard to general housekeeping in a new building, people can get sick from exposure to particulates or biological contaminants that have not been adequately removed or to VOCs and other toxic components in the cleaning compounds themselves. "If we use pollution prevention strategies," explains Ashkin, "we can reduce people's exposure to harmful materials."

By implementing these techniques during the design of a building, the architect offers the client a double bonus. In addition to the likely gains in worker productivity, the building owner will realize very clear savings in annual cleaning costs. In a typical New York City office building, for example, the maintenance savings alone could amount to about \$46,000 per 100,000 square feet, year after year.







Johnson Controls Brengel Technology Center, Milwaukee The Brengel Center (top left), which opened in March 2000, was one of the first buildings to receive a silver rating from the U.S. Green Building Council's LEED Green **Building Rating System.** From the beginning of the design process, the

inhouse architect and facility manager worked closely with the architect of record, Zimmerman Design Group. Ample daylight and views of downtown Milwaukee and Lake Michigan enliven meeting areas (left). Mechanical equipment is located over circulation spaces so as not to disrupt workstations (above).

of which are compatible with the dry maintenance of carpet. Vinyl composition flooring, on the other hand, would require wet maintenance, which could create a messy and, therefore, potentially unhealthy condition at the carpet edge.

Testing and educating

A discussion of healthy building design is not complete without mention of building commissioning. Traditionally, commissioning referred to the testing and balancing of the mechanical system to ensure that it worked properly after installation and that the operations and maintenance crew understood its requirements. As the movement toward sustainable design has advanced, the term is frequently used to describe a broader mission. According to architect Ronald Gobbell, AIA, and engineer Steve Hays, of Gobbell Hays Partners in Nashville, the intent of a building commissioning plan is to "organize efforts to integrate design, construction, operation and maintenance, and also to provide guidelines for future managers and maintenance personnel." Ideally, all building systems should be commissioned—from mechanical and natural ventilation to lighting controls and exterior wall performance.

The educational portion of commissioning has many dimensions. At the basic level, the design team and building operators should be in communication early on regarding program goals and design vision. Operations and maintenance staff, for example, should participate in design meetings.

Maintenance and operation manuals should be provided to clients at project completion to serve as permanent records of the needs of various systems. Komorowski and other facility managers have come to expect a maintenance manual for the mechanical and electrical systems, but they would like to see a similar manual for the architectural finishes. "How do you clean them?" he asks. This is especially critical for the more innovative materials that are often specified by environmentally conscious architects.

The education and training process can take other forms as well. For the Philip Merrill Environmental Center, the Chesapeake Bay Foundation's headquarters in Bay Ridge, Md., the SmithGroup of Washington, D.C., specified a modified exit sign, with the words OPEN WINDOWS in red lettering against a white background, to be mounted on the wall eight feet above the floor in each of four open-office areas. When the HVAC system turns off, the words light up and the occupants, a

Shedding New Light on Scientific Research

RAFAEL VIÑOLY HAS REINVENTED THE RESEARCH LABORATORY WITH NATURAL LIGHT AND FLEXIBLE WORK SPACES AT A NEW CANCER RESEARCH FACILITY IN GRAND RAPIDS.

By Barbara Knecht

f you ask New York architect Rafael Viñoly, FAIA, to describe his design for the labs in the Van Andel Institute for Education and Medical Research in Grand Rapids, he almost apologizes for the simplicity of the plan. It is a blunt solution on the surface, but it has been carefully detailed and enclosed in dramatic forms. The clients, Amway founder Jay Van Andel and his wife, Betty, created the institute to improve people's health, with a major focus on cancer research. Because the building was commissioned at the same time the institute was formed, Viñoly was conscious from the beginning that the new facility would be a tool to recruit high-caliber scientists. Phase I, a \$42 million, 150,000-square-foot facility completed in October 1999, will house 180 to 200 scientists when fully operational. The building is anchored to the sloping, downtown site by a poured-in-place concrete spine. You enter at the third floor, and the lower two floors are pushed up against the slope of the site. A state-of-the-art auditorium for scientific lectures and an open area

for gatherings occupy the entry floor. Above it are three laboratory floors, and below it are the vivarium and loading dock.

Evolution of the modern laboratory

Medical research labs are a relatively new building type. Once a subordinate university function, they evolved as separate institutions only in the 20th century. Louis Kahn defined the type in his Richards lab at the University of Pennsylvania and the Salk Institute in La Jolla, Calif. At Richards, the services run in vertical shafts and serve small, stacked floors of lab benches and offices, whereas at the Salk, services run to labs horizontally through the ceiling. Whether they are vertically or horizontally served, labs have generally followed one of these two designs. The workstation model then becomes an immobile bench connected to utilities in a fixed partition.

Viñoly visited Kahn's laboratories and others in the U.S. and abroad, noting that they invariably adhered to this rigid layout. But when he talked to scientists, he discovered that, despite the services and utilities provided, these environments were too "fixed" for their work.

Barbara Knecht is an architect and principal of a New York City-based consulting firm. She writes about architectural technology, design, and housing policy.

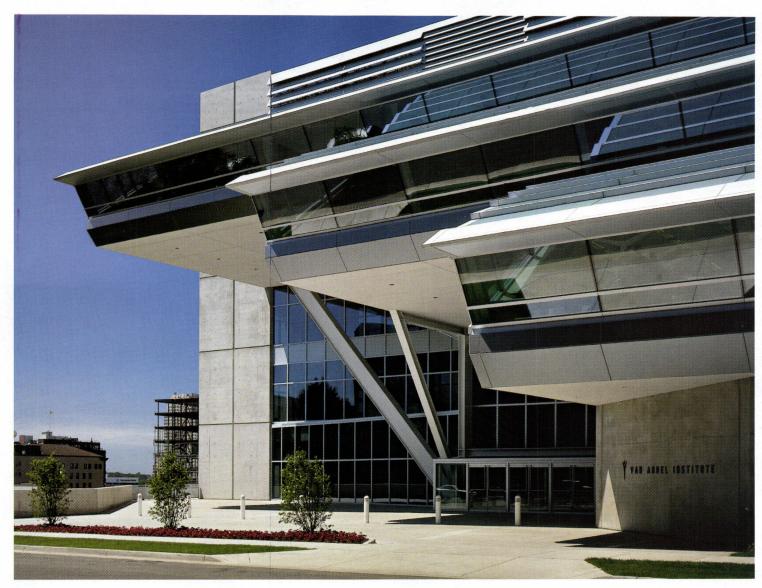
For more about building science and digital technology, as well as links to sources and products, go to www.architecturalrecord.com



The translucent curving roofs create a dramatic silhouette in downtown Grand Rapids.

Laboratory investigations require specialized equipment, light- and temperature-controlled rooms, and numerous utilities, but space and equipment needs vary with each project. Scientists are acutely aware of the spatial and functional limitations of their work environments. "Scientists tend to be hands-on, and they are constantly tinkering with their work space, modifying and reconfiguring their lab tables," says Viñoly. Furthermore, principal investigators work with teams of scientists, and their needs grow and change depending on grants and research direction. A new grant and the arrival of a new investigator are typical triggers for major, and potentially costly, lab reconfiguration and renovation.

Viñoly organized the lab floors into three zones, ranging from permanently fixed services to the infinitely flexible. The smallest zone includes the public corridor, meeting spaces, and principal investigators' offices. The support zone contains most of the fixed, or "hard," functions, such as walk-in freezers, tissue culture, and electron microscopes. The third zone is located under the dramatic cascade of translucent roofs, where open, daylit research spaces are equipped with movable lab benches and alcoves with sinks and fume hoods, some of which use flexible, or "soft," connections to the services. Special equipment hookups run in an interstitial space over the support zone (and sink alcoves); data, electricity, telephone, air, and gas lines run under the floors in a similar space all the way out to a raceway at the perimeter of the building. These, in turn, are fed by vertical shafts in the spine.

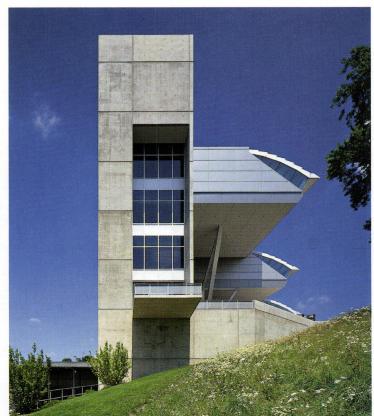


The spine (right) is exposed, poured-inplace concrete and houses offices, public corridors, and fixed lab spaces. The projecting lab floors (above) are constructed of aluminum-clad steel frames and clear side panels, with a fritted glass roof.

any combination or direction. Using only a custom-designed dolly and a wrench, two people can disconnect, move, and reconnect a 12-foot long bench.

Shedding light on research

Laboratories are energy hogs. Not only are they occupied 24 hours a day, but the work requires high levels of illumination, and air is never recirculated. Much of this energy use is unavoidable and not easily corrected by architectural design. However, one of the most distinctive architectural elements of the building, a trio of curving, translucent roofs, contributes to a decrease in energy consumption. The glass panels are fritted with ceramic patterns fused to the surface of the low-e coated glass. Although fresh air is constantly heated and circulated, the fritted glass with a low-e value of .2 and shading coefficient of .31 increases human comfort and delivers exceptional light quality, often reducing the need for electric light during the day. Bargmann







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describes the effect: "Looking across the labs, the room glows, and if you look straight up, you can actually see through the dot pattern to the sky. [The glass] makes [for] very even lighting—the floors and walls and benches are illuminated uniformly. It feels as if you are inside the light, almost like being inside a liquid." Director Vande Woude agreed that the light effects are amazing, especially during the long Michigan winter. He remarks that he also finds the sound of rain quite

"IT FEELS AS IF YOU ARE INSIDE THE LIGHT, ALMOST LIKE BEING INSIDE A LIQUID."

soothing and joked that a foot of snow on the roof actually increases the translucent effect.

The three-zone system at Van Andel is expected to significantly reduce the cost of renovations over the long term and streamline scientists' ability to adapt their environments in the short term. So far, reported Vande Woude, the design has proved suitable to their needs, and the sense of space and openness in the labs, public areas, and corridors has been inspiring. In the second phase, another spine will be built, joined to the first by a bridge, and a mirroring cascade of translucent roofs will descend the hill.



The president's office (top) and the research space (above) receive abundant natural light. The custom lab

benches are made of bacteria-resistant phenolic resin and can be easily dismantled and reconfigured.

Tech Briefs A church in a casino town in the Nevada desert gets a sustainable fellowship hall • Architects are discovering the design potential and efficiency of tilt-up concrete construction

A fellowship hall in Reno rises above honky-tonk with splendor and sustainability

Reno, Nevada, calls itself the "Biggest Little City in the World," but it still plays second fiddle to its southern neighbor, Las Vegas, when it comes to casinos and kitsch. It does have the natural advantage of being located at an altitude of 4.400 feet in the spectacular landscape of the Sierra Nevada range east of Lake Tahoe. On the edge of town, Pfau Architecture of San Francisco is building a fellowship hall for the Unitarian Universalist Fellowship of Northern Nevada (UUFNN) that is both serene and sustainable.

Phase 1 of the \$1.25 million project, scheduled for completion in October 2001, consists of a 3,000square-foot great room at the heart of the building and meeting rooms, offices, and an entrance gathering space located adjacent to the great room at the east side. Although squeezed from the north and east by the freeway, casinos, and strip office development, the site is buffered to the south by land slated for wetlands park development and walking trails, and it boasts spectacular views of the mountains to the south and west.

Charged by the client to build sustainably, principal Peter Pfau and project manager Marcos Ancinas organized the siting, massing, and building systems into a functional composition that will do little environmental harm. Systems and materials were designed and selected in part for their contribution to the goal of net-zero energy consumption. Radiant heating and cooling in the concrete floor slab is delivered by tubes filled with distilled water stored in a 10,000gallon reservoir on the west side of the building. A supplemental fancoil system, also fed by the heated and cooled tubes, works in conjunction with the ventilation in the great room. "Reno is the ideal cli-

mate-high altitude with dry air and temperature extremes—for this kind of mechanical system," explains Ancinas. Building-use patterns also support the selection of such a system.

Typically, religious buildings are not in operation every day; however, most mechanical systems perform better with regularly scheduled fluctuations. With a radiant system, the floor temperature in the 24-foothigh great room can be maintained at a baseline of 59 degrees in winter and 69 degrees in summer with little energy expenditure necessary to raise or lower it for comfort. The



The hall roof (above) has south-facing photovoltaic panels. A chiller sits on top of a 10,000-gallon water reservoir. The interior (left) is built of recycled log columns and cedar glulam beams.



concrete floor slab and water provide the thermal mass to maintain an even temperature, and perimeter insulation prevents heat loss. Since the reservoir is partially underground, all it takes to heat the water in winter is a swimming-pool heater, located in a mechanical space on the west side of the great room. In summer, the water is cooled as it passes over a fan-coil unit in the cooling tower above the reservoir.

A water cooling system called Night Sky, developed by the Davis EnergyGroup, consulting engineers for the project, will take advantage of cool summer nights and the metal roof. Instead of relying on the cooling tower, reservoir water will be pumped up and sprinkled over the cool roof, collected in the gutters, fil-

tered, and returned to the reservoir. Nevada has recently instituted net-metering, a system whereby a building can return unused energy to the power grid and net out the electrical

use at other times. Phase 2 (a library and additional energy components) will include the installation of photovoltaic (PV) panels integrated into the standing-seam metal roof. Given the use pattern, they will be able to generate more electricity than required to operate the building. "One of the engineers also pointed out that Night Sky will have the added advantage of cleaning the PV panels," remarked Ancinas.

Preventing thermal gain is the best way to ease the burden on the mechanical systems. Pfau and Ancinas designed sun shades for the south, west, and north sides of the building so that solar gain to the interior can be claimed in midwinter. when it is beneficial. Deep and

widely spaced, the louvers are placed to preserve the all-important view of the mountains. Consistent with the desire for minimal impact on the environment, finish and structural materials are the same and were selected for health, beauty, and sustainability. High fly-ash concrete block, which is less energy-intensive to produce, is used in partitions and decorative applications. Other finish materials include reinforced concrete and medium-density fiberboard (MDF) manufactured without formaldehyde. Structural woods are certified forest glulam trusses and log columns, handpicked by members of the congregation from a nearby mill that cuts standing dead wood under a fire protection program of the Forest Service. With all this attention to sustainable systems, the Unitarian Universalist Fellowship of Northern Nevada promises to reflect the grace of the natural environment and rise above the local kitsch and clutter. Barbara Knecht

Tech Briefs

Refinement and engineering have expanded the benefits of tilt-up concrete construction

Fast! That has always been the attraction of tilt-up concrete construction. Recently, however, a trend towards more aesthetic experimentation is rapidly leading to a greater appreciation of the versatility of tilt-up construction. Invented early in the 20th century, the building system slowly found application in industrial and utilitarian buildings during the second half of the cen-

tury, especially in southern and western states. Tilt-up buildings are erected from reinforced concrete wall panels that are precast at the job site. The panels are formed in a horizontal position by casting the panels on top of the building's floor slab or specially prepared casting slabs. After the panels cure, they are tilted and lifted into position by cranes. They are then temporarily braced and used as loadbearing supports for the building's roof and floor decks. Because the panels are cast at ground level, labor can be used more efficiently and safely, and the cost of scaffolding and vertical formwork can be eliminated.

In the past decade, however, there has been a surge of tilt-up activity with a 100 percent increase in the past five years alone and penetration into every region of North America, according to the Tilt-Up Concrete Association. Much of this boom is the result of the refinement of tilt-up for use on architectural projects. Architects have started "breaking out of the big-box tradition" by designing tiltup structures that transcend its origins as a construction technique for factories and warehouses. Schools, offices, churches, commercial buildings, and even residences are now being constructed with the tilt-up method.

Two design directions dominate architectural tilt-up today. In the first, tilt-up replicates the appearance of more traditional buildings and materials, such as the 425,000-square-foot Mount Pleasant Town Center retail development recently completed near



Software developer Tibco used tinted concrete and reveals in its tilt-up construction.

Charleston, S.C. Strict zoning and preservation guidelines required the architect to mimic the look and feel of the community's historical commercial district. Each of the project's 56 storefronts received a unique architectural treatment to create a streetscape spanning the spectrum of 20th-century commercial styles, from late Victorian and Art Deco to Main Street Modern. The architect accomplished this task by employing variations in setbacks, fenestration, and roof lines, and by finishing facades with thin-brick veneers, tile, paint, and EIFS. Although



Improvements in engineering allowed the headquarters of Incyte
Pharmaceuticals to have larger openings in its tilt-up concrete facades.



Nonconductive dowels are used to sandwich two withes of concrete and a layer of rigid insulation.

the storefronts are the antithesis of the big boxes typically associated with retail applications of tilt-up concrete construction, the developer found the system offered favorable economic and scheduling benefits.

In California, a cluster of projects in Silicon Valley demonstrates a second approach. Here, tilt-up has become the system of choice for Netscape, Echelon Software, Genentech, Incyte Pharmaceuticals, and other high-tech firms. Their buildings and corporate campuses showcase the emergence of tilt-up as a new structural medium with potential for fresh architectural expression. The large size and scale of tilt-up panels, ease of creating fenestration, plus freedom in creating relief, distinguish this system from others. This new tilt-up is characterized by explorations into the plastic nature of concrete to form moldings, rustication, reveals, curved panels, textured surfaces,

and ornamentation. On many projects in the region, the concrete is integrally colored and abraded to expose the concrete aggregate, resulting in a material with visual depth and rich, animated surfaces.

New technology has also contributed to the broader acceptance of tilt-up. No longer limited to singlestory buildings, tilt-up has been used successfully on mid-rise buildings and for panels up to 91 feet tall. Improved engineering has also made it possible to increase the size and number of openings in panels, so that some tilt-up walls can accommodate 50 percent fenestration. Large tilt-up panels provide outstanding shear resistance, a desirable feature in areas prone to hurricanes and earthquakes. Lessons from the Northridge earthquake, which led to the development of better structural connections between a tilt-up wall and the roof diaphragm, have improved the seismic performance of tilt-up buildings.

The tilt-up industry has matured as it has gained experience. A growing cadre of contractors throughout the country is capable of the quality assurance required to work within the tolerances required for architectural projects. As momentum gains, tilt-up construction is fast becoming an accepted addition to the architectural palette. Go to www.tilt-up.com or www.tilt-up.org for more information. *Michael Chusid*

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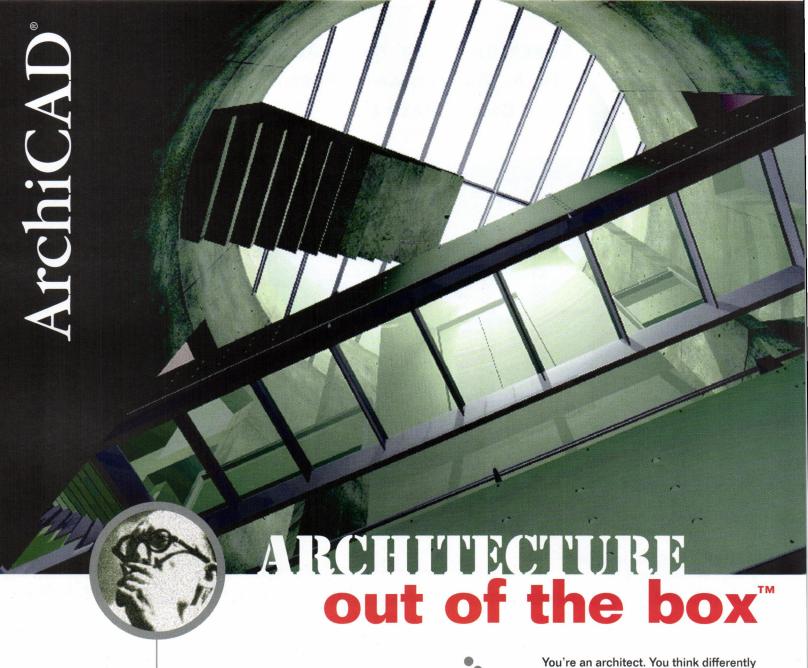
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Digital Architect

Software resources for lighting design

By Jerry Laiserin, FAIA

One definition of architecture, attributed to Le Corbusier, is the rendering of forms in light. CAD and computer visualization did not exist in Corb's day, but he would have appreciated the use of computers to study the effects of light, to design with an awareness of light, and to document the results.

Today, digital architects have at their disposal a wide range of software tools that enable them to design solutions to lighting problems for both daylight and electric light, to simulate lighting effects with mathematical accuracy and render those simulations with visually persuasive realism, and to create the requisite drawings, specifications, and schedules to ensure that their lighting designs are properly implemented. Software is also available for specialized lighting tasks, from solar shadow-casting and lighting-efficiency calculations to designing custom luminaires and controlling theatrical effects such as dimming, flashing, and color changes.

Architects may not need to master or own every lighting software tool, especially if they work with lighting consultants and designers, but they should at least be aware of the tools available, the way they work, and their strengths and limitations.

Contributing editor Jerry Laiserin, FAIA, provides strategic consulting services to architects and their technology providers.

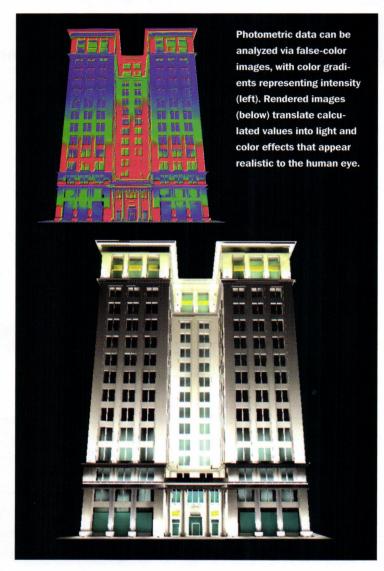
WWW For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at

www.architecturalrecord.com

Lighting and shading

Lighting design and analysis software simulate, or model, the physical behavior of light as it interacts with forms and surfaces of varying shapes, textures, and colors. For analytic or design purposes, software procedures, or algorithms, are applied to the geometry of a building or interior space to calculate the light energy falling on a surface from any light source, whether the sun or a lighting fixture. Electric lighting must often be designed to meet an acceptable level of illumination appropriate for the use of the space in question. For example, to achieve a desired level of uniform task illumination on 30inch-high desktops, software would help the designer determine the number, intensity, and spacing of luminaires to be used.

Such calculations rapidly escalate in complexity as the number of lighting sources increases and their light radiation patterns vary. Also, different materials reflect light in different ways. Surfaces such as mirrors and polished stone reflect light directly, while others such as brick or painted wood diffuse it. The total light energy impinging on any surface includes both light radiating directly from light sources as well as light reflected from other surfaces. The initial result of such lighting calculations is an unwieldy listing of computer-generated photometric values that predict or correspond to what a light meter would read at each point in a physical space. These results can be more readily understood and assessed if the mathematical values of lighting intensity are plotted on a CAD



model by color gradients or "false color," with warmer colors such as red and yellow corresponding to brighter light. The important distinction here is that mathematical accuracy in lighting simulation is separate from what most architects think of as realistic visualization in a rendering.

Architects and their clients rightfully expect not just mathemati-

cally accurate lighting designs, but also visually believable images of those designs. In the past 15 years, the shading algorithms built into lighting and rendering software have shown steady improvement in their ability to display light effects realistically. Flat shading, the simplest approach, is capable of showing only direct light from a single source. A flat-shaded sphere looks

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SPECIFYING A MAPLE SPORTS FLOORING SUBFLOOR SYSTEM

Now comes the hard part: deciding what subfloor system to specify for your project. MFMA manufacturers have spent years testing and developing a host of subfloor systems to meet the needs of athletes and other users.

There are three basic subfloor designs: floating systems, fixed systems, and anchored resilient systems.

Floating systems are exactly what they sound like—they "float" over the concrete substrate and are not mechanically fastened to the concrete slab in any way. Fixed systems are mechanically fastened by some method (anchor pins, screws, adhesive, etc.) directly to the concrete substrate. Anchored resilient systems are mechanically fastened to the concrete substrate, but have a combination of components that allow varying degrees of additional resiliency within the subfloor system.

There are benefits and drawbacks to each basic design category depending on the unique parameters of your project.

Start your specification decisions by asking questions:

- Who will be using this floor?
- What activities will be performed on the surface?
- How often will the facility be used in an average year?
- Is the facility going to be subjected to long idle periods?
- What is the climate in the area of the installation?
- What types of HVAC systems can I specify for the space?
- Is the installation below-grade, on-grade, or above-grade?

Answers to these and other questions will help you to eliminate subfloor designs that are inappropriate for your project.

PROPRIETARY ANCHORED RESILIENT SUBFLOOR SYSTEM DESIGNS

Multiple combinations of steel, wood, composite metal, plastic, neoprene, and rubber are signatures of most anchored resilient subfloor systems. Manufacturers have created proprietary menus of combinations from which to choose. Anchored resilient subfloor systems combine features of both floating and fixed systems.

PROPRIETARY FIXED AND FLOATING SUBFLOOR SYSTEM DESIGNS

MFMA Manufacturers offer a variety of proprietary fixed and floating systems that they have developed in some cases for specific applications. Each has unique features and benefits. Keep in mind that some of these subfloor systems have been designed for particular site conditions or expected uses (i.e. below-grade installation, installation in an area of widely-varying humidities, use in an aerobics facility, use for modern dance stage).

"GENERIC" FIXED AND FLOATING SUBFLOOR SYSTEM DESIGNS

Most proprietary anchored resilient, fixed and floating subfloor system designs have evolved over the years from the designs of a number of "generic" subfloor systems. Each of these systems has been on the market for many years, and has been successfully installed in hundreds of facilities worldwide. We refer to them as "generic" because the basic designs are not patented by one manufacturer, and each system is generally available from all manufacturers. The following is a short description of each of the "generic" MFMA subfloor designs:

Cushioned Sleeper System — The cushioned sleeper floating-floor system consists of 2" x 3"x 4" (nominal) kiln-dried hemlock, spruce, pine or fir sleepers installed over 3/8" x 2 1/4" x 3" or 5/8" x 2 1/4" x 3" rubber or neoprene pads. The pads are mechanically fastened to the bottom of the sleepers and are generally spaced at 1-ft intervals on the sleepers. The sleepers with pads are installed end-to-end at right angles to the direction of the finished maple surface with end joints staggered 24" in adjacent rows. Sleepers are spaced between 8" and 16" o.c. depending on the thickness and grade of the maple flooring surface and the resiliency required for the project. The surface maple, sleepers and pads are installed over a seam-sealed 6 mil. polyethylene vapor barrier.

Cushioned Sleeper with One Layer of Plywood System — The cushioned sleeper with plywood floating-floor system consists of 2" x 3" x 4" (nominal) kiln-dried hemlock, spruce, pine or fir sleepers installed over 3/8" x 2 1/4" x 3" or 5/8" x 2 3/4" x 3" rubber or neoprene pads. The pads are mechanically fastened to the bottom of the sleepers and are generally spaced at 1-ft intervals on the sleepers. The sleepers with pads are installed end-to-end at right angles to the direction of the finished maple surface with end joints staggered 24" in adjacent rows. Sleepers are spaced 12" o.c., and a layer of 15/32" x 4" x 8" APA rated, 4-ply CDX plywood is installed over the sleepers at either a 45 or 90 degree angle to the direction of the finished maple surface. The surface maple, plywood, sleepers and pads are installed over a seam-sealed 6 mil. polyethylene vapor barrier.

Double Plywood System — This low profile floating floor system consists of two layers of ¹⁵/₃₂" x 4" x 8" APA rated, 4-ply CDX plywood generally installed at 45 and 90 degree angles to the direction of the finished maple surface. ³/₈" x 2 ¹/₄" x 3" rubber or neoprene pads are mechanically fastened to the underside of the bottom layer of plywood and are generally spaced at one foot intervals (32 per plywood sheet). The surface maple, plywood and pads are installed over a seam-sealed 6 mil. polyethylene vapor barrier.

Nail-in-Channel System — This fixed system consists of maple flooring installed over steel channels with a PVC, plywood or hardwood core nailing channel. Each nailing channel is set into 5/16" grooves spaced 12" o.c. in 1/2" or 5/8" thick fiberboard or closed-cell foam underlayment, and the steel channels are fastened through the underlayment and into the concrete slab using 5/16" head diameter steel channel anchors. The maple flooring is anchored to the subfloor materials using 2" barbed cleats or 15 gauge coated staples, which are clinched as they are driven into the core of each steel channel. The entire system is installed over a seam-sealed 6 mil. polyethylene vapor barrier.

Channel and Clip System — This fixed system consists of maple flooring installed over 16 gauge steel channels using 16 or 20 gauge steel clips to fasten the flooring to the subfloor components. Three different clip designs are available, and are usually specified with a particular thickness of maple flooring (clip-over-tongue design with 25/32" or 33/32" thick maple, clip-under-tongue design with 33/32" thick maple, or backwards-clip design with 27/32" thick maple). Each fastening channel is set into 5/16" grooves spaced 12" o.c. in 1/2" or 5/8" thick fiberboard or closed-cell foam underlayment, and the steel channels are fastened through the underlayment and into the concrete slab using 5/16" head diameter steel channel anchors. The entire system is installed over a seam-sealed 6 mil. polyethylene vapor barrier.

QUESTIONS YOU SHOULD ASK WHEN SPECIFYING A SUBFLOOR SYSTEM DESIGN

Ask questions of the manufacturer(s) of the systems you are considering, such as: Why did your firm develop this subfloor design? Are there particular site conditions or end uses for which this subfloor design is particularly well suited? Are there particular site conditions or end uses for which this subfloor design is ill suited?





SPECIFYING A MAPLE SPORTS FLOORING SURFACE

There are several types of maple surfacing products from which to choose. Maple flooring comes in three basic configurations: random-length strip (the most popular and most common), finger-jointed strip, and parquet. Each of these surface materials can be installed in a single direction, or can be laid in patterns such as a checkerboard, chevron, etc. Here are basic descriptions of each type of flooring:

Random-Length Strip — Individual pieces of flooring, typically 1 ½" or 2 ¼" wide, with lengths between 9" and 8". The most common thickness specified is 25/32", but 33/32" thick random-length strip flooring is also available. This surface material is installed like a horizontal brick wall, with each piece being overlapped with adjacent pieces and fastened into the subfloor with cleats, staples or steel clips, depending on the subfloor chosen for the project.

Finger-Jointed Strip — A number of randomlength strip segments joined together at the manufacturing plant to form a consistent length board. The most common thickness specified is ²⁵/₃₂", but ³³/₃₂" thick finger-jointed strip flooring is also available. This surface material is also installed like a horizontal brick wall, with each consistent-length board being overlapped with adjacent boards and fastened into the subfloor with cleats, staples or steel clips, depending on the subfloor chosen for the project.

Parquet — Hard maple parquet flooring is manufactured in square and rectangular panels in a variety of dimensions. Individual picket widths range from 7/8" to 11/8", and picket lengths range from 5 1/2" to 12". Minimum thickness of MFMA parquet flooring is 5/16". Individual pickets, assembled into panels, are either joined together by wire, mesh, or tape on the back of the panel, or paperface on the front (or surface) of the panel. Parquet flooring is typically installed directly to the concrete substrate using adhesive/mastic, or over subfloor systems that contain continuous subfloors (plywood or similar).

SAMPLE SPECIFICATIONS FOR MAPLE FLOORING

Random Length Strip flooring is the surface material most frequently specified for sports flooring applications. When writing the specification for Random Length strip flooring, specify as "MFMA—RL (Random Length) strip flooring," and list the required species, grade, and thickness. A typical specification should appear as follows:

2.1 Materials

A. Flooring shall be MFMA–RL (Random Length) Northern Hard Maple, ²⁵/_{32"} thick x 2¹/₄" wide, Second and Better Grade; T & G and EM; grade marked and stamped as produced by an MFMA member manufacturer.

Finger Jointed strip flooring is specified in a similar manner as Random Length strip flooring. For example, when ordering Finger Jointed strip flooring, specify as "MFMA–FJ (Finger Jointed) strip flooring," and list the required species, grade, and thickness. A typical specification should appear as follows:

2.1 Materials

B. Flooring shall be MFMA-FJ (Finger Jointed) Northern Hard Maple, ²⁵/₃₂" thick x ²¹/₄" wide, Second and Better Grade; T & G and EM; grade marked and stamped as produced by an MFMA member manufacturer.

Parquet flooring is specified in a similar manner as Random Length Strip flooring. For example, when ordering MFMA Parquet flooring, specify as "MFMA-PQ (Parquet) flooring," and list the required species, grade, thickness and picket size. A typical specification should appear as follows:

2.1 Materials

A. Flooring shall be MFMA-PQ (Parquet) Northern Hard Maple, 5/16" thick, Second and Better Grade; fastened together in panels using mesh, tape or wire backing or paper facing; grade marked and stamped as produced by an MFMA member manufacturer.

ABOUT THE MAPLE FLOORING MANUFACTURERS ASSOCIATION (MFMA)

The Maple Flooring Manufacturers Association (MFMA) is the authoritative source of technical and general information about maple flooring and related sports flooring systems. MFMA's membership consists of manufacturers, installation contractors, distributors and allied product manufacturers who subscribe to established quality guidelines. Through cooperative member programs, MFMA establishes product quality, performance and installation guidelines; educates end users about safety, performance and maintenance issues; and promotes the use of northern hard maple (Acer saccharum), yellow birch (Betula alleghaniensis) and beech (Fagus grandifolia) flooring products worldwide. To contact the association: MFMA, 60 Revere Dr., Suite 500, Northbrook, IL., 60062. U.S.A. Phone 847-480-9138. Fax 847-480-9282. Website www.maplefloor.org. Email mfma@maplefloor.org.

LEARNING OBJECTIVES:

After reading this section and answering the self-test questions at the end, architects will be able to:

- Describe the various categories of wood sports flooring system subfloor configurations
- Describe the various types of wood sports flooring surface materials
- Cite the most critical specification considerations when designing athletic facility floors

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self-report form on page 382 and submit it or use the Continuing Education self-report form on *Record's* Web site, www.architecturalrecord.com, to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS: 1. What makes northern hard maple a better choice than synthetic material for sports flooring?
100 March 100 Ma
2. What are the surface configurations available in maple flooring?
10.00
3. When writing a specification, what information should be included?
4. What are the differences between the three basic subflooring systems?
5. What performance characteristics are important considerations in selecting a floor system?

to crush the floor.

5. The important performance characteristics for athletic floors are shock absorption, deflection, ball bounce, surface friction, rolling load, and compression strength. The shock absorption amount prescribed varies for different sports. Concrete floors provide little or no force reduction for an athlete while maple flooring systems absorb much of the impact or shock. Deflection measures the movement of the floor created by an impact. The area of acceptable deflection is determined by the congestion of athletes on the floor. Ball bounce is the measurement of a basketball's rebound height off the floor. Surface friction measures the floor's ability to control the sliding of athletes on its surface. It is a direct function of the finish on the floor. Rolling load is a characteristic of equipment and furniture to potentially damage a floor system when they are of equipment and furniture to potentially as measurement of the force needed tolled across it. Compresssion strength is a measurement of the force needed

4. There are three basic subfloor systems: floating, fixed, and anchored resilient. Floating systems are not mechanically fastened to the concrete slab by pins, screws, or adhesive. Anchored resilient systems are mechanically fastened to the concrete substrate, but have a combination of components that allow varying degrees of additional resiliency within the subfloor system.

3. When writing a specification for maple flooring specify MFMA and the wood will be stamped as produced by an MFMA member manufacturer. For parquet flooring the picket size should also be specified.

2. Maple flooring comes in three basic surface configurations: random-length strip, These farip, and parquet. The most common is random-length strip. These strips are laid side by side while their ends do not line up, much like bricks where the joint of one falls on the middle of the adjacent piece. Finger-jointed strip joins several random-length strip segments together to form a board of consistent random-length and finger-jointed strip can be fastened to a subfloor with staples, clips or cleats. Parquet flooring is manufactured by joining individual pickets of clips or cleats. Parquet flooring is manufactured by joining individual pickets of wood with mesh or tape into square or rectangular panels. Parquet is typically glued down to the flooring substrate.

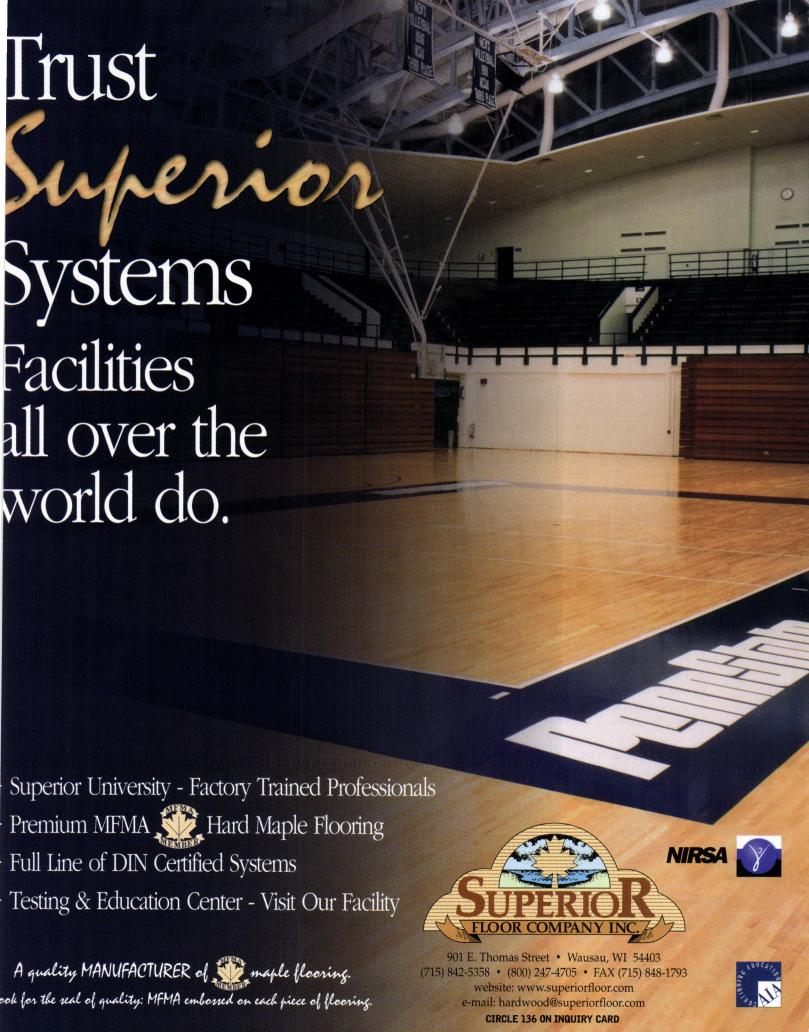
A. Wood athletic floor systems are less expensive to maintain and last considerably longer than synthetic floors. Hardwoods such as maple are a renewable resource, with more timber added to the forests each year than is harvested. Wood takes no energy to produce, little energy to process, and it is biodegradable and re-usable. Maple floors have a natural shock-absorbing quality so they can meet performance and safety requirements for a variety of sporting applications.

ANSWERS:



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THE WINDOW AND DOOR MANUFACTURERS ASSOCIATION PRESENTS

RIPPLES

THROUGH THE DOOR INDUSTRY

fter a decade of heated debate, positive pressure testing fire testing is a reality. It is projected that by 2003 most state and local building codes will mandate positive pressure testing versus the traditional neutral testing methods. Yet, controversy still surrounds the issue, because the transition from the former way of testing fire doors has widespread implications for architects, specifiers, manufacturers, and code officials. At issue are the exact specifications required, how manufacturers anticipate fire door products will change, and how specifiers can be assured of product compliance.

Yet, the situation is even more complicated, due to the current debate over the consolidation of building codes in this country. As the transition continues, debate in the code community does too, over requirements for testing, certification, labeling, and installation, all of which can affect the ultimate design of fire doors.



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AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION SERIES

Use the learning objects below to focus your study as you read *Positive Pressure Ripples Through the Door Industry.*To earn one AIA/CES learning Unit including one hour of health safety welfare credit, answer the questions on page 296 and follow the reporting instructions on page 382. Or use the Continuing Education self-report form on *Record's* Web site — www.architecturalrecord.

LEARNING OBJECTIVES:

- Explain why positive pressure fire testing is being adopted by local building codes.
- Describe the differences between traditional fire test ing and positive pressure fire testing.
- Discuss the expected changes in door and window assembly construction.

The Window and Door Manufacturers Association (WDMA) recognizes the complicity of compliance with the new code requirements and has issued the *Technical Bulletin: Positive Pressure Fire Doors.* This document guides architects, specifiers, code officials, and manufacturers through the new language surrounding positive pressure. In addition, WDMA continues to be an excellent resource for technical information on all aspects of the door and window industry.

Adoption of Positive Pressure Codes

First, some background. For more than a decade, there has been a consistent call from some fire protection experts to revise the fire door test standards, requiring them to be conducted with positive pressure. The most notable advocate of this change was John G. (Gus) Degenkolb, a fire safety consultant based in Carson City, Nevada, who was the chairman of the National Fire Protection Association's NFPA8 80, Standard for Fire Doors and Fire Windows.

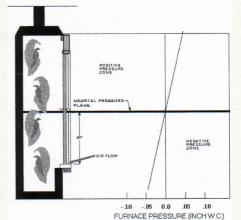
Degenkolb, and others, argued that positive pressure represents a better simulation of the conditions that occur in real fires in real buildings than the traditional negative or "neutral" pressure fire test. At the same time, the positive pressure test is practiced internationally through such codes as ISO 3008, BS 476, and JIS A 1311.

Basically, during a fire test, pressure is developed in a furnace. Positive pressure forces air out of the furnace. Negative pressure acts to pull air into the furnace.

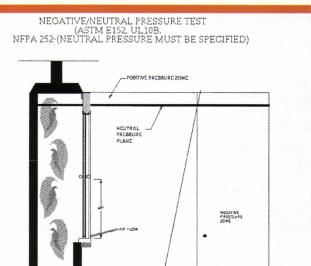
In traditional fire door and window tests, the furnace pressure at the top of the assembly is maintained slightly negative relative to the ambient environment. This means that cool ambient air will tend to be drawn into the furnace through any cracks or openings. This keeps some areas cooler than they might otherwise get or it may cause combustibles to burn faster due to an increase in air supply.

The positive pressure test requires that the "neutral pressure plane" be established at 40 inches above the sill for door assemblies and 2/3s down from the top of window assemblies within the first five minutes of the test. This causes a positive pressure to be created above these locations. There will still be negative pressure below these points, but the magnitude of the pressure difference will be smaller and, thus, any airflow into the furnace at the bottom of the assembly will be less than in neutral pressure tests.





Positive Pressure Fire Chamber



-.10 -.05 0.0

FURNACE PRESSURE (INCH W.C.)

Negative Pressure Fire Chamber

More importantly, hot furnace gases will be pushed out through any cracks or openings in the assembly located above the neutral pressure plane. This could result in failures. Wood-edged doors may have the wood burn along the edges to the outside face, causing flaming on the exposed face, constituting failure. Wood frames may do the same. Gases evolved from door cores may also ignite and burn like gas torches on the unexposed face of the assembly.

In this country, positive pressure testing methods were developed and adopted into Volume 3, Standard 7-2 of the Uniform Building Code (UBC) in 1977. In addition to "flaming criteria," part one of the UBC positive pressure test includes a "cotton pad ignition test" to evaluate the passage of hot gas through the assembly. The cotton pad test, which applies only to temperature rise rated doors, uses a swatch of cotton gauze is held an inch from any suspected hot gas leakage points. If the cotton ignites in 20 seconds or less, the assembly fails.

Part Two of the 1997 UBC 7-2 code concerns the smoke and draft control assemblies. This test requires measurement of the air leakage rate through the assembly at both ambient (i.e. room temperature) and elevated (400 degree F) temperatures. The test procedure requires leakage measurements at pressures of 0.05, 0.1, 0.2, and 0.3 inches water column at both 75 degrees F and 400 degrees F; a total of eight measurements. Acceptable performance is defined as less than or equal to 3 cubic feet of air per minute per square foot of assembly area at 0.10 inch water column pressure. Assemblies qualifying under this standard will include an "S" designation on the fire-rating label.

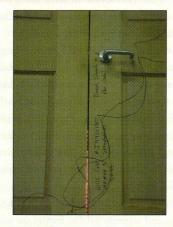
The group responsible for the UBC document (ICBO-International Conference of Building Officials) was the first agency in the United States to include and adopt positive pressure fire door testing. During the development of the 1997 version of the UBC, debate ensued on a couple of topics (as it had for the entire decade).

The first was challenging the need for the change to positive pressure in the test method. Current neutral pressure-tested fire door assemblies had performed nearly flawless for many, many years. The argument being, that if something is working, why fix it? Secondly, if we were going to become like the rest of the world and change to positive pressure testing, we needed to drop the hose stream portion

of the neutral pressure test. This is where a fire door assembly is subjected to the cooling, erosion, and impact of a fire hose stream of water, for a specified duration immediately after the fire endurance portion of the test. If the combination of the positive pressure fire test and the hose stream test were included in the code (which it eventually was), it would make the new test method the most difficult to pass in the world.

Meanwhile, the International Building Code been written, also requiring testing under positive pressure conditions. Where ICBO wrote its own test standard, the IBC adopted a heretofore neutral pressure test standard, NFPA 252, and converted it for positive pressure use through code language. By 2003, most of the states in this country are expected to be using some version of the new IBC, which may replace the 1997 UBC.

The use of positive pressure testing in Europe and elsewhere has lead to the manufacture of fire doors that incorporate "intumescent" seals. Intumescents are special components that have the ability to swell or foam when exposed to high temperatures and are an effective method of preventing hot gases from leaking. These materials are incorporated into the edges of the doors, frames, or in applied gasketing systems. (See photo below.)



Intumescent Seals

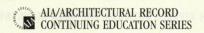
Repercussions on Manufacturers

Manufacturers, specifiers, and architects have been uncertain as to the how the change in the code would affect the manufacturing of fire doors. Would all fire doors and windows need to be retested? Would existing designs pass the revised test? How soon would these products be needed on the market? How would building officials, architects, specifiers, and builders know which products, or systems comply with the new requirements?

As the codes are being implemented over time, the transition can be difficult rough. Here is how products are expected to change.

• WOOD DOORS: The challenge of re-engineering wood doors to meet the requirements of positive pressure is to protect against excessive charring and flaming along the edges and at the top where positive pressure will force 1,700 degree F smoke and gases from the furnace through the test assembly. Also, any penetration of hardware or vision lites that occur 40 inches or above on the door require re-evaluation.

POSITIVE PRESSURE RIPPLES THROUGH THE DOOR INDUSTRY



LEARNING OBJECTIVES:

- Explain why positive pressure fire testing is being adopted by local building codes.
- Describe the differences between traditional fire testing and positive pressure fire testing.
- Discuss the expected changes in door and window assembly construction.

INSTRUCTIONS:

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self report form on page 382 and submit it or use the Continuing Education self report form on *Record's* web site - www.architecturalrecord.com - to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

tested and labeled assembly that would include the fire door, frame, and hard-ware in lieu of components tested separately.
The other approach involves intumescent seals to prevent smoke and gases from escaping through door assemblies. Some manufacturers are offering a
5. Wood door manufacturers are using two approaches at redesigning. One is reinforcing the edges and top rail of the door with higher density material.
4. Compliance categories have been established to help analyze components and applications. The two basic categories are: A Doors with no additional edge-sealing system required, and B Doors with additional edge-sealing system required. There are other categories for proprietary frames, assemblies, hardware, light kits, and gaskets. Also, the WDMA serves as a resource for technical information.
3. The use of positive pressure testing in Europe and elsewhere led to the manufacture of fire doors to incorporate "intumescent" seals. The intumescent seals swell or foam when exposed to high temperatures and effectively prevent hot gases from leaking. The materials are incorporated into the edges of doors and frames or are in applied gasketing systems.
2. In traditional fire door and window testing the furnace pressure at the top is slightly negative, drawing cooler air in through any cracks or openings. This may keep some areas cooler and may cause combustible items to burn faster due to an increased air supply. In positive pressure testing a neutral plane is established at mid height, causing positive pressure above that height. This causes hot gases to be pushed out at the top through any cracks or openings, resulting in burning or failures on the outside edges of door assemblies.
I. Although positive pressure testing has been a debated topic for several years, it is finally scheduled to be adopted by most states by 2003. This will occur as the states adopt the new International Building Code as their standard replacing the 1997 UBC. Positive pressure fire testing is recommended for two reasons. First, it simulates the conditioins of a fire more realistically than traditional testing. Second, positive pressure testing is the standard for international codes.

For additional information about the Window and Door Manufacturers Association contact:



WINDOW AND DOOR MANUFACTURERS ASSOCIATION

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Email: admin@wdma.com

CIRCLE 137 ON INQUIRY CARD

VANSMERS:

Creative Uses Illuminating the halls of justice on the West Coast • Backlighting wood and glass benefits a Canadian club • A futuristic model residence is wrapped with the right white light

Judicious lighting institutes an open, friendlier backdrop for true-life episodes of L.A. Law

Not far from the illuminated landscape encircling Los Angeles International Airport, the glowing exterior of a new branch facility of the LA County court system creates its own striking presence in the night sky. And when facing court appearances during daytime hours. citizens might find the transition from bright California sunlight to the sequestered halls of justice less foreboding than if they entered a dark courtroom. Collaborating architects Ellerbe Becket and Mosakowski Lindsev Associates (MLA), aided by the Mintz Lighting Group design consultants, have created a contemporary, public-friendly civic building.

"The county administrators and planners wanted an environment that signaled courthouses have changed from what they were a hundred years ago," says Rey Tuazon, MLA design principal. "They didn't want the courthouse to seem massive, insular, or bunker-style, but

instead more welcoming to visitors and the professionals who work here. The lighting design is an extension of that more open policy."

"Of course, citizens come to courthouses to be prosecuted and sentenced, but some people also enter to get licenses and permits or to pay parking tickets," observes principal lighting designer David Mintz. "We didn't want everyone accessing public services to feel as though they were going to jail."

To create less intimidating backdrops for real-life episodes of L.A. Law, lighting was carefully integrated within architectural forms and well-detailed materials. The entrance to the 12-story courthouse resembles the look of a high-end commercial office tower, rather than a gateway to the judicial branch. The curving glass facade wraps a two-story lobby gallery lit with metal-halide fixtures that evoke a feeling of openness. The lighting helps to provide a smooth transition

from outside to indoors. Italian porcelain-tile flooring is complemented by walls of marble and polished granite, which are accentuated with metal halides. The curved glass wall leads circulation toward an expansive inner lobby, where a 35-foot-high vaulted ceiling further reinforces openness. Fluorescent uplights wash the ceiling to emphasize its height. HID metal-halide downlights provide general illumination, accompanied by metal-halide wall washers and custom fixtures mounted in a staggered arrangement to wash the floor evenly. Compact fluorescent downlights illuminate elevator lobbies.

Within each courtroom, a semicircular judge's bench is angled in a corner to allow for optimum viewing by the attorneys, jury, and public gallery. A makore-wood-clad wall behind the judge's bench is accentuated by linear fluorescent cove lighting, while compact fluorescent fixtures set in soffits highlight

fabric-wrapped acoustical panels along side walls. The perimeter lighting helps to compensate for the absence of windows inside the courtrooms and allows low levels of ambient illumination when overhead lighting is lowered during audiovisual presentations.

The design team faced the challenge of providing versatile light levels to accommodate daily court activity as well as dimming for a variety of audiovisual needs. Budget limitations, however, overruled installation of a preset dimming system, so the lighting team opted for a cost-effective alternative, "Our solution was to install compact fluorescent downlights with lamps that are individually ballasted and circuited for individual switching," explains associate principal lighting designer Kenneth Douglas.

At the request of the design architect, recessed compact fluorescent fixtures were installed at ceiling panel intersections within the court-

> rooms to leave the curved ceiling sections free of additional perforations. Judges' chambers feature compact fluorescents.

> Direct/indirect linear fluorescents illuminate hallways, which offer views outdoors via the glass curtain wall. "There is always a high level of tension and emotion in courtrooms," explains Mintz, "When people take a break from these courtrooms, it is a nice feature to have a bright, open space to walk in."

Set on time-clock controls, the direct/indirect linear fluorescents keep the facade of the courthouse shining as a civic symbol during off-hours. Leanne B. French





The facade glows from within (left). Corridors feature daylight and views (top). Compact fluorescents light courtrooms (above).



Creative Uses

A translucent bar and overhead light box generate ambient illumination at Bamboo

Calgary, Canada, might not seem like an obvious locale for a Polynesian tiki bar, but Bamboo accomplishes the latitude adjustment with "surf's up" playfulness. Designed by McKinley Dang Burkart, the 2,000-square-foot nightspot caters to a young clientele of clubgoers and lounge lizards lining up for Bora Bora punch served in coconut shells topped with dryice fog.

When creating an energetic backdrop for the cocktail crowd, principal designer Walker McKinley says he wanted to evoke a retro, South Seas look "without crashing into a wall of kitsch. The bar was conceived as an abstracted version of a Westernized tiki lounge from the 1970s. We wanted to create appropriate imagery in broad strokes,

interior elements that could be appreciated even when the bar is packed with patrons standing shoulder-to-shoulder."

McKinley and project designer Tony Leong wrapped the space with natural finishes—a maple floor, zebra-wood paneling with bamboo inserts, and a back bar featuring a wenge wood top. Bringing the room to life is ambient lighting that stretches out in several directions.

"The client, Victor Choy, of the Concorde Group, wanted the lighting levels to remain relatively low," McKinley says, "but we needed to create enough ambient illumination so that patrons won't feel closed in when the room fills up. We created three main threads of light that run the length of the room along different planes."

A crashing blue wave rolls across the front of the bar. Silk-screened onto glass panels, the image is backlit by linear fluorescents. Behind the bar, additional fluorescents light bottles set along glass shelves within a rectangular niche, which is backed by mirrors.

Overhead, a 25-foot-long decorative rafter is constructed of Lucite sheathed in a thin pine veneer.

Dimmed incandescents backlight

the wood grain to create a warm glow. "The light box is suspended from a slot in the ceiling so it appears to float above the bar," McKinley says. Two vintage pendants, Modernist classics designed by George Nelson, are focal points at one end of the bar. Inset along an adjacent wall, three Polynesian totems—fiberglass set pieces—are backlit by red-gelled incandescents. William Weathersby, Jr.



BALDINGER



"Compas lamp offers a few tricks, a secret that is officially meant to receive pencils at the base. The lampshade has amazing flexibility to direct the light."







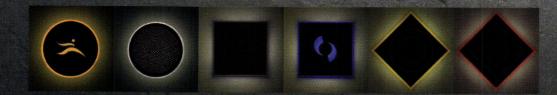
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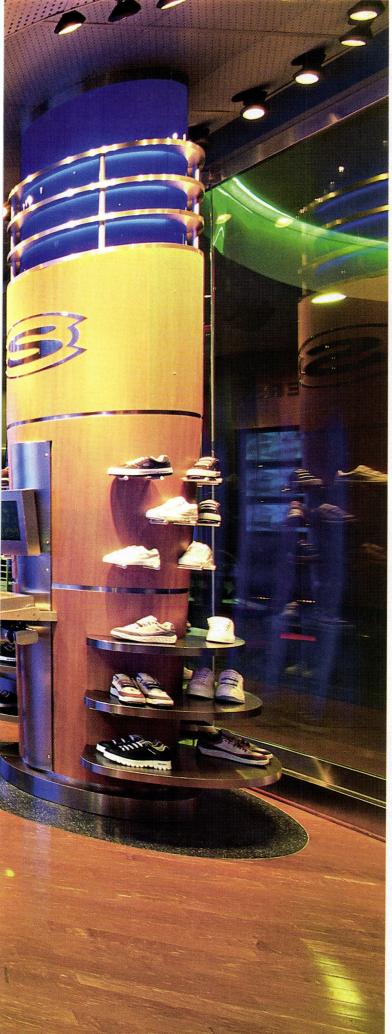
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CIRCLE 355 ON INQUIRY CARD





A shoe store outpaces the competition with high-contrast accents imparting a youthful glow

By Leanne B. French

igh atop a hill in Hollywood, Universal Studios CityWalk is a street of dreams—if you are a die-hard shopper or love the nightlife. With a master plan by Jerde Partnership International, the cacophonous retail and entertainment complex made its debut in 1993. A 1,500-foot-long pedestrian promenade serves as a central spine that connects the three anchors of Universal's vast movie studio complex: an amphitheater, 18-screen cinema, and theme park. The boulevard blends shops, restaurants, bars, nightclubs, and arcades all housed within a collage of buildings constructed from a fanciful kit of parts. Decorative towers and neon marquees are juxtaposed with colorful walls, layered grids, and playful signage. It's an architecture of compacted, exaggerated forms meant to attract and entertain, with lighting cues leading the way along the street.

Part of a recent expansion to the complex, Skechers USA is a new retail arrival. Rather than try to outshine its competitors with maximum wattage to attract attention, the 2,500-square-foot shoe store puts its best foot forward in a streamlined environment tailored with highcontrast illumination by Lighting Design Alliance (LDA).

Collaborating with MPA Architects and retail designer ME Productions, the lighting design team aimed to underscore Skechers' youthful image by taking what is-considering the frenetic context-a relatively less-is-more approach. "CityWalk is an overt, 'visually loud' area where every retailer is competing with its neighbors for attention," says LDA senior designer Archit Jain. "Most retailers here light their stores brightly to draw customers inside, but we didn't want to blast light out onto the thoroughfare or along every interior plane. Instead, we chose to lure people inside by creating an integrated interior that features a variety of high-contrast illuminated surfaces."

A California-based footwear company known for its casual shoes

Leanne B. French, a freelance writer and editor based in New York City, specializes in architecture and entertainment design.

Project: Skechers USA, Hollywood, Calif.

Architect: MPA Architects

Retail designer: ME Productions

Lighting designer: Lighting Design

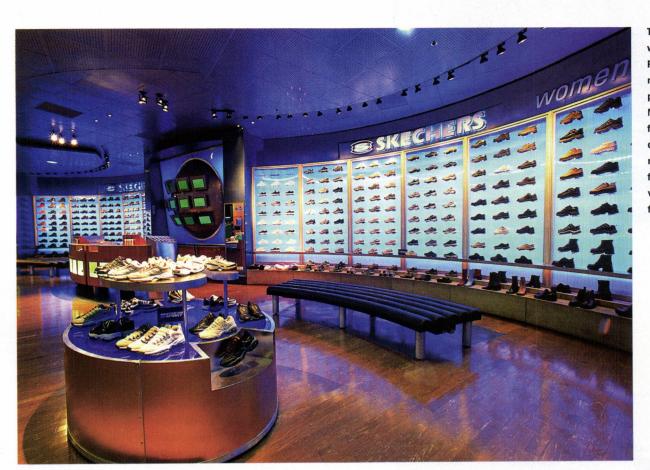
Alliance—Chip Israel, IALD, principal; Archit Jain, Frank Feist, designers

Adjustable downlights: Lightolier

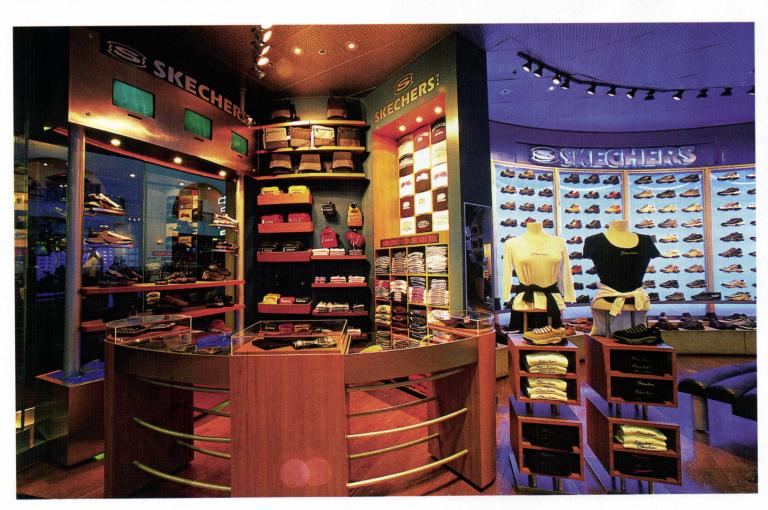
Multihead fixtures: Translite Compact fluorescents: Wila Display fixtures: Premier

Track lighting: Alkco Neon: Promotional Signs

WWW For more information on the people and products involved in this project, go to Lighting at www.architecturalrecord.com



Track fixtures fitted with halogen infrared PAR lamps spotlight merchandise (this page and opposite). Multihead, low-voltage fixtures light additional displays. Compact fluorescent downlights fitted with louvers provide ambient lighting for circulation routes.





and edgy designs, Skechers was looking to establish an upgraded threedimensional brand identity that could be adapted to other locations. Viewed from the entrance, the interior is bathed in the signature hue "Skechers blue." Translucent walls undulate with blue neon backlighting, rising toward a reflective silver ceiling. Niches enveloping footwear displays also are backlit with blue neon. The design team met with the display manufacturer to conduct mock-ups, determining the space required between the neon tubes and the cases so that the lighting elements are not visible and displays are evenly illuminated. The tops of the neon boxes have also

THE COMBINATION OF FLUORESCENT AND INCANDESCENT SOURCES ENSURES THAT THE VIBRANT COLORS OF THE SHOES ARE RENDERED ACCURATELY.

been left intentionally open so that the ceiling receives additional bounce light from the linear runs of neon. Video walls with multiple monitors reinforce the theme of "inner glow," but were left unlighted to create contrast spill light depending on what images are showcased on-screen.

"Because backlit display units create the illusion of a brighter area and the silver ceiling picks up the blue sheen of the walls, we were given the latitude of reducing ambient lighting levels on the sales floor to a minimum," Jain says. Rather than the higher base-level lighting of a typical retail environment, LDA dimmed ambient levels at Skechers to between 10 and 15 foot-candles, using 32-watt high-color-rendering compact fluorescents. By contrast, adjustable low-voltage spots with a 50to 60-foot-candle output draw attention to the backlit displays. "We created between 5- and 10-to-1 ratios between the actual displays and circulation areas around them so that the store doesn't appear very bright overall, but the merchandise is very punched up," Jain explains.

In another departure from traditional shoe-store lighting, LDA downplayed track fixtures. Accent lighting is partially concealed within a stepped ceiling that accommodates 60-watt halogen infrared PAR fixtures, which downlight displays along the perimeter of the store. To save energy, HIRs were specified instead of standard halogen lamps. Two different beam spreads are employed for flexibility: floods light the tops of displays while spots showcase the lower sections.

In the center of the store, high-color-rendering compact fluorescent downlights fitted with louvers provide ambient illumination that aids circulation. Accenting central displays, multihead, low-voltage spotlights also are integrated into the ceiling. Each fixture combines six low-voltage, narrow-spot MR16s in a design that hides wires within the fixture frame. A combination of fluorescent and incandescent lighting sources throughout the store ensures that the full spectrum of Skechers' multicolored shoe line is rendered well. "The fluorescents helped highlight the ranges of blue and green, and the incandescents helped with the yellow and red tones," Jain says.

The CityWalk Skechers has served as a prototype for new stores in New York City, London, Dusseldorf, Paris, and the company's home base of Manhattan Beach, Calif. Jain attributes the adaptability of the design to the close collaboration between the interior designers and the architects, fixture fabricators, and lighting team early in the design phase. "Lighting was valued as an element that could enhance the curvilinear forms and fixture detailing in addition to showcasing the product," he says. "The high-contrast illumination unifies the signature ambience."



Lighting supports a flexible work environment and polishes the image of a public broadcast studio

by Nayana Currimbhoy

hiladelphia's sister public radio and television stations, operating under the call letters WHYY, are broadcasting a new image on the city's historic Independence Mall. Housed for more than a decade in a building constructed in 1975 as a civic museum commemorating the Philadelphia bicentennial, the broadcasting corporation recently commissioned a renovation to upgrade studio facilities and recharge its community identity. Redesigned by Burt Hill Kosar Rittelmann Associates/Philadelphia, in collaboration with the Lighting Practice, the 54,000-square-foot complex incorporates advanced digital broadcast technologies within flexible work environments.

The canted planes of the new facade, with a cantilevered metal roof stretching above a double-height grid of windows, appear like components of a giant laptop popped open within the historic district. "The facade is composed of simple, abstract elements so that the building, much smaller than its neighbors, would not seem diminutive," says project architect Michael Oei, AIA. "Transparency is used as a metaphor for democracy, accountability, and openness—reflecting the station's new vision of itself as a visible, accessible, and cutting-edge operation."

Constructed of nonreflective glass and articulated by thin mullions, the facade invites visitors or passersby to peer inside at the station's inner workings. "The building is like a television screen or personal computer; you look through a two-dimensional surface to see the three-dimensional space within," says Alfred Borden, IALD, principal lighting designer. "To emphasize the station's openness and varied departments coming together, we uplighted the ceilings and illuminated all vertical interior surfaces that are visible from the plaza."

Along the exterior, small metal-halide accent luminaires are mounted within the landscape to highlight the metal-clad edges of the building. Inside the lobby, an 80-foot-long and two-foot-high electronic ticker tape flashes a continuous amber-character display announcing news and information. Four stainless-steel screens set on a sliding track depict relevant graphic images. The panels can be used to obscure the interior broadcast studios when privacy is required.

Behind the facade, glass walls front ground-floor studios and control rooms, allowing observation of live broadcasts. Because interactiv-

Nayana Currimbhoy is a New York City-based writer specializing in design and architecture. She is a frequent contributor to RECORD LIGHTING.



Showcasing the illuminated interiors of the two-floor complex, the glass-wall facade acts as a beacon, proclaiming the station's public mission.

ity is a byword within the new station, also visible is the Technical Resource Center, the technical heart of the enterprise that houses broadcast equipment. "Basically, we turned the station inside out," Oei says. "We brought the working elements of the building up to the line of the glass elevation."

The interior volume is configured into separate radio and television studios, conference and meeting spaces, and office areas on two floors. The high-tech imagery of the facade continues inside, with exposed structural beams complemented by finishes including glass, metal, and fiberglass. The corrugated metal of the roof sweeps inside as a canopy. Perforated aluminum materials clad ceilings, wall dividers, and stairway

Project: WHYY Studios, Philadelphia Architect: Burt Hill Kosar Rittelmann Associates/Philadelphia-Michael Oei, AIA, project architect; Adrienne Carruth, project interior designer Lighting designer: The Lighting Practice—Alfred Borden, IALD, principal designer; Erin Friar

Interior downlights: Cooper Lighting, Lithonia

Indirect lighting: Corelite, Neoray Glass pendants: Delray Lighting Cold cathode: National Cathode Cable lighting: Tech Lighting Exterior accent lights: BK Lighting Bollards: Selux

WWW For more information on the people and products involved in this project, go to Lighting at www.architecturalrecord.com



banisters. Textured-glass partitions and sliding panels provide flexibility and a degree of privacy for broadcasts.

"Besides creating a flexible work environment, we also wanted to offer a sense of drama," says project interior designer Adrienne Carruth. "There are frequent public tours of the studio, and visitors expect to see theatrics." The studio walls are painted with saturated colors—blue (a subtle reference to video monitors) for television studios and green for radio rooms. Three-sided trusses support broadcast cables and lights, while studio

ENERGY-EFFICIENT OFFICE AND DISPLAY LIGHTING WAS A PRIORITY FOR THE PUBLICLY FUNDED TV AND RADIO STATION.

Fresnel fixtures have been refitted with compact fluorescent lamps with color gels. Although not bright enough to be functional, the lamps give a theatrical sheen to public areas. A performance studio, used for recording radio broadcasts and small-scale musical performances, is equipped with maple-veneer acoustical panels and a fabric-covered wall. Ceiling-mounted, 300-watt halogen pendants are equipped with counterweights so they can be lowered for versatile, scenic looks during live performances.

The central lobby and circulation route, referred to in-house as "the avenue," can also accommodate special events and musical performances. A steel track running above glass-enclosed studios and conference rooms is used as a channel for carrying lighting cables and equipment wiring. Here another grid of refitted theatrical fixtures adds an air of studio excitement overhead.

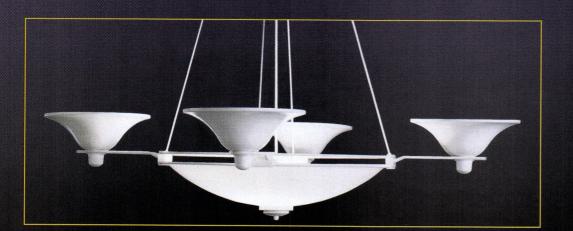


In a circulation lobby known as "the avenue," theatrical fixtures have been refitted with gelled compact fluorescents to evoke the ambience of live broadcasts without requiring high energy consumption (above top). A reception area employs ceiling-inset compact fluorescents fitted with blue rings (above).

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CIRCLE 144 ON INQUIRY CARD



Within the second-floor office areas, runs of T8 fluorescent pendants provide both ambient and task illumination (right). Above the jagged-edged dropped ceiling, a row of metal halides washes the blue wall that encloses the broadcast television studio (right and below). Lighting works in tandem with architectural form to open the workings of the studio to the public realm.

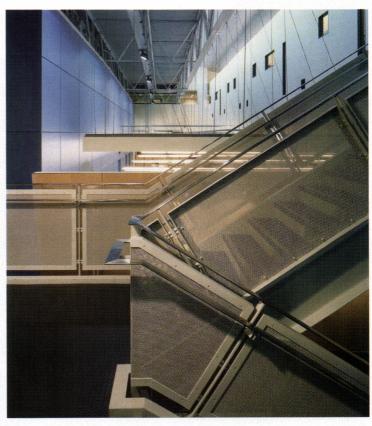
"Because the station is a nonprofit, publicly funded organization, we had to make the lighting very energy efficient," Borden says. Cold-cathode cove lighting washes the face of the radio studios on the first floor, while evenly spaced pendant fixtures fitted with T8 compact fluorescent lamps were specified on the second floor. Indirect lighting from the lobby and public spaces creates layers of light, producing a glow behind the glass facade.

A floating ceiling dropped above workstations in the open office areas on the second level serves as an acoustical and light buffer. Suspended by steel cables from trusses, the painted ceiling-called "the cloud" by workers—features a jagged edge around its perimeter, allowing a glimpse of the

DIRECT/INDIRECT T8 FLUORESCENTS **ILLUMINATE OPEN OFFICE AREAS WHILE** METAL HALIDES ACCENT BRIGHT WALLS.

uppermost metal roofing. Combination down/uplight pendants fitted with T8 fluorescents accentuate the dropped ceiling and provide ambient illumination for workstations. Above the floating ceiling, metal-halide floods are focused to accentuate the blue wall enclosing the television studio. A row of windows set within the enclosure is aligned with the offices and workspaces to provide lines of sight.

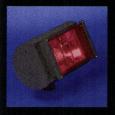
To further step up public outreach, WHYY plans to enhance the public plaza at its doorstep with additional lighting and media elements. Proposals include the installation of 10-foot-tall projection screens to showcase interactive videos, in which visitors would be able to manipulate their own closeup-ready images.



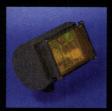
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CIRCLE 145 ON INQUIRY CARD

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New uplighting captures the engineering beauty of Manhattan's George Washington Bridge

by Nayana Currimbhoy

oving toward the gloriously illuminated skyline of Manhattan by night can seem magical. Now a gateway to the metropolis extends the sensory experience. At last, the George Washington Bridge has been enhanced with lighting that spotlights its structural beauty. Reserved for holidays and special occasions, the vibrant new lighting is by Domingo Gonzalez Associates (DGA).

Designed by civil engineer Othmar H. Ammann and completed in 1931 to connect New York and New Jersey, the steel-cable suspension bridge is considered a milestone of 20th-century engineering. Though now a part of the city's visual iconography, the bridge represents a departure from its original design. Ammann intended to clad the 604-foot-tall twin support towers in stone. With the onset of the Great Depression, however, the project budget was slashed and funding for the stonework eliminated. Despite his initial dismay, Ammann became a convert to the exposed-steel aesthetic. Le Corbusier, for one, declared the completed project the most beautiful bridge in the world: "The structure is so pure, so resolute, so regular, that here, finally, steel architecture seems to laugh."

Though pole-mounted floodlights installed in the 1960s lighted the bridge's roadway, previous plans to elevate the nighttime look of the bridge were never realized. DGA, which has collaborated with the Port Authority of New York and New Jersey on various city transportation lighting projects, recently won an invited competition to relight the bridge.

To enhance the symmetry and purity of the structure, the designers focused their plan on lighting the two towers. "We were driven by the image of the structures glowing from within, like crystals," says senior designer Abhay Wadhwa. "We agreed that the cool color achieved by metal-halide lamps would best complement the steel structure."

The typical variables of a lighting project—number of fixtures,

Project: George Washington Bridge, New York City

Owner: Port Authority of New York and New Jersey (PANYNJ)

Lighting designer: Domingo senior designer; Gene Golus, senior junior designer

Engineer: PANYNJ Engineering/

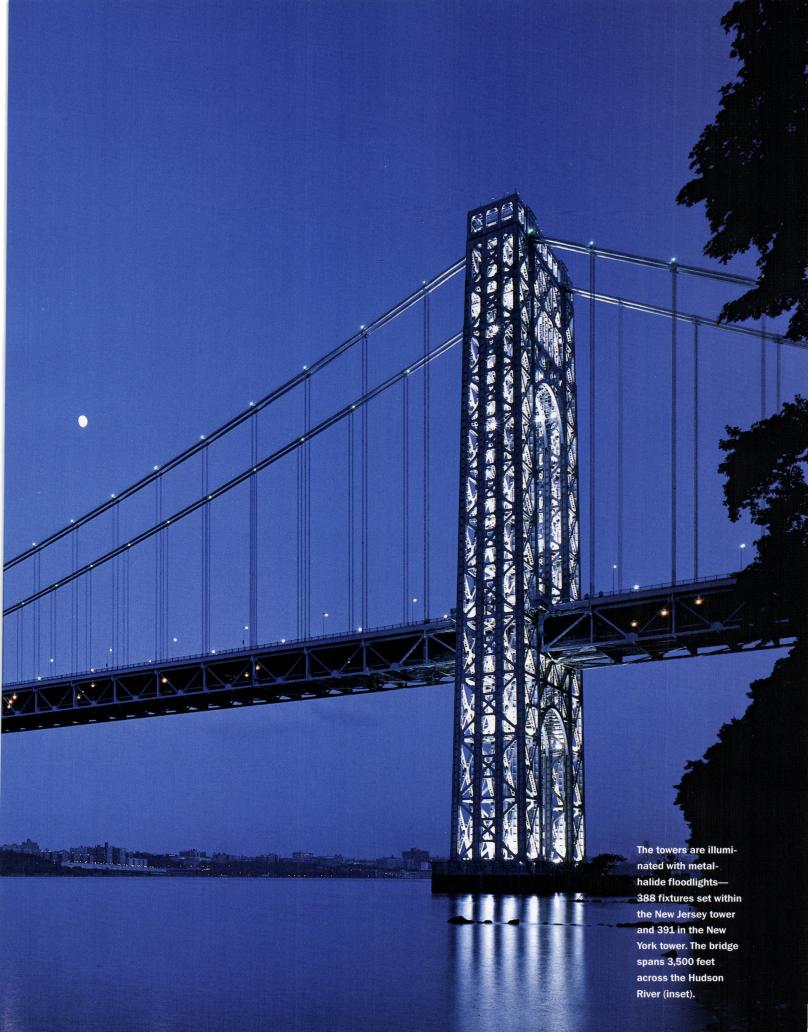
Buchsbaum, chief electrical engineer

Sources

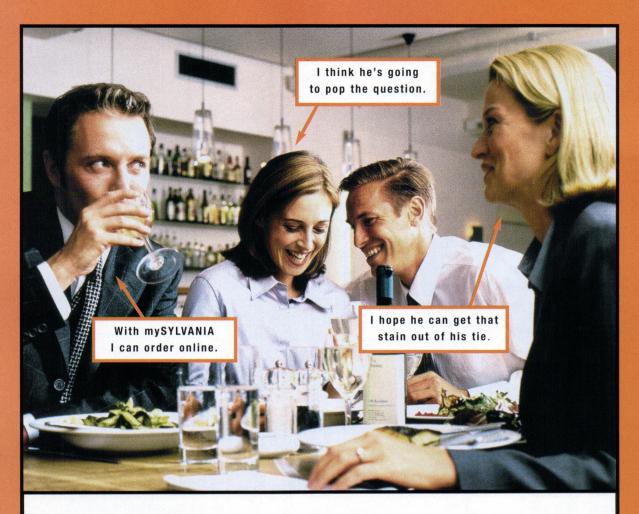
Metal-halide fixtures: General Electric

Software: Lighting Analysts WWW For more information on the people and products involved in this project, go to Lighting at









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The uplit Lake Robbins Bridge acts as a nighttime gateway to a new River Walk-style development

By Charles Linn, AIA

rom a distance, the 600-foot-long, 120-foot-tall bowstring truss that spans Lake Robbins at The Woodlands, Tex., appears to support a bridge. In fact, the arc of steel really serves as a visual gateway to the commercial center of this new town and doesn't support anything but itself—the bridges that have been constructed on both sides of the truss are supported by concrete piers.

Why build such a large, elaborate sculpture? To answer the question, it is necessary to know something about ongoing development at this highly successful planned community. Planning for The Woodlands, which is located about an hour's drive north of Houston, started in 1969 as part of the New Community Act, and construction began in 1973. The idea of integrating home, education, retail, and clean industry within a planned development worked, and today the town of 65,000 is thriving.

Lake Robbins is a reservoir constructed when The Woodlands was first developed. A former drainage ditch that runs between Lake Robbins and nearby Lake Woodlands is now being transformed into the Town Center Waterway, a new commercial and retail development that is

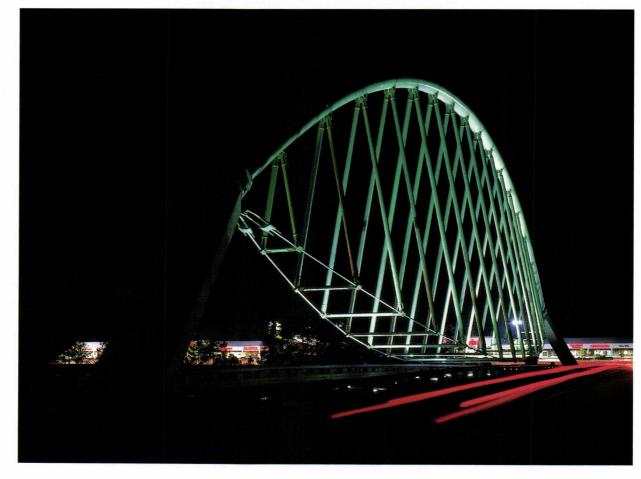
intended to be reminiscent of San Antonio's River Walk. This 11/2-milelong development will include shops, restaurants, offices, and linear parks and will be served by public and waterborne transit. The Lake Robbins Bridge is a critical piece of the master plan because it will anchor one end of the waterway. It already marks the entrance to the commercial district from nearby Interstate 45 and has become a local landmark.

Designer John Bos, principal of Bos Lighting Design, explains how the shape of the bridge evolved out of the design process. "The first iteration was a real bowstring truss bridge. But when the designers

THE ILLUMINATED BOWSTRING TRUSS OF THE BRIDGE PROVIDES VISUAL EXCITEMENT RATHER THAN STRUCTURAL SUPPORT.

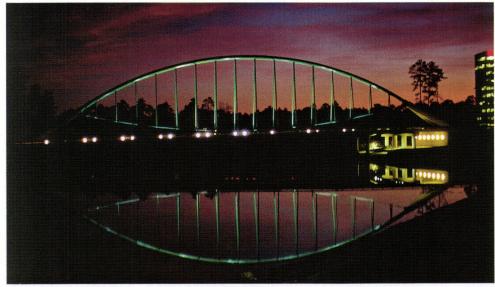
found out what it would cost, they value-engineered it into two selfsupporting bridges. They liked the image of the bow, so they kept the shape but made it nonstructural. The concrete abutments were con-

The steel members of the Lake Robbins **Bridge are illuminated** from below so their interior surfaces are grazed, while their exterior surfaces are kept in shadow. This silhouetting helps preserve a sense of the dimensionality of the truss, whereas floodlighting would have given the structure a flattened appearance.









The truss is installed in a 50-foot-wide space between two bridges. The metal-halide fixtures uplighting the sculptural truss are centered on steel crossbeams that span this opening (above).

structed first, followed by the large top arch. The apexes of triangular web members were then hung from the top arch, and a light inverted arch was suspended from the bottom corners of each web triangle.

"The original idea for lighting the sculptural truss was to mount pole lights on the inside lane of each bridge and floodlight it," Bos continues. "We argued that it would flatten the appearance of the structure, because with the inside and outside of the bridge lit equally, you'd see all the members, but you wouldn't be able to see the volume space captured by the structure."

Bos turned the problem inside out by uplighting the inside surfaces of the structural members from below and letting the outsides go into silhouette. "In this way," he explains, "you're always seeing through a dark foreground to a lit background, which gives a lot of depth." The metal-halide floodlights were mounted on steel beams that cross the 50foot-wide open space between the bridges. To accommodate the variations in height and width of the structure, 24 fixtures were used, with various beamspreads and lamp wattages ranging from 250 to 400 watts.

Steplights with 70-watt metal-halide lamps are mounted into

the handrails of each bridge to send beams of light skimming across traffic lanes. "They're really markers and run the entire length of the bridge," says Bos. "Therefore we were able to avoid using poles on the bridge, which would have interfered with the appearance." Beyond the bridge, the roadway picks up with shoebox-type street lighting. ■

Project: Lake Robbins Bridge, The Woodlands, Texas Owner: The Woodlands Corporation Architect: Ford, Powell, and Carson—Boone Powell, FAIA;

David Achterberg

Lighting designer: Bos Lighting Design-John F. Bos, Becky Bowen Structural engineer: CBM

Engineers—Joe Collosi, Wally Ford Construction manager: Carter &

Burgess

General contractor: NGB Constructors

Sources

Exterior floodlights: Sterner/Infranor Roadway steplighting: Cole Lighting

Sconces: Poulsen

WWW For more information on the people and products involved in this project, go to Lighting at www.architecturalrecord.com





A new suspension bridge in Columbus, Indiana, employs custom fixtures to reflect civic pride

by William Weathersby, Jr.

olumbus, Indiana, is a Midwestern mecca of 20th-century architecture. Buildings by Pritzker Prize-winners Meier, Pei, Roche, and Venturi share the cityscape with works by Modernists including Gwathmey Siegel, Pelli, SOM, and Saarinen. A graceful new bridge now provides a prelude to this concentration of architectural richness. Illuminated at night, the structure's sweep of cables are like strings of light fanning out in civic pride.

Designed by J. Muller International with lighting by Schuler & Shook, the Second Street Bridge welcomes motorists on their eastward approach to downtown. The axis of the cable-stayed suspension bridge is aligned with the 1874 Bartholomew County Courthouse and Saarinen's First Christian Church Tower of 1942, two milestones in the city's design timeline. Traffic is routed one-way across the four-lane bridge, leading from a state highway to a central city thoroughfare. "The bridge is a primary conduit into Columbus," says principal lighting designer Robert Shook. "Lighting the bridge was an opportunity to establish a strong first impression for motorists. The bridge serves as a guidepost that signals the city's vested interest in civic design."

RECORD contributing editor William Weathersby, Jr., is a writer based in Westport, Conn. He frequently reports on lighting design.



The goal of the lighting plan was to accentuate the structural design of the bridge. "Light shines up the cables in the same way as the structural load is carried," says designer Jim Baney. The superstructure is fully suspended from a single quadripod pylon by two inclined planes of 40 stays. Blue marker lights designate the juncture where each cable stay engages the bridge deck. The stays and four pylon legs are grazed from below by metal halides to emphasize their verticality.

Illuminating the cable stays evenly required custom fixtures, lenses, and mounting brackets. With one luminaire set between every two stays, the fixtures are fitted with aluminum reflectors. An internal spread lens interrupts the beam to focus light for two purposes; A seven-degree portion of the beam grazes the top of the stay while a 50-degree beam spread illuminates the stay's lower section. Custom metal mounting brackets integrate the fixtures within the bridge deck and allow locked fixture aiming. Because all stay and pylon accent lighting fixtures are mounted below the elevation of the roadway, the concrete side-barrier walls shield fixtures from view. With precise optical control of the fixtures and low ambient lighting requirements, each stay lighting fixture requires only a 70-watt T6 ceramic metal halide lamp.

Project: Second Street Bridge, Columbus, Indiana

Bridge designer, civil engineer:

J. Muller International—Daniel Burroughs, P.E., Eddie He, Jeff Borgsmiller

Lighting designer: Schuler & Shook-Robert Shook, IALD, principal; Jim Baney, IALD, Emily Klingensmith, designers

Electrical engineer: Rotz Engineers

Blue marker lights indicate the connection of cable stays to the roadbed, while metal halides follow the length of the cables (opposite and above). Two high-pressure sodium luminaires mounted at the top of the pylon legs light the roadbed. Vandal-proof luminaires are mounted in metal brackets to lock-in the fixture focus (left).

Sources

Stay and pylon fixtures: ARC

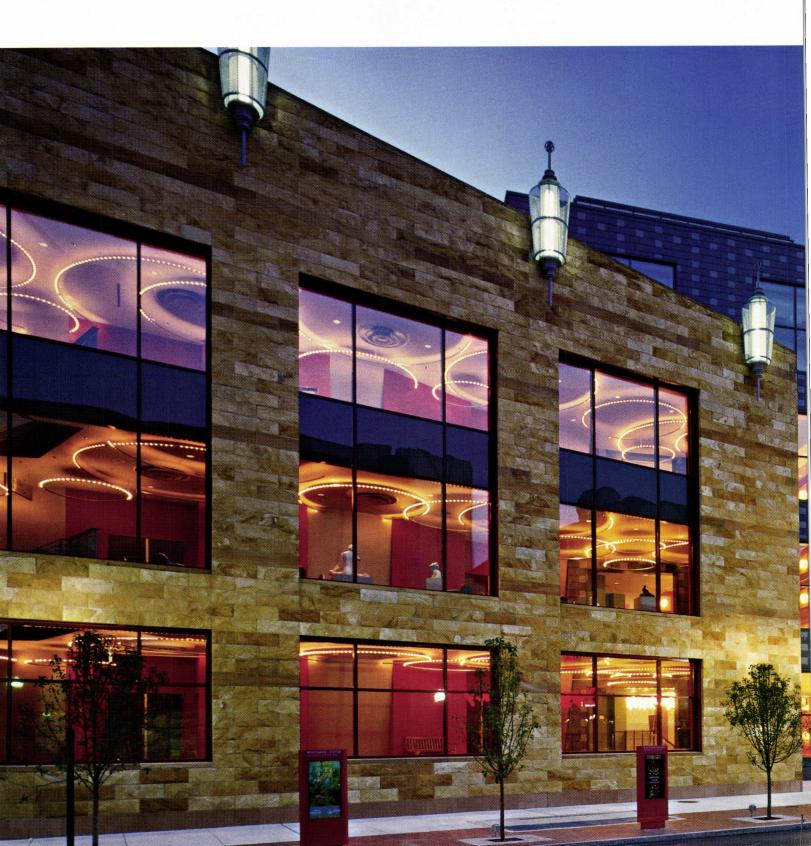
Lighting

Marker fixtures: Pauluhn Roadway fixtures: GE

WWW For more information on the people and products involved in this project, go to Lighting at www.architecturalrecord.com

Custom luminaires mounted on the facade of the Whitaker Center were inspired by the historic lanterns of local bridges (below). "The architects wanted the fixtures to appear

almost transparent during the day, so we fabricated them with two layers of perforated metal," says lighting designer Francesca Bettridge. The fixtures house standard wet-location fluorescents. Gracing the walls of the main lobby, sconces set in a grid comprise fluorescents and acrylic disks layered atop copper mirrors (opposite).



Combining venues for theater, film, and science, a new civic center features lively lighting that serves as a decorative and unifying element



by William Weathersby, Jr.

s it science or art? At a new civic complex in Harrisburg, Pa., the answer to that perennial question is, "Both." Designed by Hardy Holzman Pfeiffer Associates with illumination by Cline Bettridge Bernstein Lighting Design, the Whitaker Center for Science and the Arts combines under one roof a science museum, 600-seat performing arts theater, and 200-seat IMAX cinema.

"The center encompassed an unusual mix of programming," says project architect Stewart Jones, AIA. "The city sponsors and developers wanted to build both a science exhibition and commercial theater within a modest budget, and the IMAX cinema became the economic engine that made the plan feasible. The challenge was to support the varied functions within a building that presents one cohesive sense of place."

Lighting at the 130,000-square-foot center establishes a signature look. While architectural lighting assignments often require designers to recess or mask fixtures within architectural forms—in effect making lighting elements disappear—here the design mandate was the converse. "Working within a tight budget, the design team decided early on that lighting would





The theater vestibules and corridors showcase "halos of light." **Custom ceiling**mounted rings studded with low-voltage lamps are suspended at three heights to create a sense of movement. "The fixtures foreshadow the circular motifs inside the theater," Bettridge says. Additional halogen strips illuminate surfaces such as perforated-metal banisters.

play a very visual, decorative role," says principal lighting designer Francesca Bettridge. "Rather than use expensive finishes or grand fixtures, we had to be creative with affordable lighting effects to add excitement to public spaces." Lighting cues the interconnection of the theater, science exhibition, and cinema, yet gives each area a distinct look. "There is a consistent motif throughout—circles of light playing off rectilinear forms," Bettridge says.

The distinctive facade's sloping roofline helps the Whitaker Center address the context of varied building heights along Market Street. Mottled sandstone, a local material, clads the main sections of the complex. Punctuating the building's mass is a central rotated cube, which is clad in slate combining gray, green, and red hues. This three-story volume serves as a joint lobby for the separate domains of the complex. Large windows offer views to passersby and occupants and allow the building to become a glowing landmark at night. Custom-illumined lanterns, inspired by the historic lighting fixtures of the nearby bridges crossing the Susquehanna River, accentuate the street-facing elevations.

Within the main lobby, a brightly patterned carpet is framed by a multi-wall grid of sconces. The fluorescent fixtures comprise layered disks of transparent and translucent acrylic mounted atop square copper mirrors. By day, a scrimlike, metal-mesh ceiling appears transparent and

CIRCLES OF LIGHT ARE JUXTAPOSED WITH RECTILINEAR FORMS THROUGHOUT.

allows daylight in. At night, the lobby becomes a warm gathering space, with recessed accent fixtures within the perimeter soffit highlighting the interior. Dimming allows varied lighting levels for special events.

For a sense of movement and theatricality within the corridors leading to the auditorium, overlapping rings of low-voltage lights are suspended at three different heights. Additional halogen downlights, wall www.focalpointlights.com



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A sleek statement in aluminum and reeded acrylic by Ayal Rosin. The repeating oval shape issues well-measured levels of indirect/direct light throughout a space.









washers, and floor-recessed fixtures create ambient illumination.

Within the auditorium, red perforated-metal wall panels are back-lit with low-voltage strip lights. Balcony fascia, featuring patterns of colliding circles, are embellished with outcroppings of low-voltage fixtures on stems of three lengths. "The fixtures are an abstract homage to the fanciful fixtures found in Art Nouveau theaters," Bettridge says.

Project: Whitaker Center for Science and the Arts, Harrisburg, Pa.

Architect: Hardy Holzman Pfeiffer Associates—Hugh Hardy, FAIA, partnerin-charge; Stewart Jones, AIA, project director; Jonathan Schloss, AIA, project architect

Associate architect: Murphy & Dittenhafer

Lighting designer: Cline Bettridge Bernstein Lighting Design— Francesca Bettridge, principal; Michael Hennes, Jules Gim

Sources

Metal-halide downlights: Lightolier

Metal-halide uplights: Rambusch Accent lights, wall washers: LSI Circular track-mounted accent lights: Bruck

Suspended ring lights: Sentinel PAR38s: Kirlin, Lightolier, Miroflector

Low-voltage strip lights: Ardee
Decorative fixtures: Light Project
Lobby sconces: Luxo

IMAX lobby pendants: Poulsen

For more information on the people and products involved in this project, go to Lighting at www.architecturalrecord.com





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CIRCLE 321 ON INQUIRY CARD

Global Changes Will Affect Building Design

UTILITY DEREGULATION, ENERGY PRICE HIKES, AND GLOBAL WARMING WILL EVENTUALLY AFFECT BUILDING DESIGN. HERE ARE SOME POSSIBLE SCENARIOS.

By Lindsay Audin

ecent crises caused by utility deregulation and energy price hikes, and even changes in the earth's climate, indicate that potential long-term changes in building design and architecture are on the horizon. Here is a survey of what is already happening and what may be in store in the future.

Energy prices: what a long, strange trip it's been

Now that the energy-price roller coaster is again accelerating upward, we are hearing renewed calls for conservation, alternative energy sources, and more gas and oil exploration and production. The past 30 years have seen some energy prices rise by more than 500 percent, fall again, spike during the Gulf War, then flatten out for nearly a decade. During this same period, however, we have seen a number of changes in the way buildings are designed and managed. For example, cheap microchips have enabled development of many kinds of energy management systems; tougher codes have reduced energy use

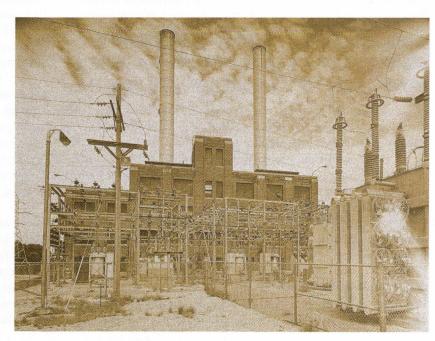
in new structures; a variety of more efficient power generation and conversion technologies has appeared; and advances in lamp and luminaire design have changed the ways we illuminate our environments. But the powerful forces that wrought these changes are really only beginning their work. Now that we are firmly entrenched in the new millennium, architects can expect many other developments.

Small-scale generating and load harvesting

Right now a lot of money is being invested in strategies that are intended to prevent, or at least lessen, the effects of the peak demand conditions experienced recently in the West. Building owners are taking advantage of these temporary energy crises by looking for ways to use their facilities as "power plants" that can sell energy back to local utilities when the price is right. In California, Pennsylvania, New York, New England, and the Midwest, there is already a rush to install new on-site generation both to avoid localized blackouts and to sell power back to utilities when wholesale prices spike.

Other building owners "harvest load." The amount of power they conserve is a real commodity that can be sold on the market, the same as generating capacity, when peak demand outstrips peak supply. Product vendors are hawking everything from lighting controls to photovoltaic glazing as possible sources of saved capacity that owners can "bid to the grid," selling it either to an independent service provider, a power marketer, or utility that either needs the capacity to balance supply with demand or wants to resell it to others in need of power. State energy agencies are offering grants and other incentives to speed up this

Lindsay Audin is the president of Energywiz, Inc., an energy and technology consulting firm (www.energywiz.com).



process. Makers of dimming products have assumed a leading role in promoting ways to take advantage of daylighting as a potential source of harvested load.

As a result of the power crunch in various parts of the country, new buildings, such as 4 Times Square in New York City, have ignited the public's imagination by incorporating fuel cells, photovoltaic panels, and microturbines-miniature generators, 100 kW or less, that can use natural gas, untreated coal gas in open fields, methane from landfills, and other fossil fuels to generate power on-site. A New York power cooperative, 1st Rochdale, has gotten into the act by becoming a retail power provider as well as a promoter of the tiny generators, fuel cells, and photovoltaics.

The incorporation of such options into new buildings and major renovations will surely be subject to the same cost analyses as any other option, but some major corporations also see this issue as a way to polish their corporate images. How often does one of the Fortune 1000s get a chance to show off how it's saving the environment supporting the local utility in its time of need, while, of course, turning a profit?

How many BTUs are locked in your building's materials?

In 1977, architectural pioneer Richard Stein wrote Architecture and Energy, a book that examined the amount of energy used to manufacture building materials. From Stein's perspective, structural design was often a source of energy waste because it used too much concrete and steel, materials that require a great deal of energy to manufacture. His imagination led him to propose a number of intriguing structural changes to reduce that waste. Among his solutions were columns that tapered as they rose instead of being uniformly cylindrical. Such ideas never caught on, probably because the cost of those materials remained low and it was

difficult to change traditional engineering and construction practices.

Today, the volatile pricing of power has actually led some aluminum and cement processors in the western U.S. either to shut down or to cut back production because the cost of the power they had bought in advance for their factories was greater than the value of the products they were making with it. Could this occasional situation trigger higher, or even seasonal, prices for some basic construction materials that are electricity or natural-gas junkies? If so, it may be time for architects to recall Stein's ideas and either rethink which materials are used or reengineer them to conserve the use of materials. It may become routine to substitute

OCCASIONALLY THE COST OF POWER TO MAKE CEMENT AND ALUMINUM HAS BEEN MORE THAN THE MATERIALS ARE WORTH.

high-strength composites for other conventional materials, and if the prices of these composites continue to decrease and demand increases, a technology revolution could result.

It should be no surprise that higher power costs will eventually lead to changes in the way new buildings are configured. In Europe and the Pacific Rim countries, rising power costs and tighter supplies have led to installation of photovoltaic glazing, wider use of natural ventilation and lighting, and more sophisticated building control systems than previously seen in those areas. The trend is likely to occur in the U.S. as well.

Is our future getting hot?

Regardless of whether or not one believes that global warming is caused by the burning of fossil fuels, there is little doubt now that it is

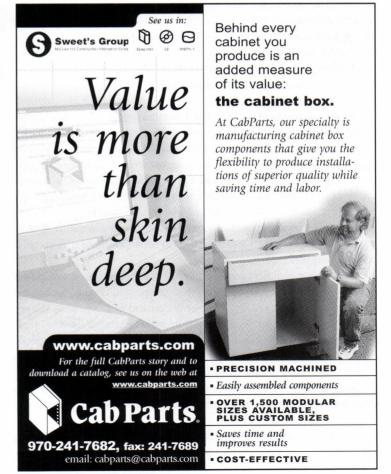
happening. The question is no longer if the weather is changing, but rather how quickly and by how much.

During a recent trip to Australia, I was startled by the cooperation occurring between local government and industry over construction of a new sea wall. They had concurred that the structure should be able to withstand the torrents of seaborne wind and water during the worst storm likely to occur over the next 50 years. Because climatologists had forecast both a rising sea level and more severe storms than the area had encountered in the past, a better-safe-than-sorry philosophy directed the seawall to be larger than anyone had previously thought necessary. The discussion eventually got around to how such a structure could be made architecturally appealing, in spite of its enormous size, length, and cost.

As accommodation of global warming replaces skepticism and denial, we should expect other changes to the way outdoor facilities are designed. Those whose property was unexpectedly flooded during Hurricane Andrew have likely considered how higher-capacity drainage systems might have prevented such once-in-a-generation destruction. Developers of properties that will still be in use in 2020 may wish to sharpen their vision of such a future and ensure that their buildings are ready for it.

Due to an error in Mr. Audin's February 2001 column ["Soothing the Pain of Soaring Power Prices," page 195], independent system operators (ISOs) were incorrectly identified as companies that produce power. ISOs are federally chartered nonprofit agencies that oversee access and tariffs for high-voltage transmission lines that interconnect utilities. Independent power producers (IPPs) own power plants and produce power. We apologize for the error.





Lighting Briefs



◄ Concave classic

Flos has worked with Achille Castiglioni since the inception of the company in 1962. In that year, the company introduced the Arco, Taccia (shown), and Toio lights. The Taccia table lamp provides reflected light from a concave, spun-aluminum reflector with a matte white finish. Light is adjusted by positioning the blown-glass diffuser. The base is extruded aluminum in a matte black finish. 516/549-2745. Flos USA. Huntington Station, N.Y. CIRCLE 200

► Compact color changer

The Exterior 200 from Martin is a compact 150-watt, short-throw CMY color changer in a weatherproof housing. Equipped with a long-life 6,000hour lamp, the Exterior 200 can be tucked discreetly into the architectural design details of buildings or any other illumination structure. The light features a built-in light sensor, memory presets, and smooth color mixer. Martin's system software offers flexible color programming, as well as a wide variety of color presets for creative and simple color composition. 954/858-1800. Martin Professional Inc., Sunrise, Fla. CIRCLE 201



► Keeping a low profile

Ledalite's Soleo LP steel luminaire offers a low-profile look for interiors. In addition to white, Soleo LP is available with a natural steel housing finish, highlighted by translucent endcaps available in seven colors. This small-scale fix-



ture is available with a nine-day, quick-ship program and with a T5 high output or two T8 lamp option. 604/888-6811. Ledalite Architectural Products, Langley, B.C., Canada. CIRCLE 202

◄ Fine import

Slide is a new indirect/direct lighting import featuring a repeating oval shape and a slim profile. Designed for applications in lobbies, conference rooms, and private offices, Slide also performs in large. open environments. It is available in ceiling-suspended and wallmounted versions. 773/247-9494. Focal Point LLC, Chicago. CIRCLE 204

■ No sleep...till **Brooklyn**

Trained as an architect in Venezuela, Alejo Ruocco studied furniture design in Paris, collaborated with various European studios, and spent two years working for Gaetano Pesce in the U.S. The first collection for his new venture. It's an Object, is lighting that manipulates rough materials, such as fiberglass paper, clips, wood sticks, and bare bulbs. Handmade in Brooklyn, the lamps are currently available in design shops in New York. 718/499-7360. It's an Object, Brooklyn, N.Y. CIRCLE 203

► Alternative view

Lightolier introduces nine additions to the Alter Soft Lights series of indirect/direct lighting products. The luminaires feature high-efficiency sources, such as Bi-Tube, Triple Tube, Quad Tube, and linear T5 and T8 fluorescent lamps. The lights offer easy



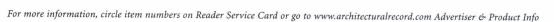
access to lamps and ballasts and are compatible with a selection of electronic dimmers and electronic dimming ballasts. Alter Windows Recessed (shown above) has a gently curved, square lamp shield. 800/215-1068. Lightolier, Fall River, Mass. CIRCLE 205

► Star gazing

Bruck Lighting Systems recently acquired the LED division from CCI Lighting. With this acquisition, Bruck presents the Orion M Series, which utilizes an MR16 housing with LEDs in a variety of static colors: amber, green, blue, red, and white. The series has up to 100,000 hours of lamp life and can reduce energy costs by as much as 90 percent



compared to a standard MR16 halogen lamp. The series is designed to handle strong vibrations and extreme ambient-temperature applications. 714/424-0500. Bruck Lighting Systems, Costa Mesa, Calif. CIRCLE 206



Lighting Briefs

▶ I vant to light your room

Designed by Mario Barbaglia and Marco Colombo, Draco is a flush mount fixture that can be mounted on the wall or ceiling. The fixture is made in opal white glass with a prismatic diffuser and a chrome ring. Draco



is available in 11-inch and 15-inch diameters, with a choice of incandescent or fluorescent lamping. Both sizes are ADA compliant, and the lights are pending UL-listing. 203/407-8000. Il America Inc., Hamden, Ct. circle 272



▲ Linear fluorescent family

MagneTek has a new line of highefficiency electronic ballasts for use with T5 lamps. The lightweight, thin-profile

ballasts are designed for oneand two-lamp operation with models available for T5 and T5/HO lamps ranging from 14 to 54 watts. Applications include indirect, pendant mount, wall and surface mount, cove, undercabinet, and task lighting. The ballasts feature a small cross-

sectional area and a one-inch profile height for flexible fixture design. 615/316-5146. MagneTek, Nashville.

► Warm welcome

The Aurora Wall Mount is a new line of hardwood outdoor lighting from Cherry Tree Design. The outdoor lights are an addition to Cherry Tree Design's line of interior lighting and shoji screens. The fixtures are offered in natural cherry with a pearl glass shade. The wood is protected by a waterproofing sealant that contains UV protection and maximum resistance to mildew and graying. 800/634-3268. Cherry Tree Design, Bozeman, Mt. CIRCLE 276



► Under achiever

Xenix miniaturized linear undercabinet lighting provides dimmable incandescent lighting for office workstations, reception desks, nurses stations, display cases, and kitchen counters. The system comprises 12-inch units that house five 10-watt long-life



Xenon lamps. Each Xenix module links together via tiny plug-in connectors, creating continuous rows of low-profile horizontal (or vertical) illumination. All Xenix units have power feeds that can be specified for hard wiring or portable, plug-in six-foot power cords. 847/451-0700. Alkco, Franklin Park, III. CIRCLE 273



The Mind Sweeper desk lamp and the

Wing Lamp are new additions to Haworth's Jump Stuff collection. Mind Sweeper (left), designed by Pablo Pardo, is a desktop lamp that sits on a weighted, spherical base. The light can be rotated up to 90 degrees in either direction and can be extended from 20 inches to 26 inches in length. When not extended, the aluminum skeleton of the lamp is hidden by a soft, silicon rubber body. The height-adjustable Wing Lamp (right), designed by Luxo Corp., was created to focus light on a specific task, while reducing glare. 616/393-3000. Haworth Inc., Holland, Mich. CIRCLE 275

▶ Bee attractive

The small threads of crystal-clear glass woven around the Nest light's blown-glass shade create a rich texture similar to the carefully constructed homes of birds or insects. The art-glass shades are made by a San Francisco Bay Area glass studio exclusively for 2thousand degrees. The standard Nest pendant is 4½ inches wide by 7 inches high, and the Nest sconce is 4% inches wide by 9% inches high. The large Nest pendant measures 7 inches wide by 12 inches high, and the large Nest sconce is 8 inches wide by 15 inches high. Several metal finishes are available. 866/234-2086. 2thousand degrees Inc., Richmond, Calif.

CIRCLE 277

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Lighting Briefs



▲ LEDing the way to decorative lighting

LEDtronics introduces the latest generation of DecorLED direct incandescent replacement lamps. With a power draw of just 1.0 to 1.7 watts, an 11-year LED operating life, and six sunlight-visible colors from which to select, solid-state DecorLEDs provide architects and lighting professionals with the means to integrate ornamental illumination into maintenance-intensive applications. A molded polycarbonate, UV- and shatter-resistant globe protects the LED cluster from the environment. 800/579-4875. Ledtronics Inc., Torrance, Calif. CIRCLE 207



▲ T8 is enough

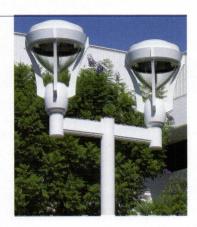
Ushio introduces a new family of Ultra 8 fluorescent lamps that can reduce energy costs with savings of up to 40

percent, providing an alternative to standard T12 lamps. Ushio's full range of T8 fluorescents is available in 17-watt, 25-watt, and 32-watt models with color temperatures ranging from 3,000K to 5,000K. Recommended applications include lighting for retail stores, hospitals, office interiors,

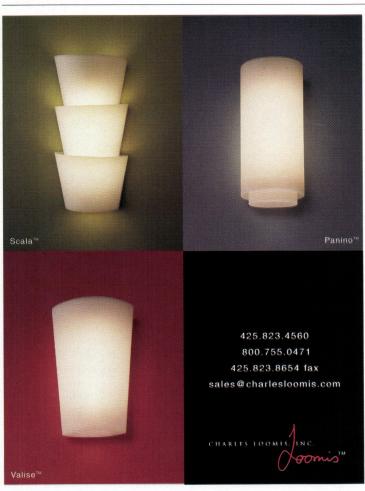
bank lobbies, auto showrooms, restaurants, factories, and schools. 800/838-7446. Ushio America Inc., Cypress, Calif. CIRCLE 208

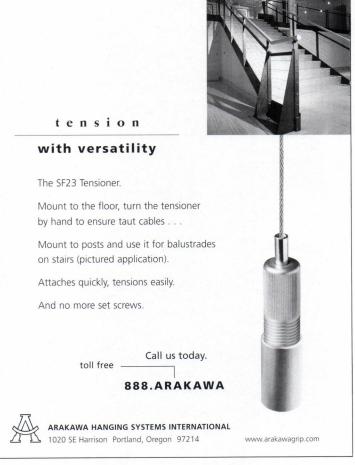
► It stands alone

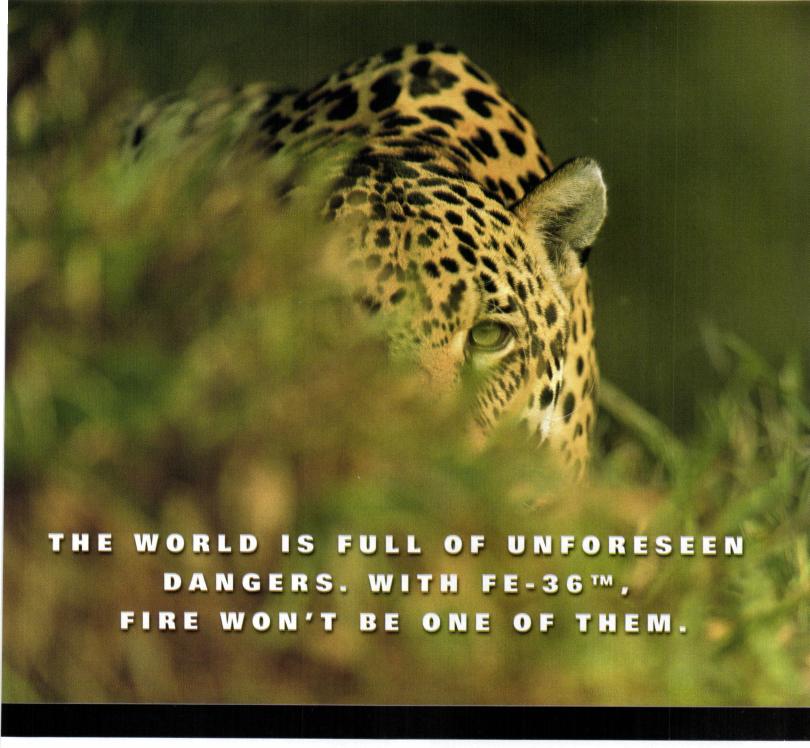
With a luminous top that does not reduce area-lighting capability, the Solitaire lamp, inspired by lantern-style gas luminaires, can take on a more traditional look. A lower white acrylic lens combines with this top to produce a jewellike appearance. An induction fluorescent lamp option provides 10,000 hours of trouble-free operation and instant-on capability. 626/968-5666. Kim Lighting, City of Industry, Calif. CIRCLE 209



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Lighting Briefs

new WFL series of architectural wall-mounted luminaires. The WFL offers a full range of rotation and reversible-mount-



cutoff lighting can be achieved in the down configuration, while the up configuration enhances wall textures and specific architectural features. The WFL is suitable for indirect, accent, and wall-mounted floodlighting applications. 770/922-9000. Lithonia Lighting, Conyers, Ga. CIRCLE 210



→ Rectangular recessed

BEGA introduces a series of rectangular, recessed wall luminaires featuring high-output orientation lighting for steps, walks, and paths. The light source is redirected through a slotted die-cast aluminum faceplate that is enclosed by clear, tempered glass. 805/684-0533. Bega/US, Carpinteria, Calif. CIRCLE 212

V Path finder

Teka Illumination's miniature beacon path light is manufactured of pure copper, brass, and stainless steel. The luminaire is eight inches in diameter, U.L-listed for wet locations, and utilizes a 35-watt low-voltage lamp for connection to a remote 12-volt power system. The series can be provided in natural copper or nickel plate. 805/434-3512. Teka Illumination, Templeton, Calif. CIRCLE 211

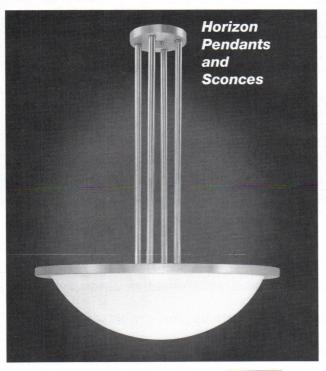




▲ Take some sun

Coinciding with the launch of Solatube's commercial division is the introduction of its SolaMaster series of tubular skylights, a line specifically designed for a variety of configurations in commercial buildings, including suspended-ceiling systems, finished drywall ceilings, and open warehouse specs. The 21-inch unit provides up to 12,000 lumens and illuminates up to 400 square feet. 760/597-4400. Solatube Intl. Inc., Vista, Calif. CIRCLE 213

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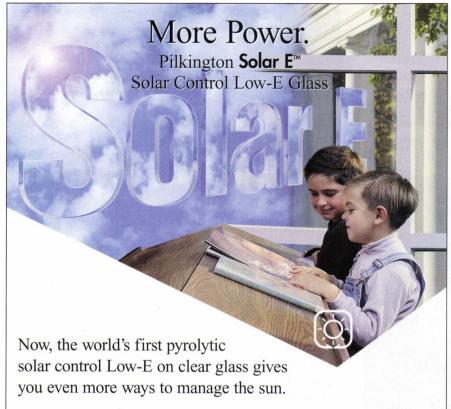
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This actual photograph through Pilkington Solar E Glass (right) and without any glass (left) demonstrates Solar E Glass' clear aesthetics.

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Lighting Briefs

▼ Precision floodlighting

Oculus is a precision lighting system available in small and large models. The lamp features a parabolic reflector system and axial lamp orientation and is suited for wall-, ceiling-, pole-, or floor-mounting configurations for interior and exterior settings. Oculus comes in metal-halide, compact fluorescent, and par lamp options. 714/994-2700. Architectural Area Lighting, La Mirada, Calif. CIRCLE 214





■ Bullet-shaped fixture

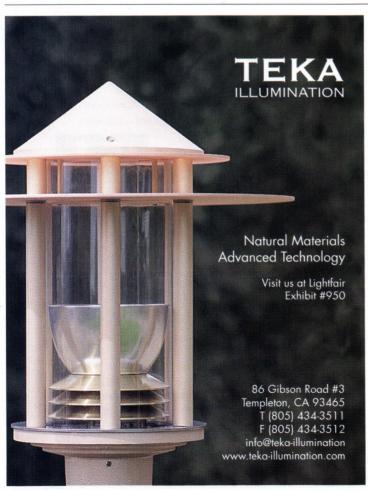
Corona, a pole-top or building-mounted architectural accent luminaire, has an inverted illuminated louver near the top, which delineates the top from the shaft while emitting a soft wash of glare-free uplight. Corona is made of a durable die-cast aluminum housing with a baked enamel finish. 714/668-3660. Architectural Landscape Lighting, Santa Ana, Calif. CIRCLE 215

► One for the road

Metrolux designed the traffic-monitoring/security camera lowering device for integral use with all outdoor high-mast lighting poles. It is ideal for a range of area-lighting applications, including primary and secondary roads, bridges, tunnels, overpasses, public and private campuses, and prisons. The device allows traffic or security cameras to be readily mounted to a high-mast lighting system, permitting an unrestricted field of view while providing the same easy access to cameras associated with high-mast lighting fixtures. 847/451-3258. Metrolux Lighting, Franklin Park, Ill. CIRCLE 216



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Lighting Briefs

► Two-lamp linear fixture

Available for both T5 and T8 linear fluorescent lamps in 120 or 277 volts, the staggered two-lamp linear fixture can be adjusted to varied spaces. The sliding adjustment feature locks into place with the turn of a screw, permitting



lamps to overlap and eliminating socket shadows. The T5 comes with a high-output ballast option, while the T8 is available with a high-output, emergency, or dimming ballast. 714/848-0892. Bartco Lighting, Huntington Beach, Calif. CIRCLE 217



■ Thar she glows

The L209 Lighthouse bollard is a contemporary interpretation of a classic lighthouse design. The light is available in compact fluorescent and HID versions, and it is constructed in cast aluminum with a powdercoat finish in a range of colors and textures. 805/684-8626. LightForm+, Carpinetria, Calif. CIRCLE 219



▶ Penny saver

The new T8 Ultra Watt-Miser system from GE operates at only 30 watts, using 6 percent less energy than a standard T8. Incorporating GE's exclusive Starcoat technology, the new T8 Watt-Miser has an 82 CRI (color rendering index) and ensures optimum color and light output. The system offers a three-year lamp and a five-year ballast warranty. 800/GE-LAMPS. GE Lighting, Cleveland. CIRCLE 218



▲ Halogen emergency lighting

Metrolite architectural halogen emergency lighting is now available through the Sure-Lites brand of Copper Lighting. The series includes five different models and a choice between output voltages of 6 or 12 volts, with either lead-calcium or nickel-cadmium batteries. Every unit provides dual voltage input of 120/277 VAC and electronics for line latching, low-voltage disconnect,

and brownout operation. The unit employs a quick-mount universal back with hinged access. 912/924-8000. Cooper Lighting, Americus, Ga. CIRCLE 220

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New Products While bold colors, patterns, and textures define the commercial carpeting offerings shown below, a successful carpet always has a combination of durability and aesthetics.

Sustainability continues to be a major issue for the industry, and more and more products are touting their green pedigrees. Rita F. Catinella



Bold graphics and colors unify a tripartite carpet family

A new series of colorful, graphic carpets from the Interface family of companies will be introduced at NeoCon 2001. Prince Street's 501 Collection includes eight new styles in the 50-centimeter-by-1-meter rectangular-tile format. The collection, which features patterns such as Monsters under the Bed, Animal Talk, and Late Night TV, is a tribute to natural dyes and pigments. coarse and simple woven struc-

tures, tribal imagery, and ancient icons. New products from Interface Flooring Systems include the bright (or neutral) rainbow stripes of Chenille Warp carpet tiles. The tiles can be installed in one direction or quarter-turned for a parquet effect. Bentley's new offerings, Brabourne and Moorefield, are made from 100 percent postindustrial reclaimed 6,6 nylon and meet the LEED specification for recycled content.

800/5-PRINCE, Prince Street, Carterville, Ga. CIRCLE 221 706/812-6156. Interface Flooring Systems, La Grange, Ga. CIRCLE 222 800/423-4709. Bentley, City of Industry, Calif. CIRCLE 223

Left to right: Prince Street's Monsters, Prince Street's Animal Talk Collection, Interface's Chenille Warp, and Bentley's Brabourne.



Two broadlooms tie for a DuPont Antron gold award

In March DuPont Antron honored Atlas Carpet Mills. Monterey Carpets, and Prince Street in its third

Product Innovation Award at

Left: Contour by Atlas Carpet Mills. Above: Bukhara by Monterey Carpets.

a ceremony held in Los Angeles. The DuPont Antron awards recognize innovative new commercial carpet styles made of Dupont Antron nylon.

> The judges were equally impressed with Contour from Atlas Carpet Mills and Monterey Carpet's Bukhara, and they selected both styles as gold award winners in the broadloom category. Contour, part of the Atelier collection by Atlas, is an undulating motif with deep dimensional effects inspired by light and shadow.

Bukhara is a classic product modeled after traditional bouclé fabric texture. Special twist levels in the

construction make the product appropriate for a variety of commercial settings with high traffic patterns. Pacificrest Mills was recognized with a silver award in the broadloom category for Meridian, and Masland Carpets was named the broadloom merit award winner for Patagonia.

In the modular category, Prince Street won the gold for Farm, a durable, stain-resistant product constructed of 100 percent DuPont Antron Lumena solution-dyed nylon. The unusual design of the product (50 centimeters by 1 meter) was created to make irregular installations easier and less wasteful. 800/458-4329. DuPont Antron Design Award, Atlanta. CIRCLE 224

New Products

► Mesh well together

Mesh is the newest pattern from Invision Carpet Systems. Mesh is a small-scale, rectangular texture created in response to the design community's request for a densely tufted, textured loop to accentuate a variety of interiors. The pattern is available in 144 solid colors. 800/859-9558. Invision Carpet Systems, Dalton, Ga. CIRCLE 225

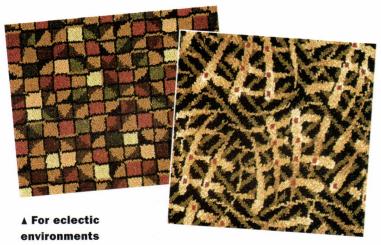


► Color ranges

Inspired by the ancient city in the mountainous region of Andalusia, Spain, Medina provides a complex texture while maintaining a simple, geometric design. New from Bolyü, Medina is an interloop pattern durably constructed with DuPont Antron Legacy nylon in 16 colorways.



800/451-1250. Bolyü Contract, Adairsville, Ga. CIRCLE 227



Ulster introduces Eclectic Elements, a collection of four designs and a coordinating border inspired by feng shui and the elements of nature. The collection is available in 12-inch widths and is composed of 80 percent wool and 20 percent nylon. Balance displays a grid pattern created by subtle changes of tone and color; Structure (above left) reflects the image of a structured kaleidoscope; Energy (above right) resembles "the bouncing pattern of electrons"; Harmony denotes classical curves supported by a geometric underlay; and Bridge is the coordinating contemporary geometric underlay. 770/514-0707. Ulster Carpet Mills Inc., Marietta, Ga. CIRCLE 229



▲ Birds of a feather

The Aves Collection, from Lotus/Peerless, was inspired by migratory birds. Aves, a 28-ounce interloop style, uses modern scroll technology to create a multilayered effect. The other patterns, Wings and Migration, feature a plumage-like design on a disciplined linear background. Wings employs the same tufting methods as Aves, while Migration features the identical pattern in a 38-ounce cut-and-loop construction. 800/451-1250. Lotus/Peerless Contract Carpet, Adairsville, Ga. CIRCLE 226



▲ Spinning a new yarn

Arras and Marché use a series of multicolor space-dyed yarns developed exclusively by the Monterey design team. These yarns combine both solids and barber poles to create individual product colorways that feature as many as 12 colors simultaneously. Constructed with cut pile-and-loop texture, these tufted products are crafted from Dupont Antron Legacy. 800/678-4640. Monterey Carpets, Santa Ana, Calif. CIRCLE 228



▲ Loopy patterns

Gingham and Patchwork are two new Heirloom Series patterns by Blue Ridge Commercial Carpet. A modern take on the traditional cotton fabric, Gingham is

a multilevel loop. Patchwork, also a multilevel loop, creates a classic, quiltlike background. Both patterns are offered in 25 color combinations and are made from 100 percent Dupont Legacy nylon with Dura Tech for optimum performance. 770/479-8280. Blue Ridge Commercial Carpet, Ellijay, Ga.

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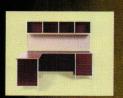












New Products



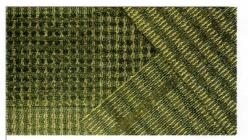
A Reliable backing

Designed for rigorous contract environments, High Performance backing from Mannington is available in 9- and 12-foot widths for tufted broadloom carpet. With High Performance, broadloom products such as Carthage III (pictured) will be impervious to moisture damage, even at the seams. The backing meets the standards for the Carpet and Rug Institute's indoor-air-testing program and contains 25 percent recycled content. 800/241-2262. Mannington Commercial, Calhoun, Ga. CIRCLE 231

► Textured sisal

Connect is a small-scale, textured pattern fabric that can work in a variety of commercial interiors, including private offices and lobby areas. J&J Commercial has created Encore SD Ultima, a new generation of fiber that has a minimum of 15 percent recycled nylon content and lifetime fiber-performance warranties for stain removal, wear, colorfastness, and static. 800/241-4586. J&J Commercial, Dalton, Ga. CIRCLE 232



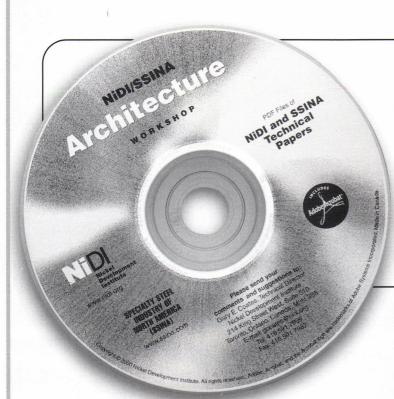


▲ Life patterns

The detailed stitching found in turn-ofthe-century Amish quilts served as an inspiration for Brisbane, Melbourne, and Sydney, three new styles in Pacificrest Mills' Big Cities Collection. Like the symmetrical structure of a quilt, or city streets laid out on a grid, all three have clean and pure geometric patterns. The carpets are all recyclable products,

part of Pacifcrest's One Earth, One Chance program. 800/522-8838. Pacificrest Mills, Irvine, Calif.

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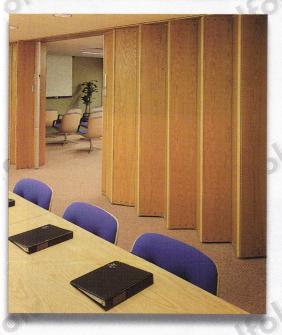


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New Products



◄ Learning curve

Lees introduces the .Edu Collection comprising Faculty IV, a multicolor cutand-loop product; Honors Class, a large-scale curvilinear pattern; and Ph.D., a medium-scale grid with a linear aesthetic. The 12-foot broadloom products are ideal for education, corporate, and healthcare markets. 336/379-2000. Lees Carpets, Greensboro, N.C. CIRCLE 234



■ Healing patterns

With pattern names such as Aura, Qi, Shaman, and Amulet, Medscapes softsurface floorcovering was created especially for the healthcare industry. An alternative to the hard surfaces commonly used in healthcare, Medscapes offers advantages such as reduced slips, noise reduction, ergonomics, and moisture management. A fully sustainable backing system called Ecoworx 6 contains no PVC or chlorine. 877/502-SHAW. Shaw Industries Inc., Dalton, Ga. CIRCLE 235

► Encore performance

An alternative to discarding old carpet in landfills, the Earth Square renewable carpet program is a three-step closed-loop recovery process. This process cleans, retextures, and rejuvenates used modular carpet with contemporary designs at a cost lower than purchasing new carpet tiles. 800/241-4826. Milliken Carpet, LaGrange, Ga. CIRCLE 236

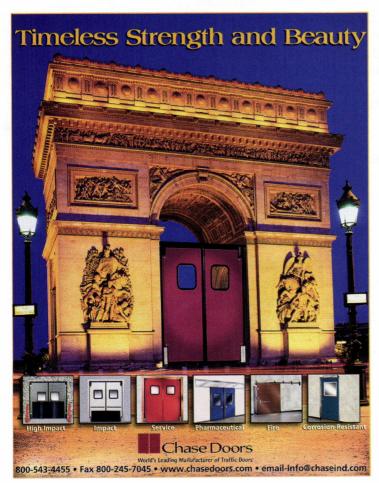


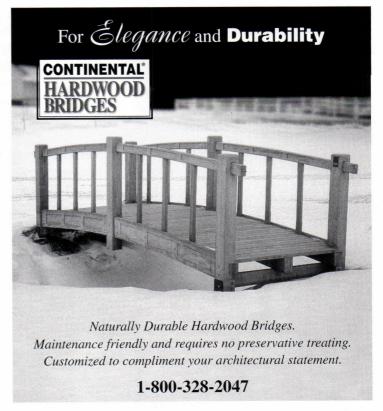
► Revolutionary spirit

Revere is a small-scale, textured cut/loop product crafted with BASF Zeftron 2000 nylon in 14 solution-dyed colorways. Revere is suited for corporate, retail, institutional, and hospitality environments. 800/451-1250. Cambridge Commercial Carpets, Adairsville, Ga. CIRCLE 237



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▼ Laminate cabinet

The Furniture Society is a nonprofit organization consisting of 1,000 North American furniture artists, curators, interior designers, and architects. For the Wilsonart International/Furniture Society Invitational in Toronto, 12 society members specializing in furniture artistry each designed a piece of contemporary furniture using Wilsonart laminate. Shown here is Judson Beaumont's Rosita Cabinet in Gilded Marquetry and Heirloom Marquetry. Wilsonart has added 32



► Ice cubes

GE offers a new line of compact refrigerators in unusually bright colors, including grape, blueberry, kiwi green,

tangerine, and cherry red. Handy for college dorms, the office desk, or the wet bar, the compact fridges offer 1.7-cubic-foot capacity-1.5 cubic feet for fresh food and .2 cubic feet of freezer space. Each cube fridge has a full-width slide-out cabinet shelf,

1½ door shelves, a utility bin, and a mini ice tray. 800/626-2000. GE Electric Company, Louisville.

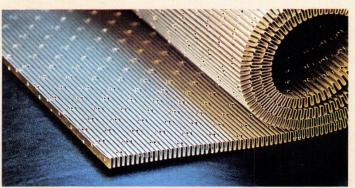
CIRCLE 240





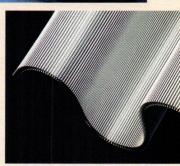
→ Aluminum door options

The Alumina aluminum door line includes 10 different profiles and three glass options. Each door is custom-made to specification, including predrilled holes for hinges, locks, handles, and knobs. The doors can be used for kitchens, closets, baths, or the office. A variety of sliding door panels and partitions, from lightweight to heavy-duty, is also available. 336/668-0635. Exact Finish Inc., Greensboro, N.C. CIRCLE 241



Product of the Month

Offered exclusively by Surfaces+, a Forms+Surfaces company, Aero consists of tightly corrugated, anodized aluminum sheets that are flexible and formable. Crisp folds cast deep shadows, while variations in thickness, depth, and rounded or square return edges produce different



designs. Artfully aligned, precision-engineered perforations give Aero a breathable quality, as light and sound permeate the folds. Aero is ideal for a variety of interior applications—suggested uses include retail and display design, interior architectural accents, furniture design, and product design. Aero is sturdy and lightweight enough to be used for ceiling and wall panels and is malleable enough to be rolled like a carpet. 805/684-8626. Forms+Surfaces, Carpinteria, Calif. CIRCLE 239

▼ Let in some air

OpenAire specializes in retractable pool-roof enclosures and skylights. Although initially projects focused on pool enclosures (shown here), the project scope now includes water parks, atriums, restaurants, and even an observatory. The motorized roof panels retract to open up to 50 percent of the roof area, 800/267-4877. OpenAire, Mississauga, Ontario. circle 242





▲ Woven window coverings

Conrad has added three new weaves to the company's line of handwoven window coverings. Mist and Monsoon feature smooth strands in pale or deep tones of gray, and Nimbus is a textural blending of hand-tied fibers from the coconut family. Large looms allow Conrad to be used on virtually any size and style of window. 415/626-3303. Conrad, San Francisco. CIRCLE 243

▼ Play it safe

A new line of playground equipment from Landscape Structures is based on the Arthur character of children's television and book fame. The line consists of two new play structures, Arthur's Town (for ages 2-5) and Arthur's Adventures (for ages 5-12), as well as 15 interactive play panels. All equipment is modular and can be configured to fit space, budget, and play requirements. 800/328-0035. Landscape Structures Inc., Delano, Minn. CIRCLE 244





▲ Trim and fit

The 48-inch-wide side-by-side refrigerator/freezer (above left) will now be offered in a trim kit model or full overlay model, to blend in with the cabinetry if consumers so desire. The trim kit model features a visible handle and outer trim. The VUAR undercounter/freestanding refrigerator (above right) has special beverage shelves and a wine rack—each section maintaining a separate temperature. 888/845-4641. Viking Range Corporation, Greenwood, Miss. CIRCLE 245

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info





◄ Industrial supplies

Sonrisa is increasing its focus on the adaptive reuse of stainlesssteel furniture pieces originally designed for hospital, school, and other industrial uses. This reuse allows vintage food-service racks to become TV cabinets, narcotics

cabinets to house fresh linens, and former dental cabinets to display treasured possessions. Details such as knobs, hinges, feet, and locks add to the industrial qualities. Medical cabinets, baker's racks, and nurse's desks offer low-maintenance solutions for a variety of residential and commercial interiors. 800/668-1020. Sonrisa Furniture, Los Angeles. CIRCLE 246



A Rock, twist, or roll

Ron Arad, designer of the original Tom Vac chair, has created three different base options for his original plastic shell. Tom Rock is mounted on a pair of varnished beech runners, Tom Twist provides a stationary four-prong base with a swivel mechanism, and Tom Roll features height adjustment, synchronized tilt, and a five-prong caster base. All can be used in the home or office. 212/539-1900. Vitra Inc., New York City. CIRCLE 247



◄ Brighter compositions

Designer Essentials is a new collection of 27 vinyl composition tile colors created in response to designers' requests for more rich and saturated accent colors, such as Ocean Blue, New Eggplant, Spectrum Orange, and Fuchsia. Mannington's entire VCT selection contains a minimum of 10 percent recycled vinyl content. 800/241-2262. Mannington Commercial, Salem, N.J. CIRCLE 248

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Hambro floor systems provide excellent and highly cost-effective features. These include fast and simple installation along with **Soundproofing Solutions** that make Hambro elevated slabs as much as 100% quieter than conventional concrete slabs and

hours of fire resistance

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http://www.hambrosystems.com



◄ Harsh character

ChemArmor high-pressure laminates are resistant to more than 100 substances, including acids, solvents, bases, general reagents, as well as difficult stains, such as India ink. The product carries a Class 1 fire rating. 410/551-5000. Nevamar Decorative Products Div., Odenton, Md. CIRCLE 249

► Better safe than sorry

Ostrich leather lining, an automatic winder for moonphase watches, direct connection to home or office alarm, and insurance provided by Hiscox of London are some of the features that put Stockinger's luxury, custom-made safes in the \$60,000-\$300,000 price range. In the 25 years Stockinger has been in business, there have been no losses from their safes, resulting in lower insurance premiums. 866/872-7233. Stockinger Safety First Class Ltd., New York City. CIRCLE 250



RESERVE

▲ Lucky charms

Luck Stone offers more than 280 stone materials to suit vertical or horizontal applications, including building stone (3 to 9 inches thick), thin stone (1 to 3 inches), wall stone (2 to 4 inches), flagstone, dimensional stone, granite, marble, aggregates, cobblestones, and boulders. Shown above is Sterling Rustic building stone.

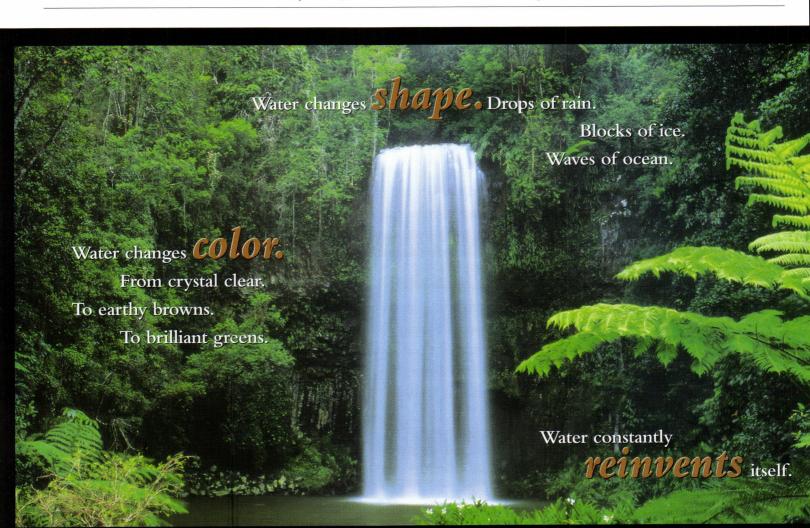
800/898-LUCK, Luck Stone, Richmond. CIRCLE 251



◄ Complete glass line

The complete line of Pilkington Texture Glass is now in stock in North America, including the three newest designs: Oak, Charcoal Sticks, and Digital. The 20 patterns incorporate various styles, textures, and obscurity levels. 800/868-4527. Coastal Glass Distributors LLC, Charleston, S.C. CIRCLE 252

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bookcases, tables, chairs, and beds from American cherry, maple, and European oak. The Denver table (above left) features a system that allows for a 31½-inch extension of the worktop. The San Pietroburgo bookcase (above right) is available with a variety of drawer combinations. The cypress wood drawers have antimoth properties. 39/031 733094. Riva Industria Mobili, Cantú, Italy. CIRCLE 253

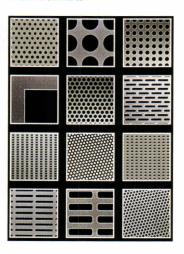


▲ ADA-compliant shower

Delta's new slide-and-grab bar combination features an ADA-compliant slide mechanism for easy adjustments. The one-function hand shower has a pushbutton and on-off control and utilizes a 69-inch flexible hose. The shower can accompany the Monitor pressure-balance unit with Scald-Guard valve. 800/345-DELTA. Delta Faucet Co., Indianapolis. CIRCLE 255

▼ Holey glass

PerforatedGlass is a new collection of architectural glass that is intended to look like perforated stainless steel but is actually a single unit of laminated safety glass. The collection uses opaque silver and gray tones in a trompe l'oeil pattern with the depth and dimension of real metal. Nine patterns are available, including small circles, large circles, ovals, slots, and grids. 800/275-7272. Cesar Color Inc., Phoenix. CIRCLE 254



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Project: Robertson Branch Library City of Los Angeles Architect: Steven Ehrlich <u>Architects</u>





◄ Smart subflooring

BarrierFloor HP flooring is treated with the SmartGuard Process that uses a borate-based, EPA-registered wood preservative to resist damage caused by termites and fungal decay. In addition, the flooring requires no sanding due to moisture absorption. 800/462-1238. Louisiana-Pacific Corp., Huntersville, N.C. CIRCLE 256



USG's new Fiberock Brand
Underlayment, Aqua-Tough, is a
moisture-resistant residential flooring
underlayment made from 100 percent recycled gypsum and cellulose.
The resin-free panels can be used in
both wet and dry areas of the home
and are ideal for application under
vinyl, ceramic tile, hardwood flooring,
laminate flooring, and carpeting.
800/USG4YOU. USG Corp., Chicago.
CIRCLE 257

► Safer setting

The Hansacobra is a touchless, infraredactivated basin faucet that features six-volt lithium battery operation along with temperature control that is designed to protect the user from scalding. The setting control allows users to set Hansacobra for continuous flow, intermittent flow, or permanent off. 678/334-2142. Hansa America Inc., Norcross, Ga. CIRCLE 258



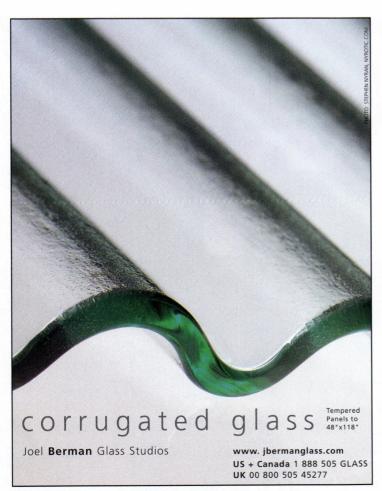
► Doctor's orders

MechoShade Systems has been selected by Wellness, LLC, for their modular hospitalroom systems. These rooms, which come as a total package, include MechoShade's ElectroShades system with translucent ThermoVeil 3000



series shadecloth. The shades provide solar protection, greater use of natural light, lower energy consumption, antimicrobial properties and privacy, without obstructing the view. 800/899-8081. MechoShade Systems Inc., Long Island City, N.Y. CIRCLE 259

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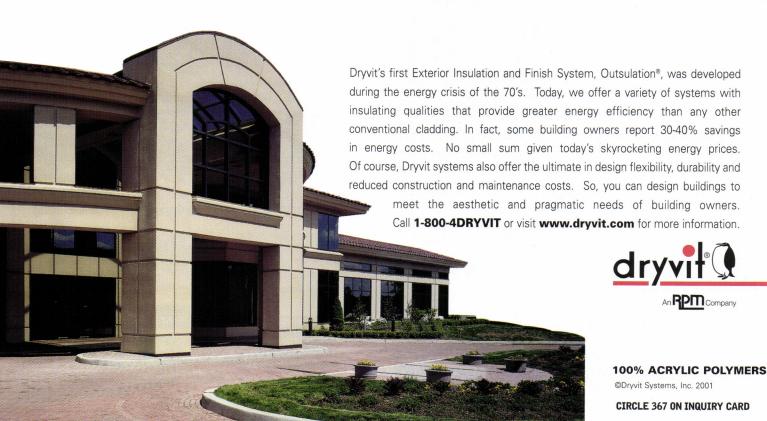




WE SAW THIS ENERGY CRUNCH COMING.

(about 30 years ago)





▶ Well cast

The DuraCast finish system is one of the new finish options for the Formawall **Dimension Series panels** from Centria. The system is a shop-applied, 100 percent acrylic coating containing silica aggregate that provides the look and feel of precast concrete. Duracast is applied over a special polyester base coat, giving the system a high level of film integrity to protect the G90 galvanized metal substrate. Duracast finishes offer high resistance to abuse and abrasion and provide cost, weight, and



lead time benefits compared with precast. Duracast finishes are available in eight standard colors, matched to popular colors in the Centria Colorstorm palette. 800/759-7474. Centria, Moon Township, Pa. CIRCLE 260

▶ Green guards

Nu Tree wall guards are manufactured from recycled post consumer No. 2 plastic containers, extending the life cycle of the plastic. Available for interior and exterior applications, the wall guards are



suited for heavy-abuse areas, such as loading docks and back areas in the back of the house. The guards have a wood texture and are available in dark gray, black, and caramel. 800/222-5556. InPro Corporation, Muskego, Wis. CIRCLE 261

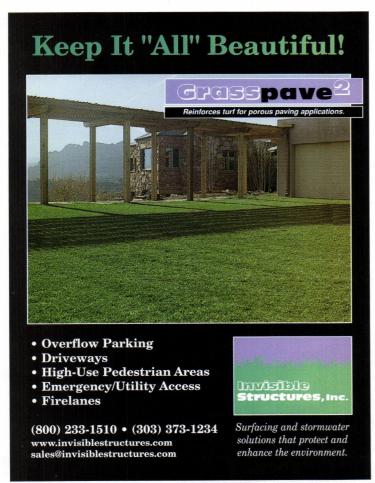
▼ Unitized curtain-wall system

Mellon Client Service Center, in Pittsburgh, is one of the first buildings to showcase Wausau's new factory-assembled, preglazed, unitized curtain-wall system. The curtain-wall units are erected by stacking individual panels vertically and horizontally,



resulting in a four-way stack-joint design. With this method, less handling is needed for each unit, thus decreasing opportunities for a mishap. 877/678-2983. Wausau Window and Wall Systems, Wausau, Wis. CIRCLE 262

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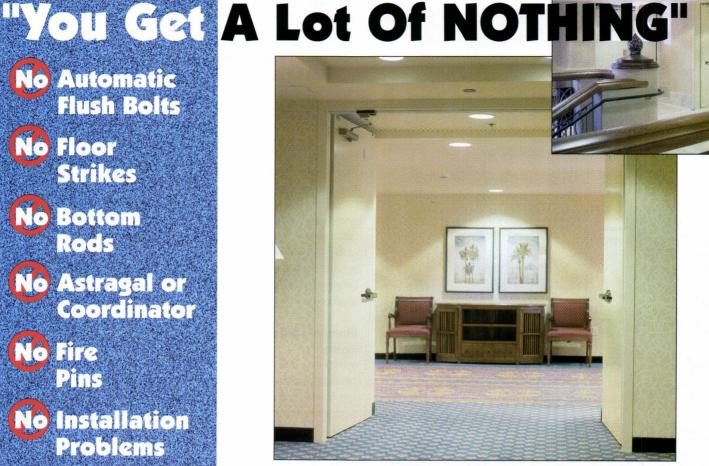
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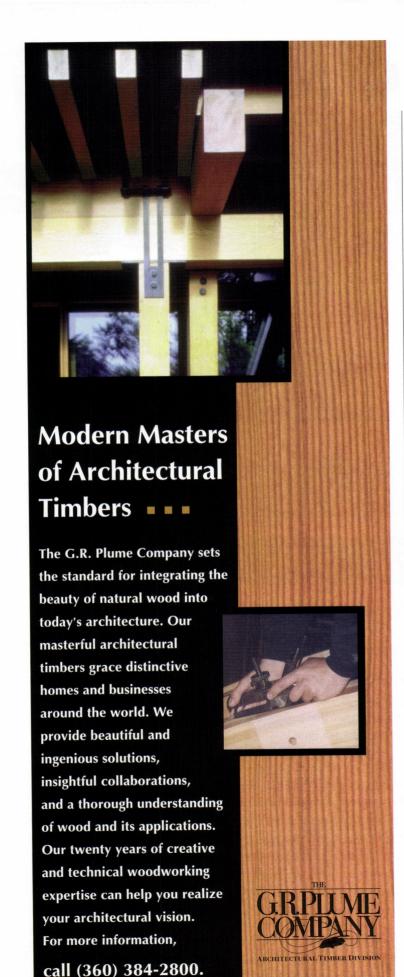
Integrated Door System

Fire Door with Dual Leaf Lever Operation

The RITE Door combines the best of what you need in a fire door while eliminating the things you don't need. We now offer dual lever operation, for door pairs that don't require an exit device, with independent activation of each door.

All hardware on The RITE Door is pre-installed at our factory, to ensure trouble free operation. The top latching hardware means no floor strikes, no bottom rods, no flush bolts, no astragal, no coordinator and no installation or alignment problems. The levers themselves have a freewheeling design, to prevent damage when the lever is locked. Down to the hinges, The RITE Door is ready to go, typically cutting installation costs by more than half. They are fire-rated up to 3 hours for same swing or double egress pairs and meet all positive pressure and new International Building Code requirements.

The RITE Door is being installed on new and retrofit applications, in all types of buildings, all around the country. That's because The RITE Door gives owners, designers, specifiers and contractors everything they want in a fire door - and NOTHING of what they don't.



Product Literature

Fluorescent and downlighting

H.E. Williams has issued new fluorescent and Infinity downlighting binders that include all product specifications. 417/358-4065 ext. 246. H.E. Williams Inc., Carthage, Mo. CIRCLE 263

Wood wallcovering catalog

A new catalog featuring the latest selection of SanFoot flexible wood wallcovering is now available. The SanFoot line contains more than 20 species of real wood veneers suitable for interior applications, including residential, commercial, hospitality, retail, and more. 800/225-6384. Jacaranda Inc., Miami. CIRCLE 264

Staining hardwood CD

The Hardwood Council has developed a new CD-ROM specifying tool, *The Finishing Touch*, that allows users to apply stain variations to photos of 21 North American hardwood species (such as oak, maple, hickory, and cherry). Users also can apply stain hues to room photos that include hardwood flooring, millwork, molding, and cabinetry to see how stain affects the look of various hardwoods. 412/281-4980. Hardwood Council, Oakmont, Pa. CIRCLE 265

NEW SITES FOR CYBERSURFING

A Swedish family fridge is a portal to the web **www.electrolux.se/node384.asp**



Stone-coated steel roofing products www.decra.com

Edison Price's catalog sheets, product photos, photometric files **www.epl.com**

Columns, railings, and fences www.superioraluminum.com

National Roofing Contractors Association's new site **www.nrca.net**

New lighting binder

Architectural Landscape Lighting. Inc., a manufacturer of high-performance, pedestrian-level lighting solutions, has announced the availability of its new Allscape binder. The two-inch, three-ring binder features the current Allscape catalog of contemporary-design outdoor luminaires, including landscape lights, step lights, floodlights, bollards, and more. 714/668-3660. Architectural Landscape Lighting, Santa Ana, Calif. CIRCLE 266



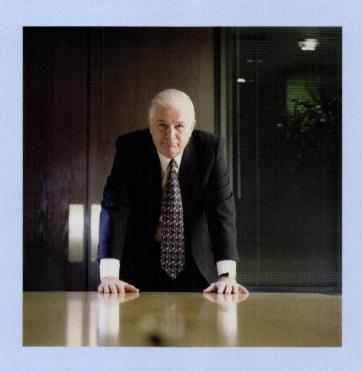






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CIRCLE 346 ON INQUIRY CARD



Product Literature

Air-filtration catalog

Camfil Farr has published a new general-products catalog that provides an overview of the company's air-filter systems, equipment, and capabilities. The catalog covers two primary application areas: comfort air (HVAC filters for protecting people in all types of buildings) and clean processes (air-purification products for even the most demanding classroom environments). 800/479-6801. Camfil Farr, El Segundo, Calif.

Spanish tile CD-ROM

Spanish porcelain tile manufacturer
Alcalagres has introduced a new edition
of its catalog on CD-ROM. The updated
catalog features the complete collection
of Alcalagres' five major lines, all of which
have recently been expanded. 877/6400555. Alcalagres America, Miami.

Lighting CD-ROM

A new CD-ROM from Progress Lighting features all of the products showcased in the *Lighting Solutions* catalog and presents them in a searchable database. Users can select from a wide range of fixtures, organized by category, or search

for specific products by SKU, type of fixture, finish, or glass. 864/599-6000. Progress Lighting, Spartanburg, S.C. CIRCLE 269

Tips for ceiling fans

Regency Ceiling Fans 2001 product catalog presents Regency's full lineup of ceiling fans, light kits, and other accessories, including fan and light controls. Along with product photos and descriptions, the full-color, 88-page catalog also has relevant information, such as instructions for choosing a ceiling fan, home energy cost-saving tips and installation tips, as well as room-size and ceiling-height charts to help pick the right fan and accessories. 800/659-5051. Regency Ceiling Fans, Fenton, Mo. CIRCLE 270

Decorative details

The Ocar Decor Collection catalog offers a full range of decorative products inspired by popular historical and classical designs. Featured products include cornice moldings, domes, door surrounds, niches, columns, raised panels, and ceiling medallions. 888/OUTWATER. Architectural Products by Outwater L.L.C., Wood Ridge, N.J. CIRCLE 271









For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

New & Upcoming Exhibitions

Light Screens: The Leaded Glass of Frank Lloyd Wright

New York City

May 10-September 2

Exhibits 50 leaded-glass windows of Frank Lloyd Wright. Many of these masterpieces in light and color are drawn from private collections, never before exhibited publicly. At the American Craft Museum. Contact 212/956-3535 or see www.americancraftmuseum.org.

The Architectural Unconscious: James Casebere + Glen Seator Philadelphia

May 12-July 29

The exhibit brings together the work of two artists who have different but complementary concerns with architecture. Photos and models deal with the uncanny and disjointed elements of architecture and space. At the Institute of Contemporary Art at the University of Pennsylvania. Contact 215/898-5911 or see www.icaphila.org.

John Soane 1753–1837 Montreal

May 16-September 3

Exhibits paintings, drawings, and models of the work of Sir John Soane, never before seen outside his famous British museum. Soane's contribution to modern architecture is explored. At the Canadian Center for Architecture. Contact 514/939-7000 or see www.cca.gc.ca.

The Architecture of Fumihiko Maki: Modernity and the Construction of Scenery

London

May 17-July 22

Exhibits the work of internationally acclaimed Japanese architect Fumihiko Maki. Accompanying lecture to be held on May 15 at the Royal Institute of British Architects. Exhibit at the Victoria and Albert Museum. Contact 20 7942 2558 or s.cole@vam.ac.uk.

Frank Gehry, Architect New York City

May 18–August 26

Exhibits work from the 40-year career of the architect and of his firm, Frank O. Gehry &

Associates. Explores the origins of Gehry's unique vocabulary and his unusual working technique. This major retrospective includes national and international projects. At the Solomon R. Guggenheim Museum. Contact 212/423-3500 or see www.guggenheim.org.

Architectonic Fixations: Photographs from the Collection of Russell Sturgis St. Louis

May 25-July 31

Exhibits the 19th-century photographic prints from the collection of American architect, historian, and critic Russell Sturgis (1836–1909). At the Olin Library at Washington University. Contact 314/935-5293 or see news-info.wustl.edu.

digital/real—blobmeister, the first built projects

Frankfurt, Germany

May 30-August 5

Features 11 built projects, designed exclusively on

the computer, by architects committed to digital design practice. Includes the work of Zaha Hadid, Frank Gehry, Asymptote, Douglas Garofalo, and Greg Lynn. At the Deutsches Architekturmuseum. Contact 49 69 2 12 38471 or see www.rma.de.

The Idea of Louis Sullivan Chicago

June 9-September 23

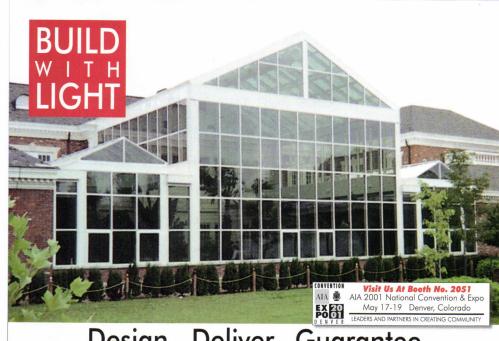
Exhibits the photographs of John Szarkowski, former curator of photography at the Museum of Modern Art and publisher of the book *The Idea of Louis Sullivan*. Exhibition marks the occasion of the republishing of the original 1956 book. At the Art Institute of Chicago. Contact 312/443-3600.

Out of the Ordinary: The Architecture and Design of Venturi, Scott Brown and Associates

Philadelphia

June 10-August 5

Exhibits 250 works from one of the most influen-



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tial firms of the last half-century. Presents drawings, models, furniture, and reconstructions of elements of their buildings, many of which are publicly exhibited for the first time. At the Philadelphia Museum of Art. Contact 215/684-7860 or see www.philamuseum.org.

Mies in Berlin New York City

June 21–September 11
Exhibits work from the early career (1905–1938) of the famous German architect Ludwig Mies van der Rohe. Though Mies is known mostly for his American Modernist glass skyscrapers, this exhibition will focus on early influences. At the Museum of Modern Art. Contact 212/708-9400 or see www.moma.org. Exhibition complements Mies in America (see next entry).

Mies in America New York City

June 21–September 23
Exhibits work from the late career of the German architect Ludwig Mies van der Rohe, after he arrived in America in 1938. The Seagram Building in New York and the Farnsworth House in Illinois are the show highlights. At the Whitney Museum of Art. Contact 212/570-3600 or see www.whitney.org. Exhibition complements Mies in Berlin (see preceding entry).

Detonation Deutschland Vienna

June 28–September 3
A film sequence showing the detonation of German buildings from 1945 to the present, exploring the fate of the act of building. Will be the first exhibition at the Alte Halle, on the occasion of the official opening of the new Vienna Museums

Quartier. Contact office@azw.at or see www.azw.at.

Ongoing Exhibitions

Presences

London

Through May 13
A collaboration between architects
5th Studio and artist Peter Coldwell,
investigating familiar domestic
objects in an unfamiliar way.
Assumptions regarding the everyday
are overturned in this unconventional exhibit. Contact 20 7253
3334 or see
www.architecturefoundation.org.uk.

Birds Portchmouth Russum Architects

Basel, Switzerland Through May 27

A major retrospective of the work of the unconventional and exuberant British architects. Photos, models, and artifacts will occupy four floors of the museum. At the Architekturmuseum. Contact 44 20 7729 8434 or see www.birdsportchmouthrussum.com.

Federal Design Now! GSA 2000 Design Awards Washington, D.C.

Through July 8

Exhibits contemporary architecture and artworks that were commissioned by the U.S. federal government and that won GSA 2000 Design Awards. At the National Building Museum.

Contact 202/272-2448 or see www.nbm.org.

Luis Barragán: The Quiet Revolution London

Through July 8
Exhibits works by the Mexican
Modernist, including houses and
gardens. At the Design Museum,
South Bank by Tower Bridge. See
www.designmuseum.org.

On the Job: Design and the American Office Washington, D.C.

Through August 19

McGRAW-HILL ARCHITECTURE



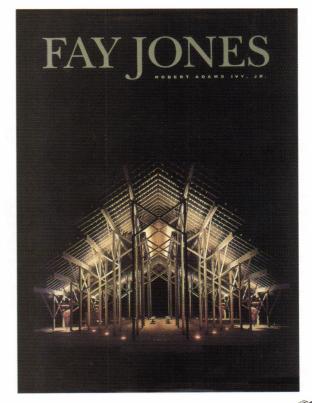
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Explores the role of the office as a microcosm of American social transformations and a yardstick of cultural progress. Investigates issues of privacy and publicity within the space of the office. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

Architecture and Water New York City

Through September 28
Focuses on five projects that integrate architecture and landscape to engage today's waterfront. At the Van Alen Institute. Contact 212/924-7000.

Events

Time After, Time Along, The River New York City

May 5–13
A film by the artist Marie Jose Burki

that will transform the Holland Tunnel Ventilation Building into a vast outdoor screen, as it is projected on the building's facade. The film runs twice per evening from 7 to 9 p.m. at Pier 34 on the Hudson River waterfront. Contact 212/431-7165 or see www.minettabrook.org.

27th Annual Wright Plus Housewalk

Chicago

May 19

The Frank Lloyd Wright Preservation Trust is hosting this benefit walk in Oak Park, Ill. Visitors from all over the world will be able to see the interiors of private homes and public landmark buildings by Wright and his contemporaries. Contact 708/848-1976 or see www.wrightplus.org.

Touch-Taste-Look-Feel Italian Design

New York City

May 21

Thirteen leading design stores and showrooms will open their doors to guests, who can meet designers and preview their new Italian products. Accompanying refreshments will include the finest Italian cuisine. In Midtown and Soho from 6 to 9 p.m. For participating stores and restaurants, contact 212/353-1383 or BethD4@aol.com.

AIA/Los Angeles 2001 House Tour Series

Los Angeles

May 20, June 24, July 29
Homes in Malibu, Santa Monica, and Beverly Hills will be open for self-driven tours. The architects will be on hand for discussion. Contact 213/639-0777 x52 or mail@aialosangeles.org.

Conferences & Symposia

Light in Architecture: The Work of Dan Flavin

Marfa, Tex.

May 5-6

Speakers include Roberta Smith of the *New York Times*, Michael Govan of the Dia Center, Kurt Forster of the CCA. At the Chinati Foundation. Contact 915/729-4362.

"The More Things Change"— 51st International Design Conference

Aspen, Colo.

June 6-9

Examines the world of design from multiple perspectives.

Designers, scientists, cartoonists, business professionals, and environmentalists will attend.

Contact 970/925-2257 or info@idca.org.

Ninth Congress for the New Urbanism

New York City

June 7-10

Politics, policy, and design concerns from region to neighborhood will be discussed. Speakers



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include Elizabeth Plater-Zyberk, Andres Duany, Joseph Rose. Contact 800/788-7077 or see www.cnu.org.

A/E/C Systems 2001 Conference Chicago

June 18-21

More than 15,000 design and construction professionals will participate in conference sessions and attend a large exhibit to find solutions to the most complex challenges. At McCormick Place, Lakeside Center. Contact 800/451-1196 or see www.aecsystems.com.

Making Cities Livable

San Francisco

Deadline: June 30

The conference is issuing a call for papers and an invitation to exhibit for a conference that will be held October 22-26. The broad range of subjects includes sustainability and urban renewal. Contact 831/626-9080 or see

www.livablecities.org.

Restoration & Renovation Conference and Exhibit

New Orleans

September 6-8

The theme of the conference is "Neighborhoods and Downtowns: Economic Revitalization through Preservation," with an emphasis on the benefits of preservation for the tourist industry. Sponsored by Restore Media. Contact 978/664-6455 or see www.restorationandrenovation.com.

Conventions

AIA National Convention

Denver

May 17-19

The premier building, design, and construction event, featuring the New Product and Technology Center, Expo 2001 pavilions, and daily presentations. Contact 202/626-7395 or aiaexpo@hhcc.com.

LightFair International 2001 Las Vegas

May 30

Featuring new GE lighting products and services. At the Las Vegas Convention Center, Contact 216/696-0229 x17 or jmorgan@robertfalls.com.

145th Annual CSI Convention and Exhibit Dallas

June 21-24

Sponsored by the Construction Specifications Institute. At the Dallas Convention Center. Contact 800/689-2900 x4772 or llowe@csinet.org.

Competitions

Getty Grants and Los Angeles County Arts Commission Internships

Deadlines vary

Eligible candidates are college undergraduates seeking paid internships in LA County museums and organizations specializing in performing arts, visual arts, and literary arts. Stipends of \$3,000 awarded. See www.getty.edu/grants or www.lacountyarts.org/internops.html.

ARANGO Design Award

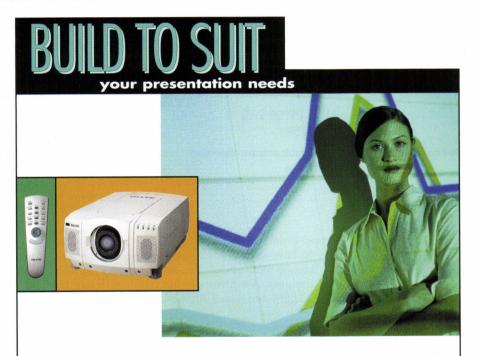
June 1

Nominations of emerging talent in architecture and related fields. Cash prize of \$1,000 awarded. Contact ArangoFoundation@aol.com or see www.arango-design.com/adf.

AIA Galveston's 15th Annual Sandcastle Competition

June 2

Over 1.600 talented competitors from 70 teams create architecture in an unusual medium: sand. Eligible candidates must be able to tolerate the beach and fun for five hours. On East Beach in



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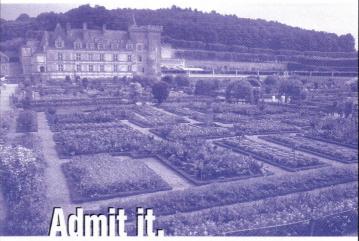
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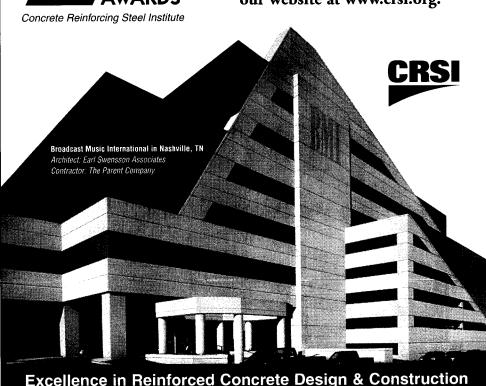
The client said "Give us a pretty building." — And instead you gave them an architectural masterpiece.

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Dates & Events

Galveston, Tex. Contact 713/520-0155.

American Schools & Universities 2001 Architecture Portfolio Competition

Deadline: June 2/entry form & June 30/portfolio Entries are accepted for public, private, and parochial schools and their associated buildings, completed by January 1999. See www.asumag.com.

Van Alen Institute 2001–2002 Dinkeloo Fellowship Competition

Deadline: June 4

Design and the Ecology of Public Life is the theme for this year's fellowship, which will be awarded to the winning entry in a portfolio and travel-proposal competition. Open to recent or prospective graduates. Award includes a stipend and two-month residency at the American Academy in Rome. Contact 212/924-7000 or see www.vanalen.org.

Architecture + Energy Awards

Deadline: June 4

AIA Portland honors the best in sustainable design. Eligible buildings include any built commercial or multifamily residence in the U.S. or Canada. Contact 503/223-8757 or aeprogram@aiaportland.com.

10th Ermanno Piano Scholarship

Deadline: June 30

Eligible candidates must be a 2000 or 2001 graduate from an architecture program. Winner will be granted \$10,000 to work at the office of Renzo Piano Building Workshop in Genoa, Italy. See www.rpwf.org.

Can Struction

Entry Deadline: October 15

Teams led by architects and engineers build giant sculptures made entirely of cans of food. Works are judged at the AIA convention each year. After a week-long exhibition, all cans are donated to soup kitchens, shelters, and the elderly. "Build out" event takes place in over 50 cities in America. Contact 212/79-.4666 or see www.canstruction.org.

E-mail your submissions for Dates and Events to ingrid_whitehead@mcgraw-hill.com two months prior to the event or competition submission deadline.



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Ann Mullins and Mark Johnson: Landscape pioneers with a cause

Interviewed by Ingrid Whitehead

A shared love of fast cars (old Porsches) and motorcycles brought Ann Mullins and Mark Johnson together. But it was their shared desire to shape the landscape and change the nature of landscape architecture that led them to Denver, Colo., where they created their firm, Civitas. Famous for their tendency to unflinchingly (and successfully) fight their way through political logjams, Ann and Mark have created trails, parks, plazas, and rooftops, restored wetlands and prairies, and, lately, worked to reconnect Denver with its river. The couple recently parked their Harleys, hung up their gloves, and talked with RECORD from their Denver office.

Profile

You have quite a reputation for being "fighting You have quite a repairment,

landscape architects"—you don't seem to be put off by politicians and political red tape. Why bother? Mark Johnson: It's one of the things that distinguishes us-Civitas is not a tool, or a neutral thing. We don't waste our time arguing with bureaucrats. I hate "facilitating." We will only meet with the real decision makers, the mayors, or the people who really have the power to make changes. Then we try to harness that access and tie the deepest forces together. Politicians are the glue, and reactive, but they can end up with synthetic thought.

As landscape architects, what do you see as your role? What do you hope to accomplish?

Ann Mullins: Our work should be used and should last a long time. That's why we're dedicated to changing the conditions of landscape design.

MJ: Design has to be authentic to the place. It's not about "us," it's about the people who will be using it. As far as working with architects, there's a tendency for landscape architects to feel like they're providing a service. It's foolish, but common. I refuse to accept that, As landscape architects we aren't providing a service to complement a building, we are framing the conditions for design, we're setting up the entire redevelopment of the site. Of course, we work with architects constantly. and we love working with architects. I would never be arrogant enough to think that we, as landscape architects, could do it all ourselves. But I think there are two types of architects: the kind who don't want to upset their clients and the kind who will push good design at the risk of challenging their clients. The second type. those are the architects we collaborate with. We do our best work when we're in that kind of relationship. The two of you have lived and worked all over the coun-

try, Ann in Massachusetts with Sasaki, Mark in Seattle with Jones & Jones-what finally made you decide to settle in Denver?

AM: We love the Western landscape, and we were determined to keep to urban work. And luckily, the last two mayors [Federico Peña and current mayor Wellington Webb] really have pushed redevelopment in Denver. Do you ever give up?

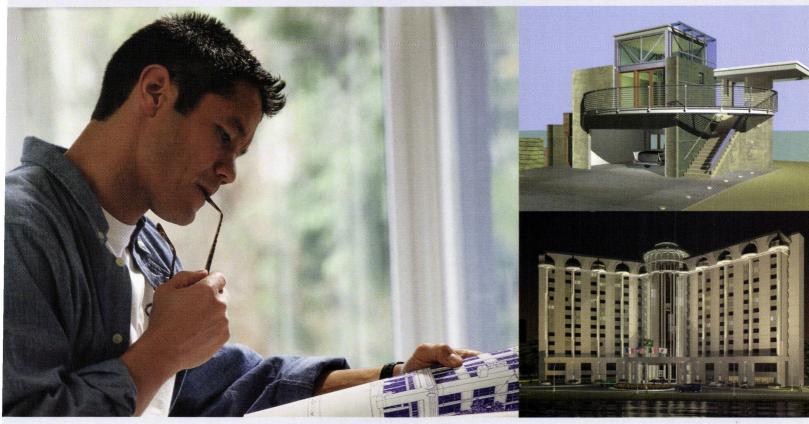
MJ and AM: Absolutely!

MJ: We run from bad clients like from a fire. Part of realizing what kind of projects are worth fighting for is realizing what kinds aren't.

Photograph by Paul Abdoo/Abdoo Studios. To learn more about Mark and Ann, go to www.civitasinc.com.



imagine more

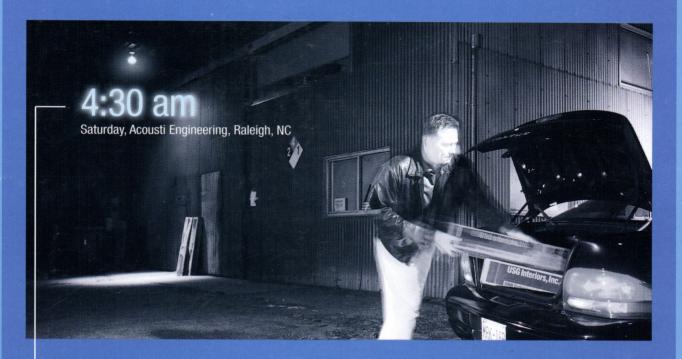


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At 5:30 Friday night, Monday's grand opening of the North Carolina Aquarium looked anything but grand for the contractor. Short three boxes of CentriciteeTM two and four-foot tees, he made several calls but was unable to locate the cross tees he needed. At 6:30, he called USG Sales Rep Pat Lawson. Pat's live voice on the phone this late on a Friday evening was cause for optimism, but Pat's initial attempts failed to turn up any additional cross tees. Then Pat remembered another contractor was using the same material. He called the contractor at home. Paydirt — the contractor could spare the tees, if they were replaced by the following week. So Pat arranged to pick up the tees at the contractor's site. At 3:00 am he was up and on the road. Some quick thinking and four hours of driving made the opening very grand indeed.

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