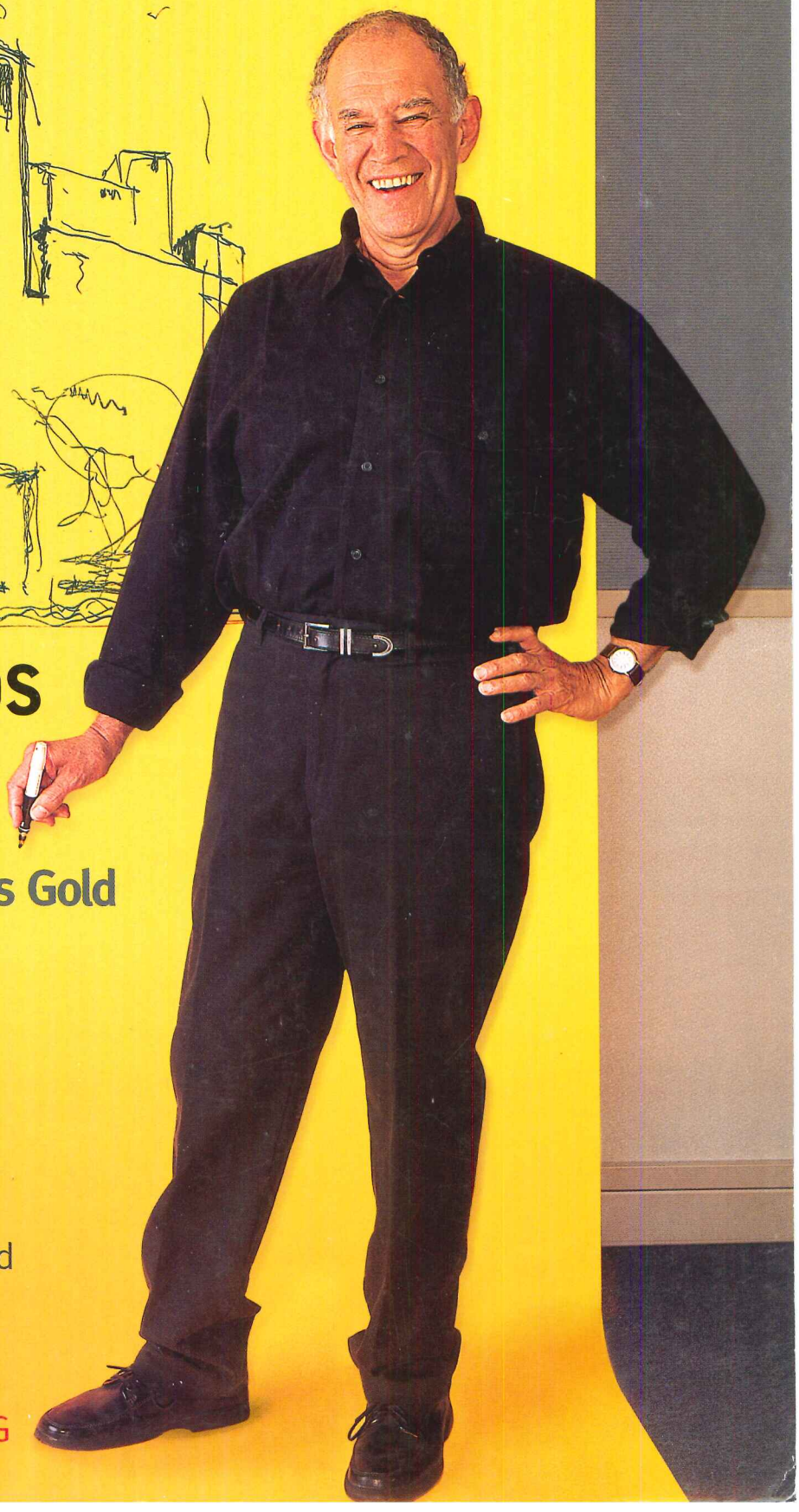
ARCHITECTURAL RECORD



AIA HONOR AWARDS

Gensler named Firm of the Year

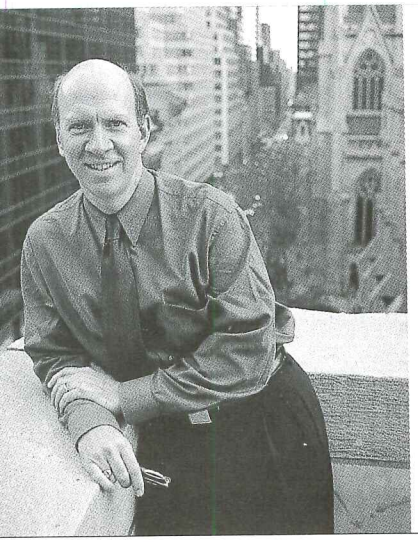
Ricardo Legorreta strikes Gold

Global Preservation and the World Monuments Fund

Ten Shades of Green

Special Section: RECORD LIGHTING

Spot the two terms
that don't go together:
1. Suspended Ceiling
2. Grid-hiding Visual
Until now.



Hands-on architecture

Editorial

By Robert Ivy, FAIA

Nothing can prepare you for a jackhammer. The deliberate way the machine rises and falls in your hands, shaking the core of your body, lies outside any other experience. You cannot imagine the precise way it slices through concrete as if it were bread or conjure up its unyielding power by computer; you have to pick one up, grip the handle to turn it on, and give it a ride. One trip and you'll understand more about the way we make actual buildings, something every architect should experience.

If you've never built, but merely thought about building—planned it, drawn it, scheduled it—the craving for actualization can resemble unfulfilled hunger. In this theory-dominated era, a cool zone in which words and pixels distance us from reality, a small, complementary movement by students and practitioners toward hands-on architecture is satisfying that craving. Though limited in scope, this trend includes individuals, volunteer organizations, and coursework from Georgia Tech to Nova Scotia. Significant in implication, the movement bears naming and discussion, for it comments on our aspirations as architects, our preparation for the real world, and our recognition of how our business has diverged from our dreams. Call it hands-on.

By definition, hands-on architecture is actually a form of design-build, though a variant of and a specific category within the normal definition of that term. As writer Susan Piedmont-Palladino states, "There is no 'design-build style,' no such thing as 'design-buildism' . . . design-build has no necessary formal characteristics." The term can apply equally to a highly crafted apartment renovation by an architect or a repetitive tilt-up industrial park, even though the scales vary radically and the outcomes lie at stylistic and aesthetic extremes. Both involve interdisciplinary collaboration in design and construction, while their stark differences reflect how architecture has fractured in the last century.

Simplistically put, the distinction lies between stripped-down Modernism and handcraft. At the large scale, design-build can produce economic efficiency through industrialized production, with consequent savings of time and effort. The soul of the design-build machine is construction engineering and the mastery of process, with a cursory nod to its architectural great-uncle, the Bauhaus. When synthesized with architectural vision, good or even great architecture can occur from coordinated, cooperative efforts; more often, when the architect's role in the design-build team diminishes and the budget constricts, the results can be mundane.

At first glance, hands-on architecture seems radically different from design-build. Unlike that speedy method, the craft-intensive, high-touch movement luxuriates in time; schedules often depend on the availability of workers rather than on fixed completion dates. Changes occur all the time, viewed more as the creative, responsive offshoots of evolving ideas, an opportunity to celebrate the interrelationship of all the arts. Social awareness, linked to ethical or moral positions, sometimes characterizes the work: This is architecture for people who care, a decidedly un-hip attitude today. Hands-on architects may seem tinged with granola, when everyone else is wearing platinum gray.

What have been the wellsprings of this folksy, artsy business? Surprisingly, the hands-on movement shares some philosophical antecedents in the United States with its more pragmatic cousin, design-build. Emerson, for example, talked about the "useful arts," such as architecture, which explores truth through construction. In describing organic architecture, however, Emerson defined craftsmanship in building as a more deterministic, nature-inspired discipline.

More explicit influences for today's hands-on tradition include John Ruskin, the mid-nineteenth-century English critic who glorified "honesty" in materials. Later, William Morris and the Arts and Crafts movement in Britain propounded the integration of the arts with building, a movement represented in this country by Gustav Stickley and his magazine, The Craftsman. Subsequently, through Sullivan and Wright, craft flowered into full-blown organic architecture, on the one hand, and toward a more

explicit, craft-based tradition on the other. Neither addresses the diverse techno-culture evolving today.

Who's working hands-on today? Any practicing architect who envisions and constructs a house and studio, as Randy Brown did in Omaha. He built it, lives and works there, and this magazine published it [RECORD INTERIORS, September 1997, page 96]. Jonathan Segal, who developed a neighborhood in San Diego called Little Italy, has enlarged his role in the design and construction process to include design-build, and he has been profitable in the exercise, becoming a vocal advocate of new roles for architects along the way.

Everyone knows the iconoclastic work of the firm Jersey Devil. Founder Steve Badanes, a no-holds-barred designer and builder, personifies the term hands-on. Widely published, though decidedly outside of mainstream currents, his group has consistently produced thoughtful, funky, modestly scaled architecture. In projects such as the Palmetto House in Florida, he and his group literally move onto the construction site, creating environmentally sensitive, site-responsive buildings in their wake. More recently, they have combined education and execution. For three years, Badanes has led students to San Lucas, Mexico, where students from the University of Washington, architects, and the local community have shared in the building of the Escuela Emiliano Zapata, an elementary school for 300 persons.

Big names like Stanley Tigerman, FAIA, tout hands-on. He and Eva Maddox founded and run Archeworks, an educational institution with an explicit agenda of social improvement. Tigerman is forceful on the subject of ethics, architecture, and application: "There is so much theory-driven discussion," he says, "and so much virtual architecture, that students are distanced from making things. They want to build nobly and well, but not much of it is happening." Through Archeworks, students from a variety of backgrounds have designed and built for the Lakeshore SRO, the YWCA, and other Chicago institutions, learning while they build.

Hands-on is not confined by geography. Is there an architect or a school of architecture that has not pounded nails for Habitat for Humanity? Part of the appeal of the volunteer program has been to capture the work and energy of non-professional builders, to let them get their hands dirty for a good cause, even those who may have never carted Sheetrock. As government retreated from subsidized housing, Habitat stepped in to fill a particular need—for citizens able to pay a mortgage but outside traditional credit guidelines.

Initially, founder Millard Fuller avoided architect's plans, fearing that they might build houses that were too elaborate and too expensive. Today, the program welcomes their contributions, and the results show. For a decade, the houses Habitat has built have increased in planning and construction sophistication beyond simple cinder-block structures. Habitat now sponsors design competitions with AIA chapters and student organizations. This year, the Young Architects Forum joined with Habitat in a design competition for a "Prototype for the New Millennium," a new housing prototype set in Pulaski Town, a neighborhood in Philadelphia.

They participate because they are hungry to build. Architect/educator Sam Mockbee says, "Students are dying to do this all over the country." No single program has garnered more kudos for its savvy blend of design excellence, social purpose, and experience than his Rural Studio in Hale County, Alabama. Far from either coast, as deep into old Dixie's poverty belt as you can slide, Sam and acting Auburn University architecture dean D.K. Ruth have drawn students South, to cook and clean and live together at what Sambo calls "a redneck Taliesin," reading great literature, drawing, and building for the people of the county. Along the way, he and the students have produced masterful, simple works of architecture from humble materials, including Yancey Chapel, a small, transcendent building constructed of abandoned tires and heart pine lumber, and a straw-bale house with an adjacent smokehouse cobbled together from jackhammered concrete and discarded bottles.

While others engage in hyped contemporary work, the students at the Rural Studio often perform humble architectural acts, like insulating the windows of a leaky house with a translucent layer of thick plastic sheeting for a 98-year-old man. Minimal fuss, maximum improvement to make a warm, dry room. If hands-on architecture is a cause, then the Rural Studio is a spiritual home. How unfashionable and utterly right!

We can't all move to Newbern, Alabama. For those of us whose sixties sensibilities may have faded, who now sport sunglasses on cloudy days and have developed an immune response to any whiff of a cause, no need for alarm: Commerce continues to rule the marketplace. But however limited your experience with construction might be, there is still time to take off the shades, grab a hammer and pound a few nails, or even hoist a jackhammer before you plan that next wall section. It isn't necessary to have built a wall before you design one, but if you have—at school, for yourself, or for a client—you'll build a better wall. Hands down.

It's a lot easier to reach for the stars when you can see them.

VELUX®
ROOF WINDOWS AND SKYLIGHTS

For more information call 1-800-283-2831. www.VELUX-AMERICA.com

CIRCLE 14 ON INQUIRY CARD

Letters

Hadid indeed

I can't comment on the design of Zaha Hadid's Mind Zone [March 2000, page 118] because I haven't seen it, but I found writer Deyan Sudjic's apologia amusing. He bemoans the fact that Hadid's neighbor—McDonald's—is not worthy, and that her structure is held captive inside Richard Rogers's evil Millennium Dome, in England. Then Sudjic cites "efforts by health and safety officials to defuse the structure's aesthetically explosive qualities," in the form of handrails and other onerous safety-related measures added after the fact. "The sharp edges," he notes, "have been boxed in."

Where I come from, such impositions on artistic genius are known as "context" and "reality." Some of us have even been known to use them to enrich and strengthen our designs. Until recently, the greatest hazards posed by Hadid's work have been paper cuts; looks like it might be time for a code check.

—Howard Fitzpatrick
Seattle

Meier for hire

I want to thank architect Richard Meier, FAIA, for his "Critique" in the March 2000 issue [page 57]. I wholeheartedly agree with his suggestion: "If we as architects wish to have our work better respected and understood by the public, we should work toward seeing it more regularly represented in the popular press." I would add that architecture be discussed in our schools to excite and provoke students, from childhood on. Unfortunately, it's possible for a youngster to graduate from high school without any awareness of architecture and the role and responsibility of architects. Without exposure to architecture, how many of them or their parents will demand it?

—Eric J. Pick, AIA
Port Washington, N.Y.

Mayne man

Thom Mayne, of Morphosis, makes a questionable defense of the design for his Student Housing Project at the University of Toronto [March 2000, page 34]. He says, "It's not [the] architect's role to worry about whether people like or dislike a piece of work. The bigger problem is if nobody notices it as it goes up." I would agree that creating a noticed building can be a worthy goal. Mayne, however, seems to be saying that unnoticed work is not so good, and—incidentally—that the public's reaction to the buildings that surround them doesn't matter, either. That's pretty egocentric.

To work architecturally, our cities need a mix of both "noticed" and not-so-noticed buildings. All are important. It's the variety and range of elements working together that provide a nourishing richness. There may even be a role for buildings that reach out and scream for attention, as Mayne's does at the University of Toronto. But please don't relegate the rest of us to the ash heap.

—Eric Lassen, AIA
Santa Barbara, Calif.

Stuck in the back row

Sure, I've been there ["Just Another Renovation," February 2000, page 15], as I'm sure countless other architects have been in their careers. It's sad. Still sadder is the feeling that ARCHITECTURAL RECORD and other magazines should be added to the list of those who seem uninterested in the day-to-day efforts of most architects. Cleverly titled articles and pretty photos are part of the reason architecture is seen as superficial and architects' names are located at the bottom of the plaque—if at all.

There is a lot of good—sometimes great—architecture being built in unassuming places all over this country. But at the end of project, most of us don't have enough money left in the fee—not to mention time or energy—to glamorize ourselves to the press.

—Jeremiah Eck, FAIA
Boston, Mass

Editor in chief Robert Ivy responds: It needn't cost much to submit your work for consideration. Check out our Web site at www.architecturalrecord.com to find out how.

To the maxx

The Music School and Cinemaxx project in Mannheim, Germany, [March 2000, page 110] is a classic example an infill project that makes me optimistic about the long-term urban prospects for Mannheim. The structure is a real asset to the city.

Its massing and construction fit the site well and reinforce the street line. The project is about two blocks from a shopping area that is trying to continue functioning as the main marketplace of the Rhine-Necktar region. Now that German laws have been significantly liberalized, nearby department stores seem to have a real chance of success.

But one gets the impression that this project is also helping to draw people back to Mannheim. Friends have told me that trips are planned to the Cinemaxx multiplex, which is cheerful, has ample parking, and is only two blocks from the light-rail lines that converge on this historically vital town.

—Thomas Y. Allman
Mt. Olive, N.J.

Man vs. machine

I am skeptical of the writer who thinks, "If humans can infer design intent from sketches, computers can, too" [December 1999, page 224]. I have found that even trained humans sometimes have a hard time inferring design intent, because sketches are almost always one-dimensional doodles. They may be a starting point for a design, but the intent is always compromised, reinvented, redirected, and rediscovered through the process. Highly trained professionals working from complete construction documents often have problems inferring design intent. And, of course, there are those situations where a thick line was drawn before the pen went dry, and so now the upper reveal seems too heavy. Computers may be able to assemble a response to a sketch. But don't expect any improvement over human interpretations.

—Dirk S. Hinnenkamp
Columbus, Ohio

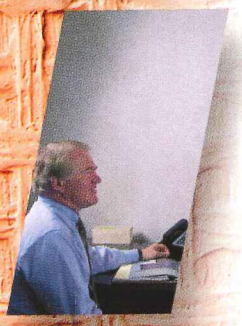
Like a machine

How does an architect, as a professional designer and agent of the owner, deal with the economic and social pressures to deliver faster, quicker, cheaper [March 2000, page 55]? Do we morph into cyborgs that can spew out digital documents in record time? What about quality? The change in emphasis from "value delivered" to "fast delivery of content" has shifted the ground from underneath the profession, as has the need to increase profit margins in order to keep up with the growing demands of overhead and the cost of financing business operations.

A professional, by the requirements of a license, must stand behind the service that is provided to the client. But there is increasing pressure to shortchange service to accommodate the new business model. Clearly, our responsibility as professionals demands that we uphold the standards of quality and creativity that our background, training, and license require. We need to take charge of the product delivery

Changing The Way You Think About Walls™

textra™
Glass Textile Wallcoverings



Johns Manville's glass textile wallcovering adapts to various surroundings as easily as a chameleon. Durable *Textra*™ is offered in a choice of woven-in patterns. Yet it's also designed to be painted and can be repainted up to 8 times. This unusual combination of texture, color, and performance opens up infinite possibilities.

Now available in North America, glass textile wallcovering has been used for decades in Europe - where it even hangs in the Louvre museum. Easy to install, *Textra* camouflages minor wall surface irregularities. It holds up in high-traffic areas, hides dirt, and can be quickly patched if ever necessary. Non-toxic and flame-retardant and strong, it actually increases the dimensional stability of the wall. And unlike vinyls, *Textra* is porous and is an ideal component of a breatheable wall system.

Visit the JM web site at www.jm.com/textra or call 1-800-654-3103 for more information on *Textra*. You'll start changing the way you think about walls.

JM Johns Manville

Rattan Twine
#T8065

CIRCLE 15 ON INQUIRY CARD

Sand Pebbles
#T9070

Letters

via the legislature, the construction industry standards, and the public and private financing vehicles that drive project funding. Otherwise we will be expected to design buildings that have a built-in obsolescence of 25 years to accommodate depreciation schedules. And when the bubble economy is over, cities and their structures will need to endure.
—Laurie Barlow, AIA
via E-mail

Landscape view
I applaud your recent article "The Other Side of the Fence: What Drives Landscape Architecture Now" by Paul Bennett [January 2000, page 58]. This is the most informed and insightful presentation on the profession of landscape architecture that I have ever seen in a nonlandscape publication.

Still, I don't think that most architects understand the breadth of the practice of landscape architecture—particularly in the area of environmental stewardship. The environmental movement in landscape architecture is not just a phenomenon of the past 5 years, but of the past 150. Landscape architects were major players in the environmental protection movement; stewardship is at the very core of our profession.

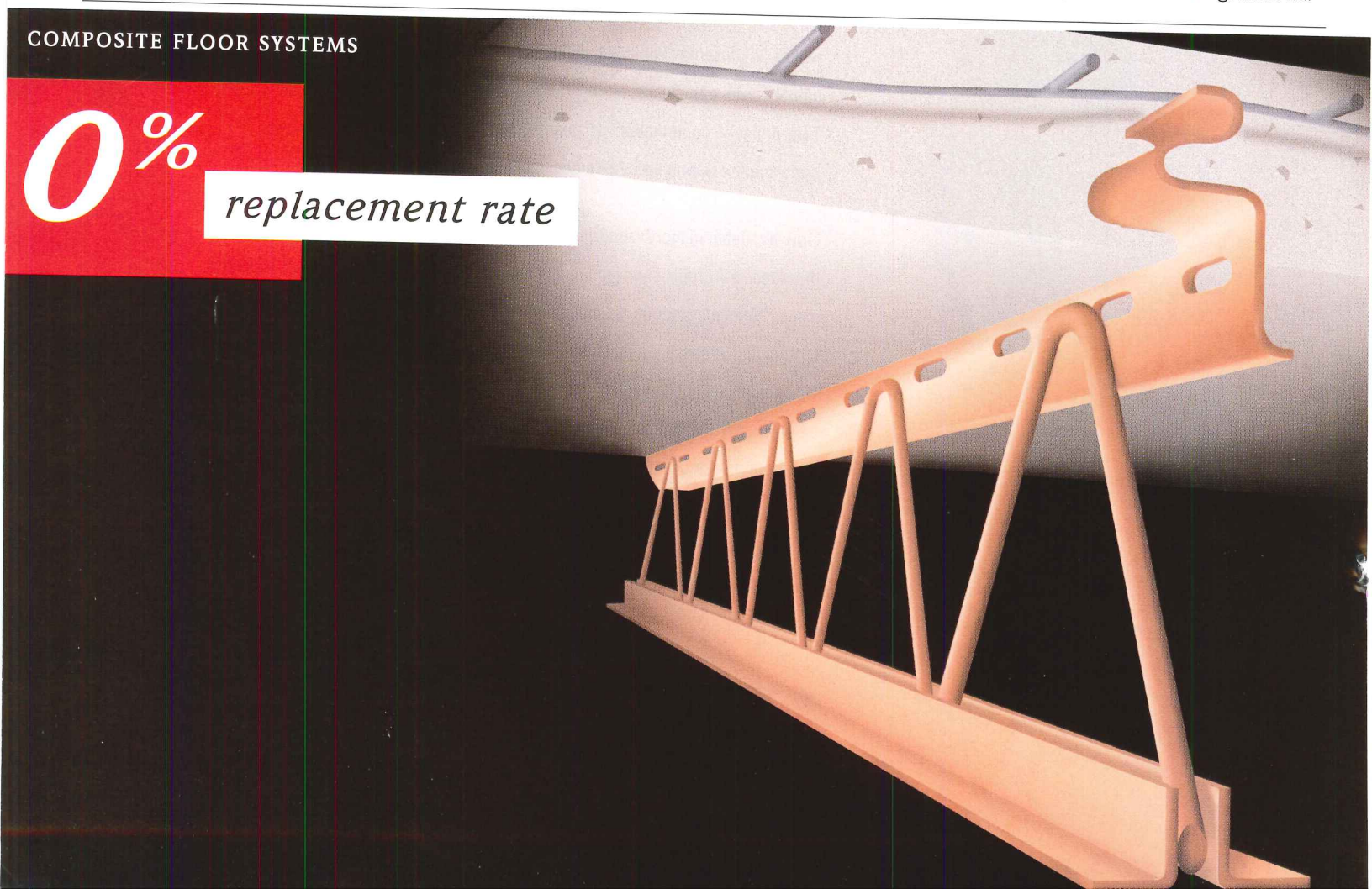
By letting your readers know about us and what we do, the possibilities for collaboration are greatly enhanced. As we become better informed, the quality and influence of all our work will be heightened.
—Barry W. Starke
Casanova, Va.

Separated at birth?
In the February 2000 issue, the photographs of a 1906 earthquake-ravaged San Francisco building [page 127] and Frank Gehry's Vontz Center for Molecular Studies, at the University of Cincinnati [page 81], are startlingly similar. Gehry seems to enjoy designing buildings that appear lopsided, tumbling, or destroyed. When I first saw a photograph of Bilbao, I honestly thought it had been bombed. Will history label these great architecture? Will society accept cityscapes of stumbling, crumbling structures? How much originality is required to design buildings that appear off-balance? Of course there are defenders who will rationalize these designs. But is it really responsible to rationalize the irrational?
—Leon Rosenthal, AIA
Franklin Square, N.Y.

Cracking the shell
As an architectural historian, I spend much of my time looking at 18th- and 19th-century vernacular farmhouses and buildings. Generally, they are integrated wholes with well-worn spaces that speak of the lives of their inhabitants. Writer Suzanne Stephens describes the interiors of Christian de Portzamparc's LVMH Tower [March 2000, page 98] as a warren of uncomfortable offices. But she then retreats to the cozy confines of aesthetics-driven architectural criticism, questioning whether the nature of the skin on a single facade—a thin section of the whole—makes the building architecture.

The structure's seductive, sinuous south facade may be beautiful, but its "cramped, windowless" remainder, which is home to the vast majority of occupants, is mediocre. Until architects and professional design critics accept that architecture is more than facade—that buildings, like people, are more than skin-deep—we are doomed to continue living and working in woefully designed (if occasionally beautiful) homes and offices.
—Marvin A. Brown
Raleigh

Reentry procedure
Expanding the role of architects into everything from regional planning to facilities management will



Letters

help keep architecture a healthy, growing profession. As an unemployed, nontraditional practitioner I was pleased to read March 2000 articles by Eric Teicholz ["Architects in Facilities Management," page 176], James S. Russell ["New Visions for Urban America," page 76], and Elizabeth Harrison Kubany ["Recession Proofing," page 55]. However, if my job search is any indication, most firms are only looking for recent graduates to grind out CAD documentation for traditional projects.

In the early 1980s, I joined the navy after completing a combined graduate program in architecture and business administration. As a commissioned officer, I was given management responsibilities immediately. Over the course of my career, I acquired experience in facilities management, environmental compliance programs, and contracting for construction and services. I passed the A.R.E. and completed another graduate degree in urban and regional planning. But now that I have retired from the navy, at age 44, I find that I am so far outside the bounds of traditional practice as to be unemployable. The March issue has given me hope that things are changing in at least some firms.

—Scott Calisti
Brighton, Mass.

Right idea, wrong city

I enjoyed your February article on the GSA architecture, titled "The Nation's Biggest Landlord Just Found Style," and I was quite pleased to see some of the innovative designs included there. However, as someone who passes daily within view of the grand new Robert C. Byrd Courthouse, in Charleston, West Virginia [page 66], I feel obligated to point out that it is not in Charleston, South Carolina, as reported.

—Dr. Billy Joe Peyton
Charleston, W.V.

Titillating title

Has anyone at the AIA or NCARB noticed that Bill Gates's new title at Microsoft is Chief Software Architect?

I was under the impression that only registered architects could use this term. As someone who spent five years getting my degree, several years thereafter working in a personally fulfilling yet financially unrewarding profession, stressing to complete my rigorous licensing exams, and managing multiple million-dollar projects, only to be told that I can't use the term architect when telling people what I do for a living, I find Mr. Gates's frivolous use of this term most insulting and feel the AIA and/or NCARB should address this issue. I'm sure the American Medical Association would never allow him to use the title Dr. William Gates, Software Epidemiologist.

Perhaps I should just become the richest person in the world and declare myself czar.

—Kully Mandon
San Jose, Calif.

Corrections

The architect for the Omaha Federal building and U.S. Courthouse [February 2000, page 64], was Pei Cobb Freed & Partners and DLR Group. Architects Carrier Johnson were not mentioned as collaborators on a new library for San Jose, Calif. [February 2000, page 46]. In the November 1999 issue [page 118], two team members were omitted from a list of credits for the Wilbert Snow School: Leesa L. Heath, AIA, and Gary Hale. In the renovation of the Reliance Building and subsequent interior retrofit of the Hotel Burnham [February 2000, page 112] the general contractor was Plant/UBM, a joint venture.

Letters may be E-mailed by clicking ***Letters*** *on our Web site at* ***www.architecturalrecord.com.***

41 *hurricanes**

DEVELOPED AS A SUPERIOR **ENGINEERED SOLUTION** TO ELEVATED FLOOR CONSTRUCTION CHALLENGES, HAMBRO'S MD-500 AND MD-2000™ COMPOSITE FLOORS SUCCESSFULLY WITHSTAND THE MOST RIGOROUS TESTS OF NATURE. COMBINING COMPOSITE STEEL JOISTS WITH POURED CONCRETE CREATES A STRONG FLOOR THAT IS SIMPLE TO INSTALL, CAN BE SUPPORTED ON ALL TYPES OF STRUCTURAL FRAMING, AND PROVIDES OUTSTANDING SOUNDPROOFING WITH UP-TO-DATE UL AND ULC FIRE-RESISTANCE RATINGS. THE RESULT: A STRUCTURAL DESIGN THAT EMERGES AS THE MOST **COMPETITIVE SOLUTION** FOR YOUR PROJECT.

Engineered solutions
Engineered service

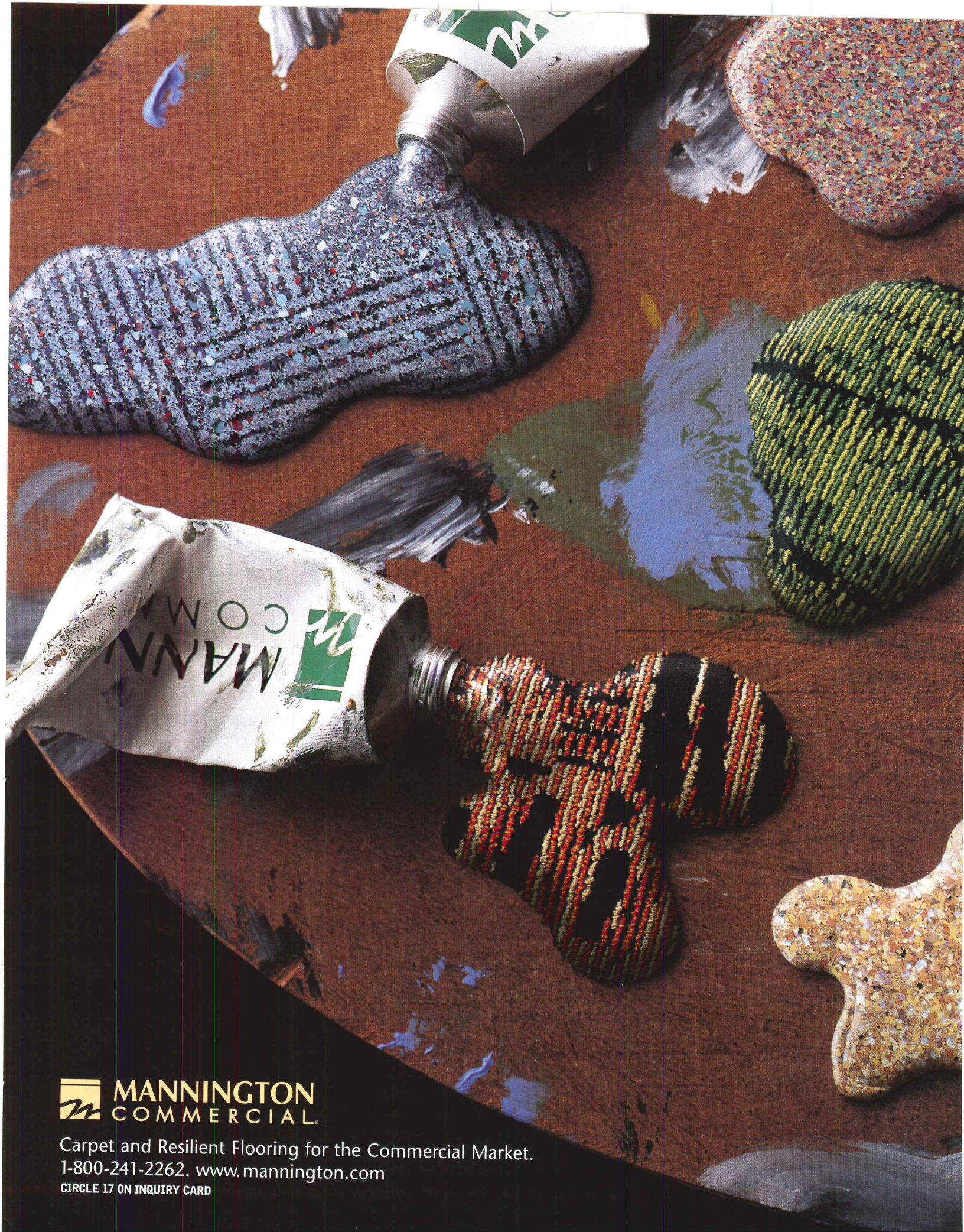
OUR PROVEN SYSTEMS, ENGINEERING EXPERTISE AND MANUFACTURING FACILITIES TRANSLATE INTO **VALUE-ENGINEERED SOLUTIONS** THAT ALLOW YOU TO REDUCE YOUR PROJECT'S CONSTRUCTION TIMEFRAME WHILE SAVING ON THE COST OF MATERIALS AND LABOR. FOR MORE INFORMATION, PLEASE CALL YOUR NEAREST HAMBRO OFFICE OR DIAL 1 800 546-9008 AND ASK FOR GARY COLLINS, HAMBRO MARKETING MANAGER.

hambro®
SOLUTIONS + SERVICE

http://www.hambrosystems.com

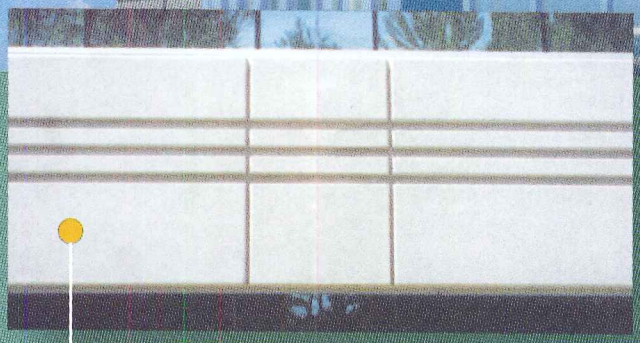
* NUMBER OF HURRICANES THAT HIT THE ATLANTIC BASIN FROM 1995 TO 1999.

CIRCLE 16 ON INQUIRY CARD


MANNINGTON COMMERCIAL
Carpet and Resilient Flooring for the Commercial Market.
1-800-241-2262. www.mannington.com
CIRCLE 17 ON INQUIRY CARD

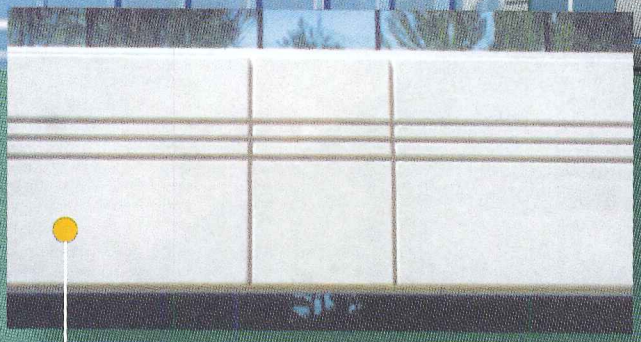
MANNINGTON
COMMERCIA

Quit Stonewalling



Precast

- Appx. installed cost $32/sq. ft.*
- Appx. lead time 6-12 months

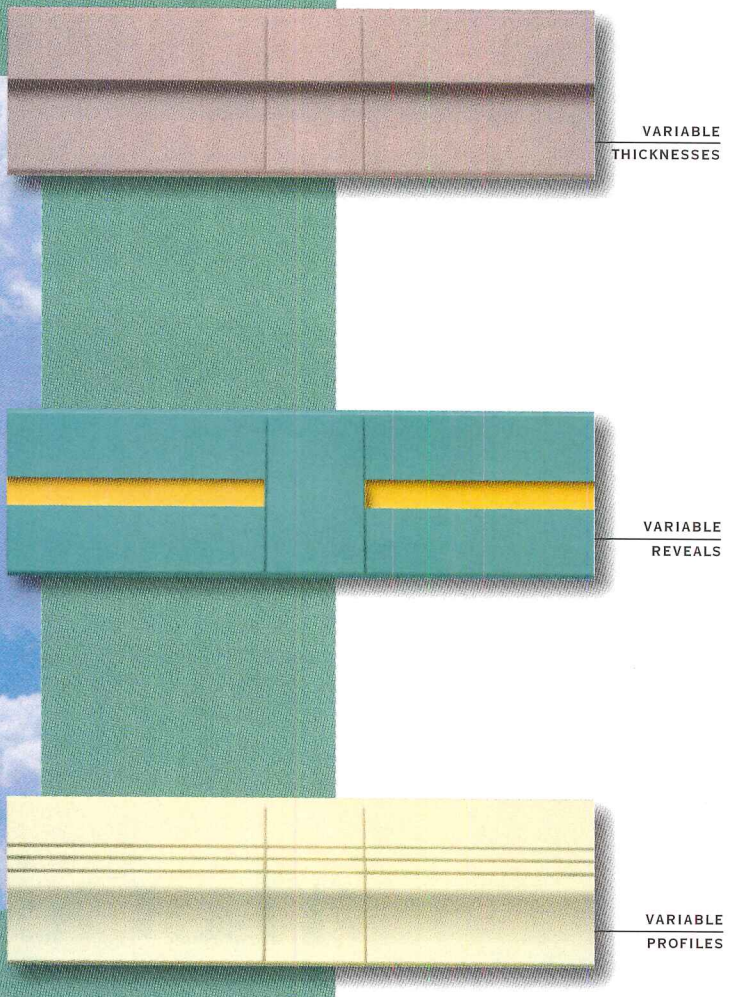


Dimension Series Panels

- Appx. installed cost $25/sq. ft.*
- Appx. lead time 6-12 weeks

DIMENSION SERIES
A Product For The New Millennium
As selected by Architectural Record

*Based on average material and labor costs for complete curtainwall including supports.



CENTRIA's New Formawall® Dimension Series®

Architectural Metal Panels

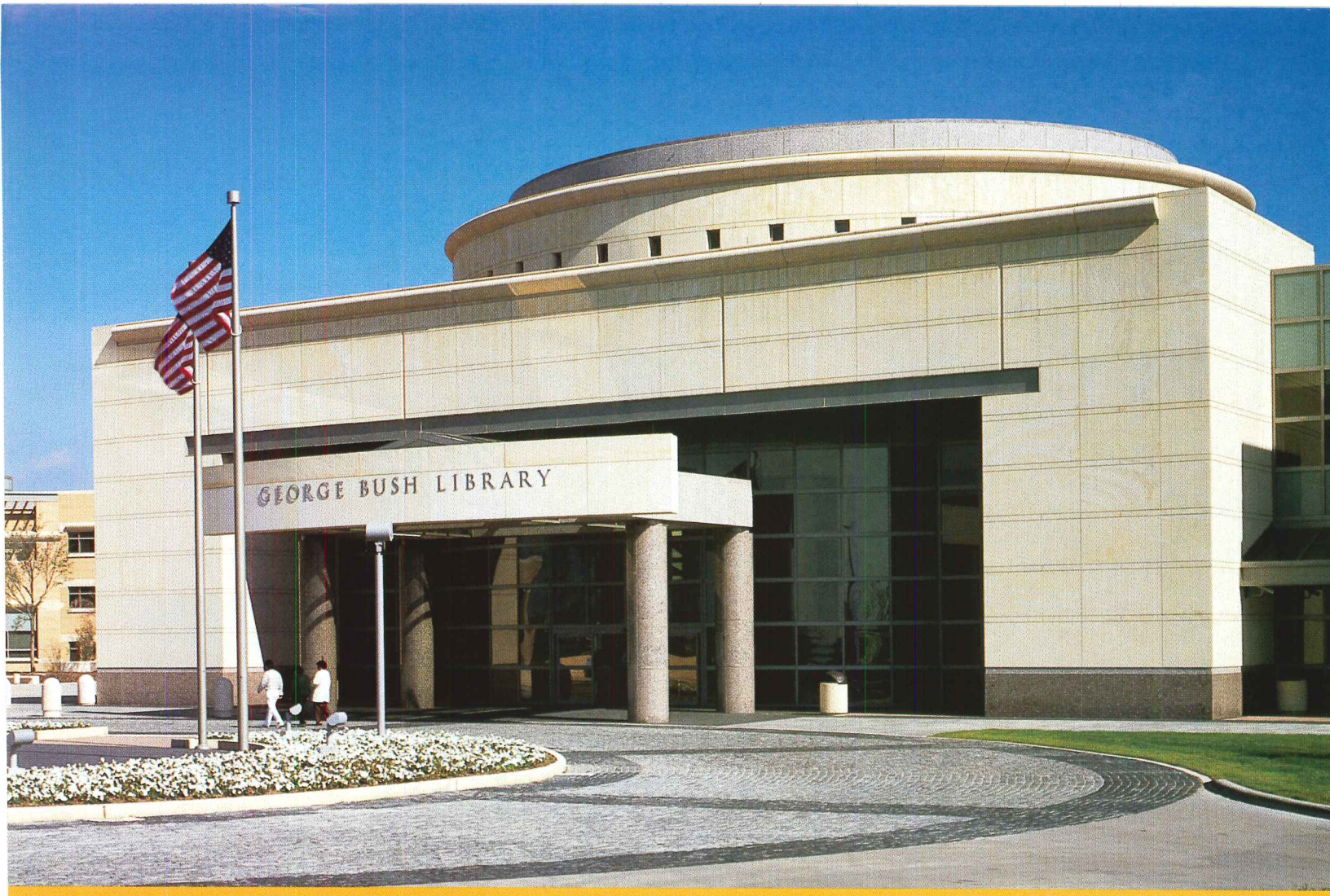
CENTRIA's new Dimension Series panels are more attractive, colorful, and versatile — and you can get them ight now without waiting! Dimension Series panels give you everything precast doesn't. Like lower installed cost. A brilliant pallette of over 100 colors. Integral insulation. Lightweight, weathertight construction. And a wide range of thicknesses, profiles and reveals that give you virtually limitless design freedom. So quit stonewalling. Contact CENTRIA today for your personal presentation and add new Dimension to your design.

You've settled for precast long enough.

CENTRIA

CENTRIA Architectural Systems

1.800.752.0549
www.centria.com
CIRCLE 18 ON INQUIRY CARD



Architect: HOK; Photo: Erhard Pfeiffer Phot

The George Bush Presidential Library Center was insulated with Tuff-R®"C" because it was the most intelligent choice.

One more way to build on our knowledge

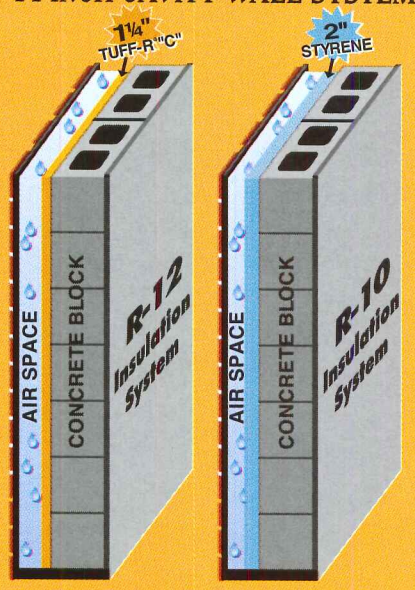
Original insulation specifications for the George Bush Presidential Library Center calling for 2 inch insulation board with an R-value of 10, were not cost efficient.

A specification change to **11/4 inch** Tuff-R®"C" Commercial Insulating Sheathing did even more than reduce cost. An additional **3/4 inch** dead air space in the cavity wall, coupled with the reflective foil facer yielded an additional 2.1 R-value for a combined total of **R-12.** According to the ASHRAE Handbook of Fundamentals, that's a 20 percent increase relative to the original specification.

The benefits don't even stop there. The additional air space allows **faster moisture evaporation** and ease of application increases **labor efficiency** as construction erection tolerances become less critical.

Tuff R®"C" is supported by a **15-Year Thermal Warranty.** For more information visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the company you can talk to."

14 INCH CAVITY WALL SYSTEM



MORE AIR SPACE
HIGHER R-VALUE

Celotex

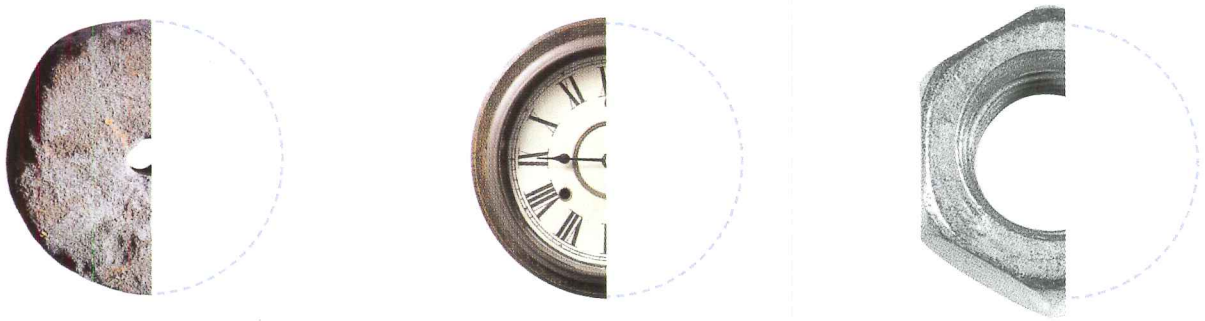
Build On Our Knowledge™

CIRCLE 19 ON INQUIRY CARD

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

© Celotex Corporation. 2/00

Visit us
at the AIA Expo
in Philadelphia
May 4-6 2000, Booth #1333



Half of a great idea...
is just that

MERIDIAN PROJECT SYSTEMS DELIVERS

Meridian Project Systems offers the AEC industry's only complete project management solution.

Prolog has long been known to be the best project management solution and it just got better! Announcing the Meridian Project Pack v6 running on Microsoft SQL Server 7.

The Meridian Project Pack includes:

- **Prolog Website**–Collaboration application designed for the project team.
- **Prolog Manager**–Power application designed for project managers.
- **Prolog Executive**–Data mining application for executives.
- **Prolog Pocket**–Data collection application designed for the field.

And the power of Prolog is now available as an internet hosted solution at ProjectTalk.com.

We don't know why anyone would settle for less.

ProjectTalk.com
where the project team meets

Meridian Project Pack is available by subscription @ ProjectTalk.com

MERIDIAN PROJECT PACK
Powered by Prolog™

Meridian PROJECT SYSTEMS

For information call (800) 850-2660
or e-mail sales@mps.com
www.mps.com
www.projecttalk.com

Microsoft Certified Solution Provider

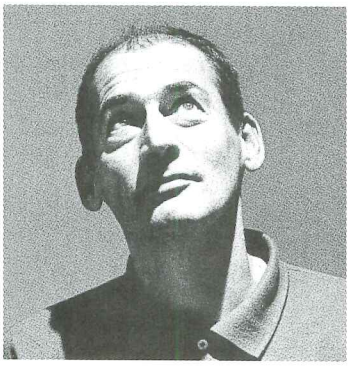
CIRCLE 20 ON INQUIRY CARD

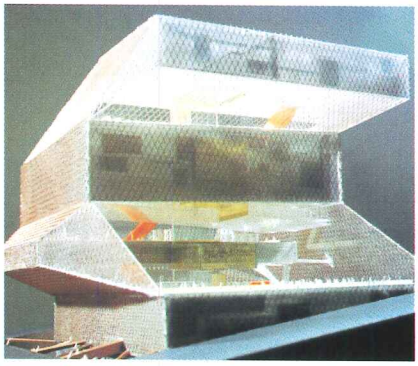
©2000 Meridian Project Systems, Inc. All rights reserved.

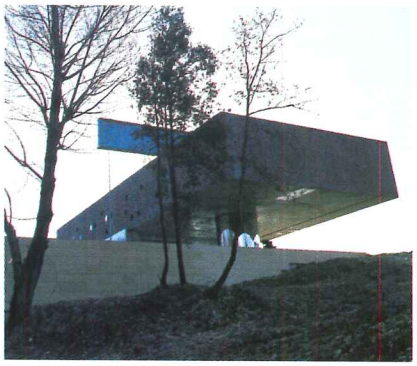
Record News

Bulletin New Pompidou eatery p.43
SMWM gets Boston's Big Dig p.44
Stadium parade goes on p.47
Turkey's Israel Village p.52

NEW RECOGNITION FOR A DUTCH MASTER: REM KOOLHAAS TAKES THE PRITZKER







Koolhaas; a preliminary design for the Seattle public library; the Bordeaux house (left to right).

Rem Koolhaas, a 56-year-old Dutch architect who has exerted a profound influence over a new generation of architects in the Netherlands and beyond, won the Pritzker Architecture Prize for 2000. The prestigious award includes a $100,000 grant and will be presented in Jerusalem on May 29.

Koolhaas cofounded the Office for Metropolitan Architecture, now based in Rotterdam, in London in 1975. One of his earliest plans, for the expansion of the Dutch parliament, generated high interest, and a string of commissions followed. Notable completed works include the Netherlands Dance Theatre; the Educatorium, a multifunction building for Utrecht University; a master plan and the Grand Palais for Lille, France, Koolhaas's largest completed urban planning project; and Nexus Housing in Fukuoka, Japan, consisting of individual three-story houses. The architect's Bordeaux house, catering to a client in a wheelchair, was named best design of 1998 by *Time.*

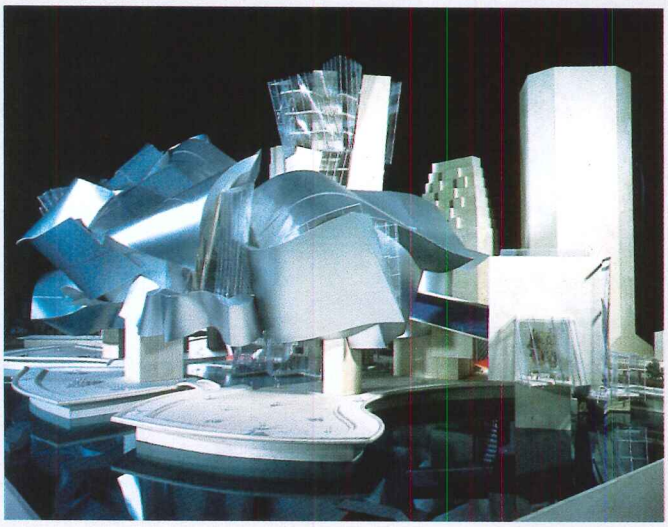
The Museum of Modern Art in New York City has already had two exhibitions devoted to Koolhaas's ideas, but his ideas are not always popular: Koolhaas's preliminary designs for a new public library in Seattle are meeting resistance. The architect, however, doesn't mind conflict. "I am intolerant of anything that is not brutal and direct," he said in April in New York City. "Architects are agents of private enterprise," he added. "[We are in a] new regime—of globalization, of the ultimate modernization. Residue of old legitimate architecture remains, but architecture has changed fundamentally, at top speed."

Koolhaas is also an author whose books are widely read. In 1978 he published *Delirious New York,* a subjective history of New York City, and *S, M, L, XL* followed in 1994. *The Harvard Design School Guide to Shopping,* to be published next month by Monacelli Press, grew from a studio Koolhaas conducted at the GSD, and addresses the architecture of mass consumption.

Koolhaas is at work on a master plan and headquarters for Universal Studios and a student center for the Illinois Institute of Technology, and he has just teamed with hot Swiss firm Herzog & de Meuron to design a hotel in downtown Manhattan. *Soren Larson*

GEHRY'S NEXT GUGGENHEIM? The Guggenheim Museum and Frank Gehry, FAIA, have revealed what could be their next collaboration: a dramatic new branch of the museum to be built on East River piers in lower Manhattan. Though the project is speculative at this point, it provides a glimpse of the ambitious ideas Gehry and his client have for New York City. The museum envisions a 550,000-square-foot structure, characterized by Gehry's flowing and sculptural forms, with a price tag of as much as $900 million. "I will not make a building that is a copy of Bilbao," Gehry said in an April press conference. "We're using what we've learned at Bilbao—some of the programming will be the same—but this will change." Referring to the well-known lower Manhattan skyline, Gehry said, "I promise to be a good neighbor."

The Guggenheim decided several years ago that it wanted a new building in Manhattan, preferably on the water. The East River site is overseen by the New York State Economic Development Corporation, which will rule on the Guggenheim's proposal; if the answer is no, the city will probably help find another suitable site in Manhattan, according to Guggenheim director Thomas Krens. "I think we *will* build it," noted Gehry. *S. L.*



AIR DISTRIBUTION

Art and air distribution become one.
Integrate imaginative design concepts into functional architectural solutions. Style. Performance. Aesthetics. Brought together utilizing the elegant lines and graceful curves of Formations Custom Linear Air Diffusers.

formations
exclusively at METALAIRE

DIRECTORY CATALOG CD ONLINE

Architects' First Source
CMDGROUP

E-MAIL: formations@metalaire.com **WEB:** www.metalaire.com **PHONE:** 727 441 2651

CIRCLE 21 ON INQUIRY CARD

MAYOR VERSUS COUNCIL IN SEATTLE DESIGN TIFF

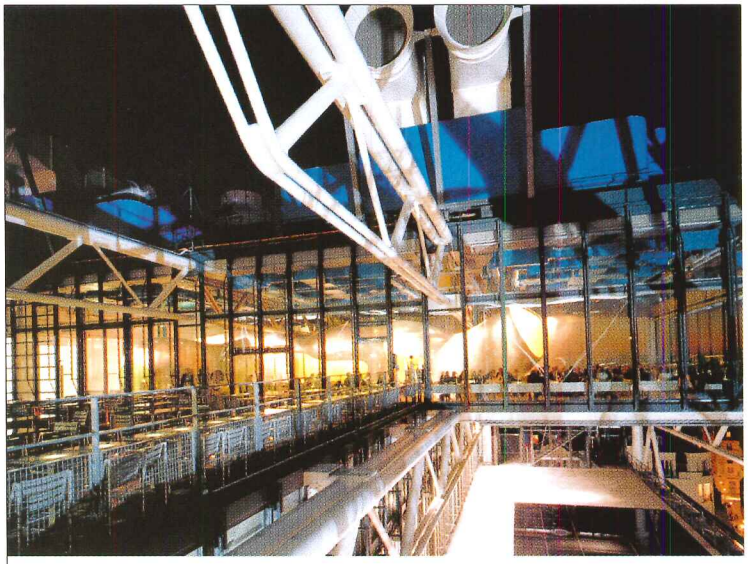
Images of tear gas, police in riot gear, and boarded-up windows during the World Trade Organization protests last November are still fresh in the minds of Seattleites considering recently unveiled plans for a new city hall. Feedback from a series of public workshops reviewing the project repeatedly revolves around the question, What is the appropriate symbolism for democracy for 21st-century Seattle?

Peter Bohlin, FAIA, of Bohlin Cywinski Jackson Architects, working with Bassetti Architects, replied with a transparent and pragmatic scheme praised by Mayor Paul Schell, HON. AIA, for its spirit of openness and accessibility. But city council members, led by Peter Steinbrueck, AIA, raised objections to the design and asked for a "stronger Northwest expression."

As proposed by Bohlin, the heart of the 183,000-square-foot, $66 million project is a glass-roofed, two-story lobby connecting the curved, metal-clad city council chambers on the south edge of the site to a six-story office block on the north. Council members oppose the 100-foot-long "catwalk" that connects their offices to the chambers. Schell's response: "Learn to walk a little bit." Steinbrueck also questions the placement of council analysts on the floor above council members in the office block.

Council members asked for three alternative designs to review by mid-May, including a scheme that would place council members and analysts on the same floor by covering over the atrium.

Also this month, Gustafson Partners, with Swift & Company Landscape Architects (both of Seattle), will also present a design for the plaza that shares the other half of the one-block site. The city hall and plaza form the centerpiece of a $226 million civic campus that includes a new $92 million municipal courthouse designed by NBBJ. Groundbreaking for the city hall is expected next spring, with occupancy in 2003. *Sheri Olson*



FASHIONABLE EATERY WITH DRAMATIC VIEWS ENLIVENS TOP FLOOR OF REVAMPED POMPIDOU

When Pompidou Center in Paris reopened in January after a two-year renovation, it was cleaner and better organized than before, though Renzo Piano and Lord Richard Rodgers' original architectural framework remained largely unchanged. What a surprise, then, to encounter Georges, a dramatic 8,200-square-foot restaurant designed by Paris-based architects Dominique Jakob and Brendan MacFarlane, on the top floor.

Charged with turning the existing museum cafeteria into a chic destination, Jakob and Macfarlane have created architecture that focuses the space without encroaching on its largely glass perimeter. Four freestanding aluminum shells rise up like molten bubbles from a brushed aluminum floor. The deformed shapes, requiring complex computer analysis in order to be built, were constructed by a shipbuilder. Each aluminum shell is lined in a different color rubber: red for the VIP lounge, pistachio for the coat check, gray for the kitchen, and yellow for a transitional exhibit space. Guests are seated along the windows to take advantage of dramatic views.

Georges is managed by the Costes family, who is also operating the new, more casual cafe in the entry atrium designed by Renzo Piano. *Claire Downey*

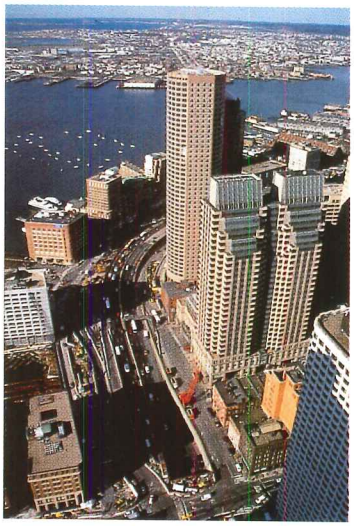
THE DOT LOOKS FOR "LIVABILITY" **The U.S. Department of Transportation has awarded $31.1 million in grants as part of a program that it says will help make communities more "livable." The Transportation and Community and System Preservation program (TCSP) aims to deal with such issues as making transportation more efficient and reducing its sometimes harmful environmental impact, while giving new life to "brownfields." Transportation Secretary Rodney E. Slater calls it "an innovative program that recognizes the close link between transportation and the environment, as well as the importance of development for a community."**

A panel of officials from the DOT and the Environmental Protection Agency picked 84 grant winners from 327 applications. Some of the grantees had a leg up in the competition through congressional "earmarks" for their projects, which lawmakers had already inserted in legislation. The awards, announced on March 17, are the second annual round of the program, which was authorized in the 1998 Transportation Equity Act for the 21st Century. That law authorizes $120 million over five years for TCSP. "I think this is a great program," says Dan Wilson, the AIA's senior director of federal affairs. "It's one of the little, hidden jewels in TEA-21." For architects, he adds, "It gets them in the game to design livable communities."

Barbara McCann, of the Surface Transportation Policy Project in Washington, D.C., says the competition "has been incredibly intense for TCSP funds." Projects haven't been developed just by planners behind closed doors, she says, but with active involvement from community groups. That participation has brought a "fresh eye" to the question of how to link transportation and land use. "It's really an incubator for new ideas," McCann says.

The largest awards in this year's round are $1.7 million for Omaha's "Back to the River" plan and $1.5 million for an intermodal facility in Richmond, Va. But most of the grants are under $1 million and are for small planning projects, such as a grant of $150,000 for an alternative land-use assessment in St. Lucie County, Fla. Applications closed Jan. 31 for the 2000 round of the program. DOT expects to announce the winners in October. ***Tom Ichniowski***

SMWM GETS BIG JOB FOR BOSTON'S BIG DIG

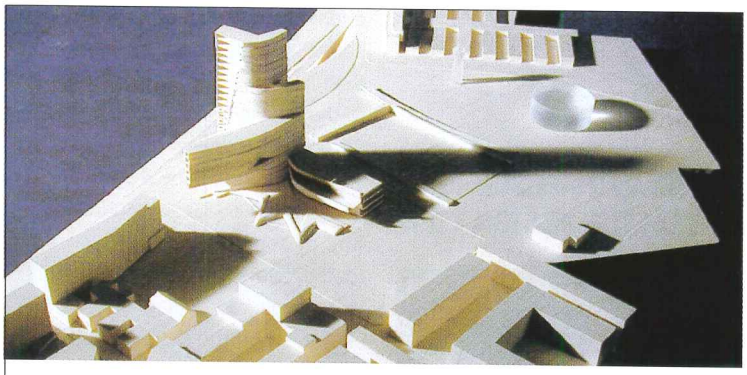


In 1982 the city of Boston courageously decided to reunite its downtown with the waterfront by rerouting the then-elevated Central Artery freeway underground. The project also includes the now-open new tunnel under Boston Harbor to Logan Airport and the yet-to-be-built underground connection to the Massachusetts Turnpike.

The entire mammoth project, known as the Big Dig, is scheduled to be completed in 2004. Though this date is three years away, a new question has arisen: what to do with the swath of land that will cover the new underground artery? In other words, how does one put the city together again?

In March, the Massachusetts Turnpike Authority and a panel of experts selected the San Francisco firm Simon Martin-Vegue Winkelstein Moris (SMWM), in collaboration with the Cecil Group and the Halverson Company, both of Boston, to design the urban fabric that will stitch the city back together. The team is building upon its local success in designing Post Office Square in Boston's financial district, but with the Central Artery Corridor they face a larger and far more complex task: The first phase of the work will be a year-long process of public planning and participation to master plan the huge site, identify areas to build on, develop a set of programs for the open spaces, and complete a conceptual design for those spaces.

Due to its scale and location, there is significant public interest in the project. The citizens of Boston have already weathered years of construction traffic, noise, and detours. They will surely have visions of what they want and need from the newly opened spaces. SMWM is well known for its innovative public workshop facilitation; according to SMWM principal and the project's director Karen Alschuler, "Large teams and tough urban design challenges are the lifeblood of the SMWM team." The firm has a long road ahead. *Lisa Findley*



BARCELONA FIRM TO DESIGN SCULPTURAL TOWER FOR LOCAL HEADQUARTERS OF SPANISH UTILITY

Barcelona architects Enric Miralles and Benedetta Tagliabue have won a competition to build the Barcelona headquarters of Gas Natural, a division of one of Spain's largest companies. Their dramatic, sculptural tower, a collage of curving volumes that includes a 130-foot cantilever six stories above the ground, will be built on the site of a former gasworks near the Mediterranean, between the old fishermen's neighborhood of the Barceloneta and the Olympic Village.

The competition followed guidelines established by the city in an effort to promote quality architecture in private developments. The competition was required by the city in exchange for the zoning variance that permits the building's exceptional 280,000-square-foot bulk, achieved by combining development rights from two sites. Miralles says his studio's design responds to the different scales of the structures and spaces surrounding the site (which include small apartment buildings, institutional and industrial facilities, seaside highways and train lines, and a large park) through "the fragmentation of the buildable volume into a series of constructions." But he notes that these fragments will, "in the end, form a unified whole."

He describes the building's soaring cantilever as "a great portal" to the intimate streets of the Barceloneta. The curving, horizontal cantilever, hairpin-shaped in plan, is counterbalanced by the vertical volume of the 20-story tower. Their fenestrated facades are enclosed in translucent screens that serve to filter sun, air, and noise. The facades are punctured by overscaled windows.

While the building is considerably smaller than the nearby twin towers of the Olympic Port, its formal energy assures it a prominent place on the Barcelona skyline. *David Cohn*

HERZOG & DE MEURON GO FOR A WALKER **For its proposed 110,000-square-foot, $50 million expansion, the Walker Art Center in Minneapolis selected Herzog & de Meuron, a firm based in Basel, Switzerland, whose latest design direction intertwines with the current museum mission.**

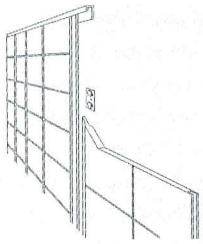
The Edward Larrabee Barnes–designed Walker, of 1971, is essentially a series of windowless, rectilinear galleries radiating from a stair and elevator core and sheathed in a plum-colored brick. In this inward-looking building, daylight and views outward are negligible, a restraint culminating in the museum's rooftop terrace galleries. The Minneapolis Sculpture Garden, an 11-acre front porch inaugurated in 1988 and expanded in 1992, manifests a more inviting and inclusive attitude.

The sculpture garden not only highlights the Walker's renowned collection, it better integrates museum and community. This perspective will guide the proposed expansion, to be completed by 2005. Herzog & de Meuron's innovative building skin and glazing will stand in radical contrast to the opaque Walker. At the same time, the expansion promises an architectural transparency to signal the Walker's goal of creating a "town square"—a public gathering space centering on a facility that will double in size.

In addition to the Walker itself, two distinctive modern buildings must be considered in expansion plans. The Allianz Building, a 1947 office facility recently purchased by the museum, might be integrated. The Walker also owns land occupied by the Guthrie Theater (designed by Ralph Rapson in 1963), tethered to the museum by a common lobby. The Guthrie's plans for a new, separate building have provoked debate over the status of its current home.

These issues will be addressed when expansion concepts are unveiled within the next six months. It is hoped the architects won't encounter the kind of resistance to their ideas that led to their recent resignation from a commission to design an art museum at the University of Texas [December 1999, page 67]. *Todd Willmert*

Marlite Plank has long been recognized for its highly durable, easy-to-maintain finishes. Now, an ever-expanding palette of contemporary patterns, solids and woodgrains offer more aesthetic choices than ever before. The 16" wide planks can be scored with a grid pattern, or vertical scorelines only. Contact us today for more information about Marlite Plank.



Tongue and groove planks install easily to subwall with adhesive and clips.

Marlite

(330) 343-6621 Fax: (330) 343-7296
www.marlite.com e-mail: info@marlite.com

STADIUM PARADE GOES ON WITH MONTREAL, SAN DIEGO DESIGNS

New baseball stadiums will soon be drawing fans in Montreal (top) and San Diego (bottom).

In the continuing effort by North American cities to boost downtown renewal and generate income from new sports stadiums, San Diego and Montreal have turned their attentions to baseball. Each town is using dramatic but intimate architecture to give fans more reason to take in a ballgame.

Antoine Predock, FAIA, has designed a new San Diego ballpark—construction of which begins this month—that he hopes will merge with the urban setting and surrounding natural landscape. His scheme avoids what he terms the "retrostadium" idiom (e.g., Camden Yards), as well as the modern freestanding object (e.g. Yankee Stadium). Situated downtown, near convention and warehouse facilities, the 44,000-seat stadium will have both an urban and a soft edge.

With a layered urban facade and tiers of stacked bleachers, Predock intends to create topological complexity while maximizing commercial and retail space: 400,000 square feet of mixed-use space is tucked into the envelope. The landscape element is amplified by Centerfield Park, a public park just beyond the outfield wall. Five entrances create varied processional experiences. The primary entry plaza features wide stairs, a water cascade over a sandstone wall, and a palm court. Metaphorically, the stadium design alludes to the distant landscape—the ochre stone terraces of Torrey Pines Bluff—in materials and forms.

As design architect—the project also involves landscape architects Spurlock Poirier and architects HOK Sport and ROMA, which devised the district plan—Predock knit together the multifaceted program within the larger context of an urban design plan. Parking structures, light rail, coaster train, and pedestrian systems will converge to provide varied intermodal access to this architecturally diverse, anti-monumental arena.

A new home for le baseball

The owners of the Montreal Expos are constructing a 36,287-seat stadium for the baseball team in the city's downtown core, a five-minute walk from St. Catherine Street, the main commercial thoroughfare. The open-air stadium, designed by Provencher Roy et Associes Architectes, will include private boxes, an exclusive club from dugout to dugout at field level, underground parking for about 650 cars, commercial space, and office facilities for the baseball club's management. The venue will be ready for the 2002 season.

Following the trend set in such cities as Baltimore and Cleveland, Claude Provencher says the stadium is intended only for baseball games: "It's not a big stadium—it's very intimate. The budget ($135 million) is lower than any comparable stadiums built in the U.S. over the past 10 years."

The envelope is made mainly of steel and glass, with concrete stands and floors. "We were conscious of the cost, but also ambience. A low budget doesn't necessarily mean cheap," notes Provencher. The Expos now use the Olympic Stadium, which, Provencher says, isn't ideally shaped for baseball games; it also has a fixed roof, which means fans have to watch games under partial cover during pleasant weather.

Provencher's firm, which won the commission in a local competition, has also designed tennis and football stadiums in Montreal. *Gavin Keeney (San Diego) and Albert Warson (Montreal)*

PHOTOGRAPHY: © PROVENCHER ROY ET ASSOCIES ARCHITECTES (MONTREAL); ANTOINE PREDOCK ARCHITECT

SPEAKMAN

www.speakmancompany.com
1.800.537.2107

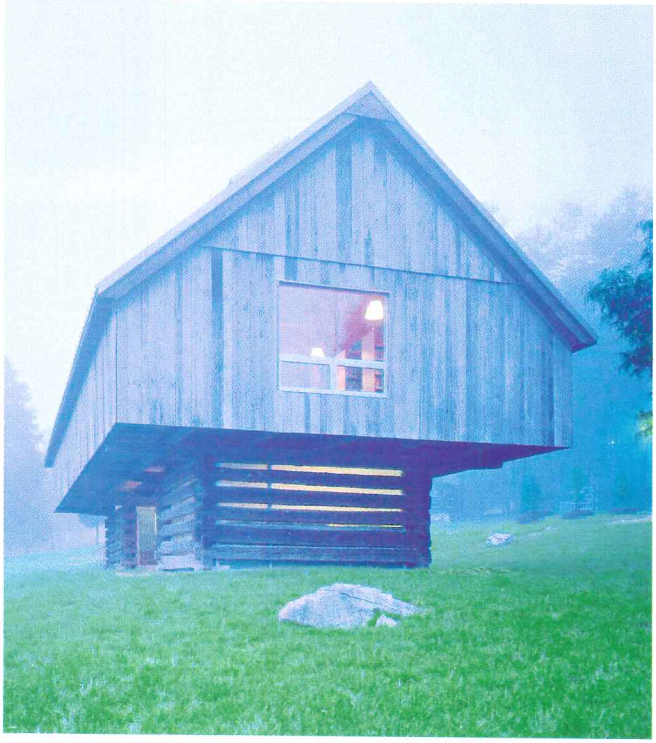
CIRCLE 24 ON INQUIRY CARD

LIN FINDS NEW USE FOR OLD BARN AT LANGSTON HUGHES LIBRARY

On the grounds of the Children's Defense Fund (CDF) retreat and conference center in Clinton, Tennessee, stands a building that resembles a stocky figure shrouded under a large umbrella. The "cantilever barn"—so-called because the horizontal beams of the upper level loft extend well beyond the vertical supports of the two animal pens beneath—speaks the architectural vernacular of 19th-century East Tennessee, a plain language of silvery, time-worn siding, rough logs, and minimal geometries.

The barn's unusual form compelled designer Maya Lin to recycle it when the CDF retained her to design a library for its 157-acre site. The library honors Langston Hughes, the poet laureate of the Harlem Renaissance, and is located on the former farm of novelist Alex Haley.

"I'd never seen a shape like that before and wanted to save it," Lin says. "Once I realized that the book collection was small and the library would be used as an intimate gathering space, I came up with the concept of an elevated reading room."



Lin's library concept involved deconstructing an old barn exterior and then reconstructing it around a new steel skeleton.

A new use for tradition

In sliding a new library into a 19th-century architectural tradition, Lin turned a design stereotype—a Shaker chest in a Modernist living space—inside out. Here, its envelope is an artifact of folk functionalism and its interior the self-conscious expression of a complementary ethos.

Lin worked with Margaret Butler of Martella Associates, the Knoxville firm that served as architect of record, to deconstruct the barn exterior and reconstruct it around a new steel skeleton. External clues that what lies within is strictly contemporary include large skylights in the new standing-seam metal roof and broad panes of glass on the loft's gable end that open up sightlines to the nearby pond. Most dramatic is the lining of translucent glass inside the former ground-level pens, which now contain a tiny gift-and-book shop on one side and stairs and elevator on the other. In Butler's words, the glass between the unchinked logs "glows like a Chinese lantern" at nightfall.

A contemporary interior

Lin has crafted an interior featuring maple floors and particle board panels for the walls and ceiling. She also designed the library's furnishings, using budget materials such as a soybean-based particle board for the table tops that reads as blue granite.

"I wanted to make a real cut between outside and inside," Lin says. "There didn't seem to be much point in preserving the rustic feel of the barn's interior" because the new functions were to be so different from the old. The library was dedicated last year and houses 4,000 volumes of African-American literature and history.

Lin now has another commission from the CDF—a chapel, which is currently in the schematic design phase. According to her studio design assistant, Nicole Pillorge, the program and construction dates are still in a "liquid state. Only the shape is determined." Lin describes the form as "a nun's hat." To Pillorge, it resembles "a ship's hull," with a ceiling of curving ribs and bowed walls of laminated wood. Either metaphor, like the barn-turned library, illustrates Lin's ability to recognize the sculptural possibilities of architecture.

Christine Kreyling

It's either the wettest spot on earth or the driest.

Depending which side of our window you're on.

Dan Stokes,
Product Testing Manager

It doesn't rain all the time in Bend, Oregon. Only when Dan Stokes wants it to. You see, Dan tests the seals of our wood windows to help ensure your customers' satisfaction. Thus, the 8 inches of rain per hour. Hurricane force, 155 m.p.h. winds, and countless other Dan-made extremes. Thanks to a sturdy 20/10-year warranty*, our windows are an attractive choice you can live with. After all, they've already had to live with Dan.

POZZI
WOOD WINDOWS®
Part of the JELD-WEN® family

HANDCRAFTED IN BEND, OREGON.™

CIRCLE 25 ON INQUIRY CARD

Free catalog: 1-800-257-9663 ext. P10.

Or visit us at www.pozzi.com

Italian stone...

CIRCLE 26 ON INQUIRY CARD

LANDMARK SAN DIEGO MUSEUM PLANS TO DOUBLE IN SIZE

The San Diego Natural History Museum is bursting at its seams, but not for long. Thanks to a $38-million expansion and renovation, the museum will more than double its size and triple its exhibition space. This is welcome news for a 1930s historic landmark that's cramped for space, as only one phase of the original six-phase master plan was completed. When the Depression hit, plans to add to the 65,000-square-foot museum were scrapped, as were all subsequent expansion attempts.

An atrium above and new space below

The most striking feature of the expansion will be a six-story glass-roofed atrium, which could become "one of the major civic rooms in San Diego," predicts Richard Bundy, FAIA, whose San Diego firm, Architects Richard Bundy & David Thompson, designed it. Since the amount of land for the expansion was limited, the architects also placed 35,000 square feet of the new structure underground.

The most striking feature of the expansion will be a six-story glass-ceilinged atrium.

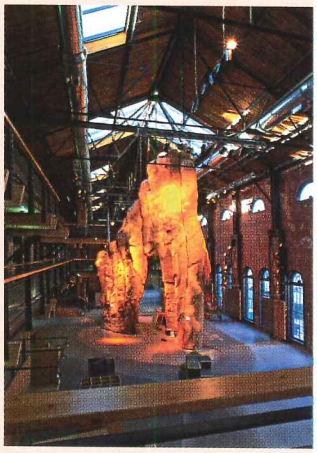
During the five-year planning phase, the architects held about 200 meetings and conducted a three-day design charrette seeking input from museum staff and community leaders. The firm had a 5,000-entry mailing list for the project. "We accommodated and incorporated 90 percent of the ideas people had into the building," Bundy says. His firm also sought approval from local, state, and national historic preservation officials—a process that took more than two years. The expansion is scheduled for completion in July 2001.

The museum, originally designed by San Diego architect William Templeton Johnson, is located in Balboa Park, on the edge of the business district. *Susan R. Bleznick*

RETAILER FINDS DENVER HOME IN A POWER HOUSE **When executives from Recreational Equipment (REI), the Seattle-based outdoor gear-and-clothing retailer, first laid eyes on Denver's old Tramway Power House building, it was love at first site. Built in 1901 to supply coal-generated power to the city's trolley car system, the red-brick, neoclassical structure had served as a transportation museum since 1969, but was in horrible condition—water, asbestos, lead, and ash had damaged or contaminated many sections—and the owner had decided to sell. REI was convinced that the mammoth building, on the South Platte River not far from downtown, would make the perfect home for one of its giant flagship stores. Two years and $20 million later, the 90,000-square-foot structure has been transformed into a showcase for environmentally sensitive historic preservation.**

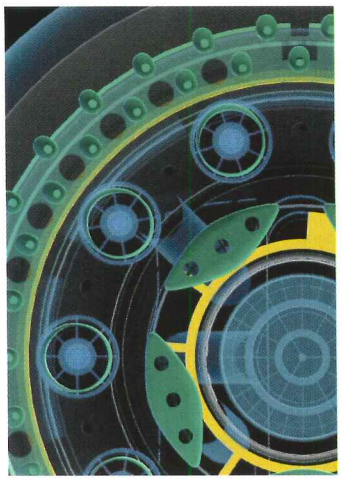
Mithun Partners, which designed REI's much-celebrated Seattle flagship store (March 1997, page 94), restored the building's crumbling exterior to its original design. Inside, the firm left intact many elements, including riveted steel braces and an old coal hopper, while adding stairs, skylights, display areas, and additional bracing. Reclaimed timbers from an abandoned mine became stair supports. Particle board made from post-industrial waste went into wall elements, cabinets, and merchandise fixtures. Large skylights now allow ambient electric lighting to automatically shut off when sunlight reaches certain levels.

Visitors enter the Denver store at the very spot where train cars used to unload coal. Inside the sprawling building, shoppers may take advantage of some of the same "entertainment retail" features incorporated into the design of REI's Seattle store, including a "cold room," where customers can test parkas in sub-zero temperatures, and a 45-foot-high rock climbing tower (right). "We tried to make the top of the pinnacle [of the tower] a mile high," laughs Jerry Chevassus, REI's vice president of store development, "but we found out that it would have to go about 10 feet above the roof." *David Hill*



Quick-Clean™

hansgrohe



Hansgrohe has been at the forefront of innovation for many decades. Our self-cleaning function Quick-Clean™ is yet another testament to this continuous stream of technological advances produced by our engineers.

Keeping a showerhead clean has never been as simple as with Quick-Clean. Every time the spray mode is changed, an array of pins extend through the spray holes and mechanically dislodge any debris or mineral deposits that are clogging-up the spray channels.

Hansgrohe, Inc. • 1490 Bluegrass Lakes Pkwy • Alpharetta, GA 30004 • Tel. 770 360 9880 • Fax 770 360 9887
www.hansgrohe-usa.com

CIRCLE 27 ON INQUIRY CARD

We Make Restrooms

Showers & Concession Buildings

Specify Romtec pre-engineered buildings with confidence. We offer:

- AutoCAD® drawings & specs by email
- Same-day quotes & install estimates
- Complete building kits to your site
- Prompt, professional service

Call for FREE Video & Catalogs
541-496-3541

ROMTEC
Restroom Design & Engineering Specialists

www.romtec-inc.com
Email: romtec@rosenet.net
© 2000, Romtec, Inc.

CIRCLE 28 ON INQUIRY CARD

ARCHITECTURE TO THE RESCUE: TURKEY'S ISRAEL VILLAGE

Winter was just two months away when Israeli Defense Ministry officials offered to help provide temporary housing for victims of last August's devastating earthquake in northwestern Turkey. With a basic program, they turned to U.S.-educated Israeli architect Shalom Kelner, 62, to design the project on the outskirts of Adapazari, now known as the Israel Village.

Kelner believed a semblance of normalcy would return only if he provided a renewal of community life: a school, a clinic, playgrounds, parking areas, and spaces for social interaction. Fabricated in Israel, the units had to be sturdy enough to withstand shipping. Kelner chose used marine shipping containers as his basic building blocks: he joined two containers lengthwise to form each 320-square-foot dwelling unit. Twelve units around a square courtyard compose a dwelling cluster that fosters neighborly relations and children's play.

Each unit includes two bedrooms, a bathroom with toilet and shower, and a multipurpose area with a kitchenette and dining space. Sheetrock insulation with gypsum-board facing provides protection against the cold, and the double wall muffles sounds between the bedrooms. A vestibule between the entry and an interior door allows for wet clothing removal and the local custom of removing one's shoes before entering the home.

Every detail was discussed with Turkish officials so as to meet local needs. Furnished with basic amenities, each of the 312 dwelling units cost $15,000. The Israeli government put up approximately $4.8 million for the project, and another $1 million came from the Israeli public and Jewish and Israeli organizations.

Kelner incorporated the use of color on the exterior, in keeping with local architecture. The colors now help residents locate their homes. The plan also provided for a 10-classroom school, with each classroom built of four containers.

Crowded, but working

Late last October, the Village was inaugurated by the Israeli and Turkish prime ministers. Though as many as 17 inhabitants have crowded into a single unit, originally planned to hold six people, the process was deemed a success. Turkish architects and builders have been impressed by the project's emphasis on communal interaction, which tends to be underemphasized in their country's urban planning.

In mid-March, Sefanur Aydin, 30, sat sharing a cup of tea on the steps of her new neighbor's home. "It's amazing how much the neighbors help," she said. "If you have an emergency, you open a window and call your friend," added Fethi Sen, 66. Elsewhere, an outdoor engagement party was in full swing.

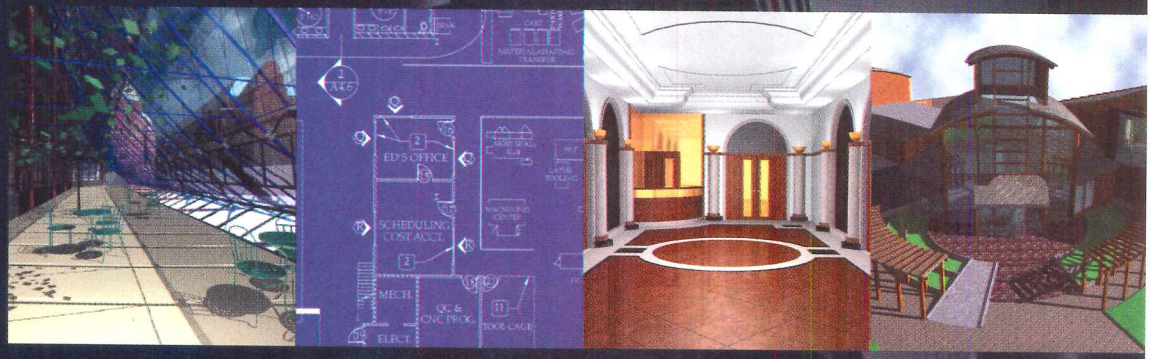
Wooden lean-tos, curtains, TV antennas, and flowering plants are all signs that the Israel Village is becoming home. *Esther Hecht*

Communal interaction, not stressed in Turkish urban planning, is a priority at the Israel Village.

www.vectorworksarchitect.com
1-888-646-4223

VectorWorks ARCHITECT

Delivers the promise of Architectural CAD



"VectorWorks ARCHITECT is a great program...I am currently getting re-trained in AutoCAD Architectural Desktop Revision 2...and it just doesn't stack up to VectorWorks ARCHITECT." —Edward Koenig, Carmelhill Drafting Studio

Isn't it about time someone addressed the promise of CAD?
Introducing VectorWorks ARCHITECT

Engineered and built by professionals in your discipline, ARCHITECT delivers on the promise of architectural CAD. It does everything CAD was supposed to do but didn't quite. Truly a better way to design, ARCHITECT integrates Design, Production and Project Management into a system that delivers unparalleled productivity—all at a price even the smallest firm can afford.

INTEGRATION

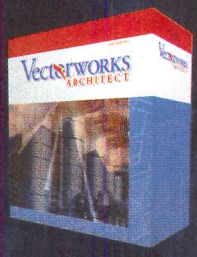
- Complete integration of your 2D plans, 3D models, reports, schedules & client presentations
- Scalable CAD standards make it easy to structure & manage documents

DESIGN

- Unprecedented tools for programming studies and analysis
- Thousands of "Intelligent" building Objects & 2D/3D architectural symbols
- State of the art Solar Animator

PRODUCTIVITY

- An easy system for archiving, placing, & managing notes
- Automatic creation of reports & schedules
- Project Management features including issue management, error & revision control, & workgroup referencing



Special Offer to Readers of ARCHITECTURAL RECORD

Save over $180 by purchasing VectorWorks ARCHITECT direct from Diehl Graphsoft for $1395 or without photorealistic rendering for $1140. Includes FREE Tech Support & a 90-Day Money-Back Guarantee.
*Existing VectorWorks users call for upgrade pricing.

Diehl Graphsoft Inc
Software for Today's Professional

CIRCLE 29 ON INQUIRY CARD

Have Lunch With Southern Pine

Lunchtime learning is the new rage at more offices of architects and engineers, where the staff enjoys a free brown bag repast while listening to a lively briefing on the uses of Southern Pine lumber.

It's the closest thing to a free lunch you'll find anywhere.

On the menu for your selection: lumber seasoning and grading, the latest design values and span tables, pressure-treated wood, engineered wood products, code conformance, timber supply and environmental stewardship, plus case studies of residential and light commercial construction using Southern Pine.

For dessert: a sprightly question and answer session.

Architects and engineers like the fact that we present a solid *how-to* technical, session on an essential building material, rather than a promotional pitch. You can earn continuing education credits, too.

Contact us if you'd like to have lunch with Southern Pine... we offer quite a menu!

SOUTHERN PINE COUNCIL

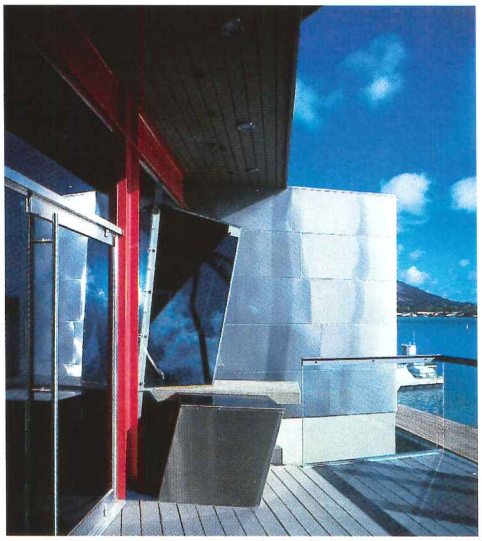
504/443-4464 FAX 504/443-6612
Box 641700 Kenner, LA 70064
www.southernpine.com

Wood: The Renewable Building Material

CIRCLE 30 ON INQUIRY CARD

Record News

ARCHITECTS TRY A NEW TUNE WITH RECORDING STUDIO DESIGNS

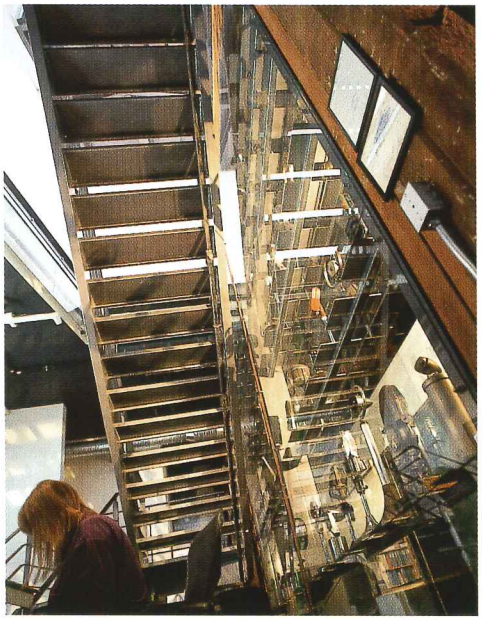


TK Studios overlooks the water in Hawaii.

It may not be a building type as prominent as museums or schools, but architects are delving more into a relatively unsung field: recording studios. Most big city music facilities still have a generic cavelike feel, but some star record producers are creating vanity studios with an eye toward a more transparent, contemporary aesthetic.

In Vancouver, Canadian pop star Bryan Adams bought a derelict building in the Gastown neighborhood and converted it into Warehouse Studios. The old facade was kept in place, providing an unassuming industrial exterior that fits its historical context—and disguises the fact that within the brick walls is a high-gloss, world class recording facility. Vancouver's Davidson, Yuen and Simpson carried out the renovations.

Meanwhile, Studio Bauton, based in Los Angeles, has completed a studio in Hawaii for Tetsuya Komuro, a Japanese producer. The architects transformed a marina restaurant by installing recording spaces on two floors, adding skylights and windows to take advantage of the sunny climate, and moving the entrance to the water's edge, creating better access to an exterior deck. "The challenge was to insert a highly technological program into a low-quality, existing space in a demanding location," says Peter Grueneisen, principal at the firm. *George Richardson*



Inside the lobby at Warehouse Studios.

HUNGARY FINDING ALTERNATIVES TO SOVIET STYLE **A number of Hungarian architectural firms have found a new market for their talents by designing residential parks for the country's emerging, newly affluent middle class. Approximately 2 to 3 million Hungarians, or about 20 to 30 percent of the population, live in vast, somber Soviet Realist complexes—blocks of buildings constructed of prefabricated concrete panels. Budapest studios like Vadász & Partners, commissioned by banks and private developers, are now providing options, for those who can afford them, in the form of lákoparks—small communities of houses and apartment buildings in landscaped, park-like settings.**

A typical lákopark may include individual row and two-story houses and two- and three-story buildings housing from under 10 to almost 30 apartments. Designs vary: "The most well-received has been the Weimer Bauhaus style of 1927," says György Vadász of Vadász & Partners. "It's a lighter style, playing with light and shadows by using snow-white walls variegated with glass panels, and incorporating large open terraces at the ground level and roof terraces with gardens and outdoor showers." Other Vadász-designed residential parks, like one under construction in Szolnok, southeast of Budapest, are more contemporary. Whatever the style, "we try to go beyond meeting the pure technical requirements of each project to satisfy the needs of the spirit behind the materials; concrete, brick, reinforced concrete, some stone, lots of glass, whitewashed walls, and white steel balustrades," says Vadász.

Vadász and his team also won a nationwide competition to design the Hungarian pavilion at EXPO 2000, opening in Hannover, Germany in July. ***Carl Kovac***

Miele delivers.

Realizing your architectural vision requires design flexibility from the components you specify. From a collection of ventilation hoods and cooking products that are as elegant as they are functional, to the world's first built-in coffee system. From a dishwasher so fully integrated that it's invisible, to laundry systems that can be configured to any environment. Miele offers technological solutions to satisfy both the designer and the most demanding client. Without compromise. This dedication to quality and innovation is matched only by our commitment to comprehensive service and support.

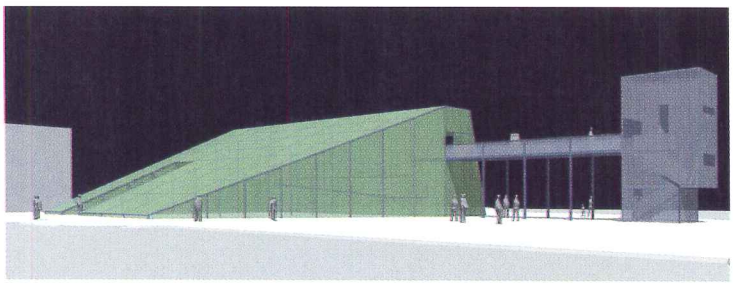
For assistance in specifying Miele for your next project, or to access the many other services of the Miele Architects & Designers Resource Group, call 800-843-7231, or visit us at www.mieleusa.com.

Miele
ARCHITECTS & DESIGNERS
RESOURCE GROUP

Princeton • Beverly Hills • Boca Raton • Dallas • Northbrook • San Francisco • Wellesley

CIRCLE 31 ON INQUIRY CARD

News Briefs



The winning entry in a competition to design a "gate" for San Francisco State.

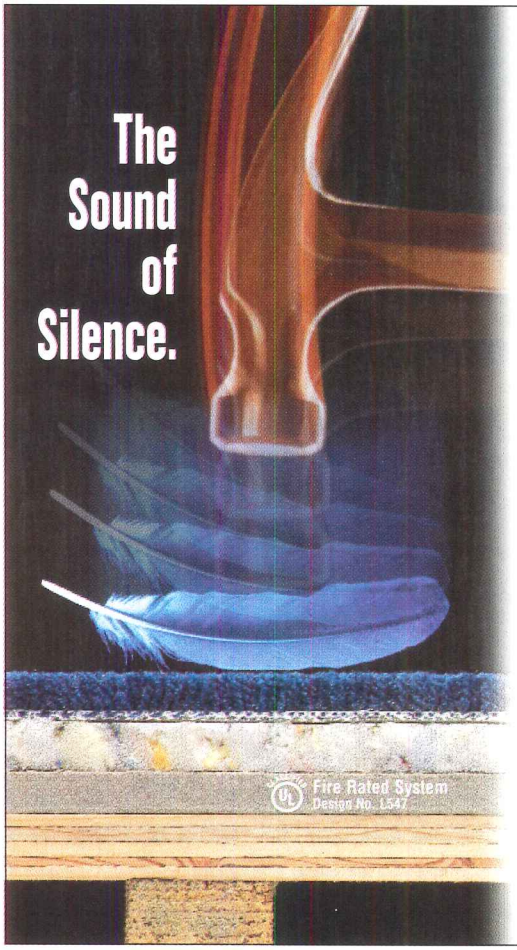
Cleared for takeoff The already-hot airport design and construction market will get a further boost from a $40-billion aviation funding bill that President Clinton signed into law on April 5. For architects, the major provision is one that permits airports to raise passenger facility charges (PFCs) to $4.50 per flight segment, from $3. Airports use revenue from PFCs to fund such projects as new terminals (PFC volume totaled $1.48 billion in 1999). The legislation also authorizes $3.2 billion for Airport Improvement Program construction grants in fiscal 2001, up 69 percent from 2000.

In memoriam The Oklahoma City National Memorial was dedicated on April 19, on the fifth anniversary of the bombing of the Alfred P. Murrah Federal Building. The memorial's design, won in a competition by Cambridge, Mass.-based Butzer Design Partnership, involves a block-long reflecting pool surrounded by grass and trees, including an elm known as the "survivor tree" because it made it through the blast. The facade of a newspaper building adjoining the site is preserved, but a new structure behind it will eventually house a museum slated to open late this year. The names of survivors are listed on the Murrah building's only remaining wall, and 168 empty chairs with lighted glass bases are organized in nine rows, representing the floors on which the victims died. Congress has designated the memorial as a part of the National Park System.

The Kingdome is dead Flashes of explosives ringed Seattle's Kingdome in late March before it imploded in a cloud of pulverized concrete—to the cheers of crowds happy to see a blight on the city's horizon go down (for footage, go to www.firstandgoal). The blast registered 2.3 on the Richter scale as 4,461-pounds of dynamite flattened what was the largest self-supporting thin-shelled concrete roof in the world. The 30-foot-high pile of rubble will be recycled into foundations for Ellerbe Becket's new $425 million open-air football/soccer stadium being built on the site in time for an August 2002 kickoff.

A new gatekeeper Julio Cristian Rocha, a 28-year-old architect at Stastny-Brun Architects in Portland, Oregon, has won a competition to design a "gate" for San Francisco State University. The structure will serve as the main entryway to the center of campus at one of San Francisco's busiest intersections. Rocha's design consists of a simple form that rises from the campus axis, showing a 30-foot-high face to the city. The gate creates two distinctive entrance points and carves out a new public space.

Force of Habitat The judges of the Young Architects Forum/Habitat for Humanity Prototype for the New Millennium competition cited a group of winners in April. The national competition involved the design of a new housing prototype for Pulaski Town, in Philadelphia's



Homasote 440 Sound Barrier Replaces Lightweight Concrete for Sound Deadening in Floors.

Sound Barrier works with almost any conventional flooring system and has twice the "R" value of wood. Unlike lightweight concrete, it can be installed quickly and easily by the same crew laying the floor. This makes 440 Sound Barrier the faster, lower-cost alternative.

Proven Effective in Independent Tests.

Homasote's sound-deadening qualities are proven in independent tests by NVLAP certified labs. Millions of square feet installed across the country testify to its superior performance in place of lightweight concrete. It won't crack, break or "dust up." Ever.

And now the system is UL fire rated (fire resistance classification in all No. L500 floor assemblies. See UL fire resistance directory.) **Contact Homasote for a complete listing of sound and fire tests.**

ENVIRONMENTALLY SAFE

Better for the Environment.

Of course, Homasote products are made from 100% recycled newspaper, with no asbestos or urea formaldehyde additives.

Homasote 440 Sound Barrier is the new standard in sound deadening. For more information, contact us at **800-257-9491**, or visit us at www.homasote.com.

440 SOUND BARRIER™
Acoustical Control Systems
Sound Deadening That Will Floor You.℠

homasote COMPANY
800.257.9491
www.homasote.com

CIRCLE 32 ON INQUIRY CARD

Visit us at AIA Booth #714

WHY METREON–A SONY ENTERTAINMENT CENTER RELIES ON SLOAN FLUSHOMETERS AND FAUCETS

The recently opened METREON–A SONY ENTERTAINMENT CENTER chose Sloan Optima® Plus Flushometers that integrate electronics and time-tested hydromechanics. For example, Sloan's Perfect Sense® EL-1500 Optima sensor utilizes advanced electronics that adjust automatically to surroundings. Sloan Optima Flushometers have their own LED diagnostics. The Optima system automatically flushes after 24 hours of non-use assuring fresher restrooms.

Sloan's Optima PLUS® EBF-85 faucet was chosen because it is the world's first battery operated fiber-optic faucet. It blends fiber-optic and infrared technology to sense user's hands. It also adjusts to its changing environment without manual adjustment and emits an audible signal when the battery life is low.

Sloan's electronic products match the sophisticated environment of this 350,000 sq. ft. technology, entertainment center which boasts the most powerful and interactive web site on the internet today, **www.METREON.com.**

Learn more about why entertainment centers rely on the performance of Sloan. Call **1-800-745-0800** or circle the number below for a copy of our full-line catalog/CD-ROM.

SLOAN®

Sloan Valve Company
10500 Seymour Avenue • Franklin Park, IL 60131
Phone: 800-745-0800 • Fax: 800-447-8329
www.sloanvalve.com

CIRCLE 33 ON INQUIRY CARD

News Briefs

Germantown section, with a goal of establishing a prototypical design for new construction, while strengthening the neighborhood as a safe and clean family environment. Kenji Suzuki of New York City's di Domenico + Partners took the Award of Excellence, while Craig Eigenberg, Mimi H. Tsai, Danielle Denk, and Daniel Powell garnered Awards of Merit. Habitat for Humanity/Germantown plans to use Suzuki's concept to build new housing. The winning entries will be displayed this month at the AIA convention in Philadelphia.

What, no hot water? Those who long for the good old days can watch WNET's four-part television series, "The 1900 House," which begins airing on PBS on June 12. In the documentary, a British family volunteers to live for three months as Victorians in a circa-1900 suburban London rowhouse that has been stripped of modern conveniences. Architects will be particularly interested in the first installment, when preservation experts peel away improvements made over the last 100 years. Then watch as the family discovers the joys of chamberpots, corsets, daily deliveries of meat and produce, and a seemingly endless supply of dust and grime from their coal-fired stove, boiler, and gas lamps.

Museum moves Wendy Evans Joseph, AIA, has been named design architect of the new National Jazz Museum in Harlem. The museum board is now searching for a site in the 125th Street area of the Manhattan neighborhood. Joseph recently designed the Women's Museum: An Institute for the Future in Dallas, which is expected to open in September. Meanwhile, New York is planning its own women's museum: Governor George Pataki has proposed building a $125 million museum in Battery Park City near the southern tip of Manhattan. Advocates for the museum are planning to raise the bulk of the budget from private donations. The new museum, known formally as the Museum of Women: The Leadership Center, is still in the planning stage, but early drawings have been completed by Ralph Appelbaum Associates.

Class act The Beebe School, a K-8 facility in Malden, Massachusetts, designed by the Boston-based Flansburgh Associates, has won the Walter C. Taylor Award for school design. The honor, co-sponsored by the AIA, the American Association of School Administrators, and the council of Educational Facility Planners, honors outstanding planning and design solutions in educational environments.

Italian ideas After an international competition, David Chipperfield Architects of London has won the commission to design the "City of Cultures" in Milan, Italy. The project involves transforming an abandoned industrial area by building new museums, including a new archaeological museum, a "center for non-European cultures," and a center for the study of visual arts.

Design detente American and Chinese architects will soon have new freedom to work in each other's countries. The terms of the "international cooperation agreement" ratified last year by the National Council of Architectural Registration Boards (NCARB) and the National Administration Board for Architects Registration (NABAR)—the counterpart of NCARB in the People's Republic of China—will become effective July 1. The most important of the terms specifies that an American or Chinese architect who seeks to practice in the other's country may not render professional services without the "material participation" of a "domestic" architect from the local jurisdiction.

Automatic closing fire doors

Cornell's motor or chain operated FireGard™ systems offer a new generation of safety features

The dependable, slow-closing, **motor-operated** M100 FireGard system is the first choice for large and/or recessed doors where mechanical testing/resetting is impractical.

The FireGard EZ Test 'n Set offers both controlled **automatic closing** and chain operation for **cost savings** in installation and operation.

Plant personnel can test/reset either system from the floor in minutes. Both systems may be **retrofitted to existing doors.**

For video demos, details and drawings, literature, specifications, or consultative design support on all FireGard doors, counter fire doors, and accessories, please use **toll-free** access via telephone, fax, or e-mail.

Rolling door specialists

CORNELL IRON WORKS

New solutions. Since 1828.™

Visit our interactive website for downloadable AutoCAD drawings, specifications in CSI MasterFormat™, and more

www.cornelliron.com

Tel: 800.233.8366, ext. 551, 641
Fax: 800.526.0841
E-mail: cornell@cornelliron.com

See us at AIA Booth 938 CSI Booth 1623-25

AIA/CES **Earn credits by attending Cornell's ROLLING CLOSURE PRODUCTS program. No charge.**
Contact Michael Simon at Cornell for scheduling.

CIRCLE 34 ON INQUIRY CARD

Product:
EFCO Series 5800 Silicone Gasket Curtain Wall System (formerly Don Reynolds Curtain Wall System)

Building:
Kemper Arena,
Kansas City, MO

Architect:
H.N.T.B. Architects

Erector:
Building Erection Services Co.

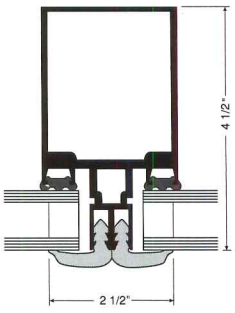
SILICONE GASKET CURTAIN WALL

FLEXIBILITY

THAT GIVES FLEXIBILITY OF DESIGN WITHOUT PERFORMANCE CONCERNS.

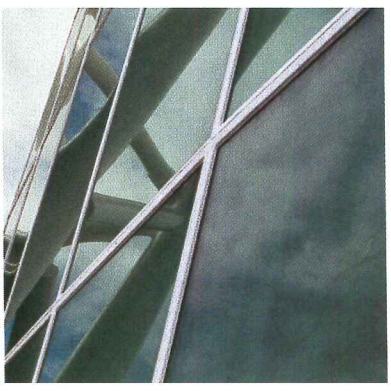
It's our silicone gasket that makes the difference.

In fact, EFCO® Series 5800 (formerly Don Reynolds®) structural exterior-glazed curtain wall is the only system with a durable silicone gasket that is impervious to harmful U.V. rays, water, temperatures, and atmospheric pollutants for the lifetime of the building. And Series 5800 delivers a superefficient seal with zero water infiltration.



Infill thicknesses range from .25" to 2"

Our gasket comes in standard colorfast shades, or you can specify custom colors. With this narrow sightline system, you can design curved walls using flat infills up to 7° off-axis, or create slopes down to 20° from horizontal. You'll even save labor since the factory-fabricated continuous gasket is easy to install in any weather, with no sealants required. Plus there are no internal frame or joint seals, plugs, or pressure plates, and no snap covers are needed. And Series 5800 is ideal for new construction or retrofit.



All of these benefits—combined with our engineering and manufacturing expertise—made Series 5800 the choice for Kemper Arena. Discover the system that's been a proven performer in hundreds of installations. Ask your EFCO representative about Series 5800, call EFCO direct at 1-800-221-4169, or visit our Web site at www.efcocorp.com.

See us at A/A Booth 1556

EFCO®

WINDOWS
CURTAIN WALLS
ENTRANCES
STOREFRONTS

CIRCLE 35 ON INQUIRY CARD

©1998 EFCO Corporation

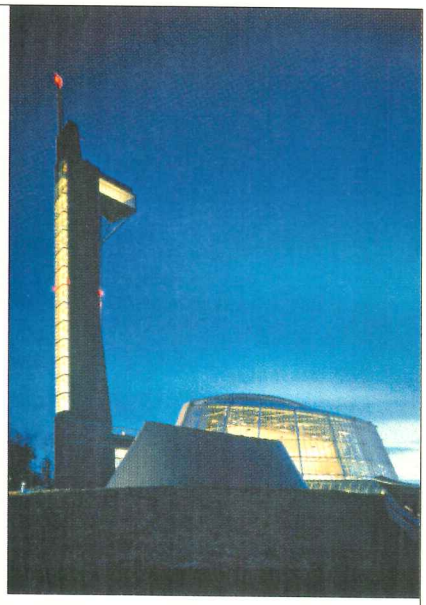
Go To WWW.architecturalrecord.com

Quick Clicks

- **PROJECTS**
  - Learn more about projects featured in RECORD
- **ABOUT RECORD**
  - Subscribe
  - Submit a project
  - See the 2000 editorial calendar
  - Shop for reprints, books, and back issues
  - Index
  - E-mail us
- **FEATURES**
  - Business Week/ Architectural Record Awards
  - Green Architect
  - Digital Architect
- **DIALOGUE**
  - Submit news
  - Write letters to the editors
- **CONTINUING EDUCATION**
  - Continuing education articles
  - Self-report form
- **RECRUITMENT**
  - Employment opportunities
- **ADVERTISER & PRODUCT INFO**
  - Link directly to RECORD advertisers
- **PROFESSIONAL DIRECTORIES**
  - Add your company to this listing of architecture firms and consultants

INTRODUCING "FROM THE FIELD"

Lively, up-to-the minute personal observations, by the editor in chief and other editors, from their meetings and travels in the field. **Only on Architecturalrecord.com.**

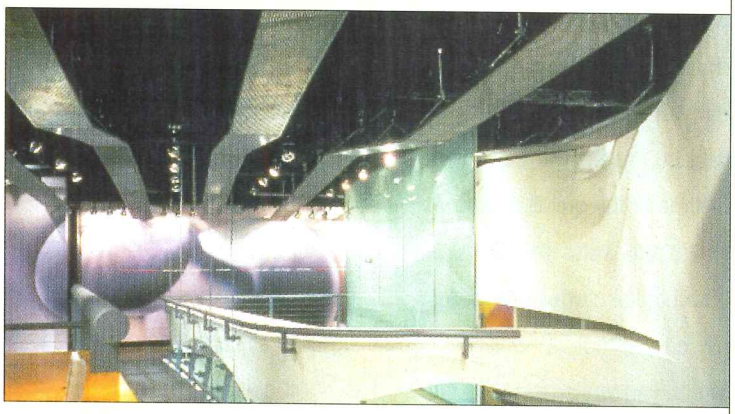


MEET THE PEOPLE AND THE PRODUCTS

CONNECT with the people and the products behind thirteen hot May Projects: **Restaurant Builidng Types Study; Record Lighting** and **Project Portfolio.**

AIA 2000 HONORS & AWARDS

Experience the **38 Award winning projects and Firm Award winner, Gensler.** Read the exclusive interview with **Gold Medalist, Ricardo Legorreta.**



MAKING IT EASY TO BE 'GREEN'

GREEN ARCHITECT takes you to a place where the world's a little greener. The 'Green' Products Guide is organized by division with product descriptions and links to manufacturer web sites. **New 'green' products are added each month. New feature this month: "Ten Shades of Green".**

CONNECT TO ADVERTISERS

Simply CLICK ADVERTISER & PRODUCT INFO to search by advertiser name or product type and link directly to their web sites.

OPPORTUNITY KNOCKS

CLICK ON RECRUITMENT to find career opportunities for architects and related professionals, from firms and universities nationwide.

GET CES CREDITS ONLINE

On architecturalrecord.com, you can read RECORD's continuing ed self study courses, do test questions and answers, fill out the self-report form and hit 'SEND' to file for CES credits. Find 73 courses, most qualifying for HSW credit.

CLICK SUBSCRIBE

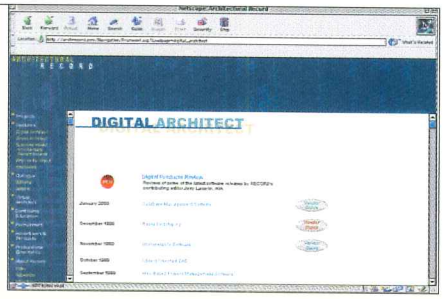
to order a new subscription, or renew one; for change of address requests or other customer service questions.

GO TO RECORD'S ONLINE SHOP

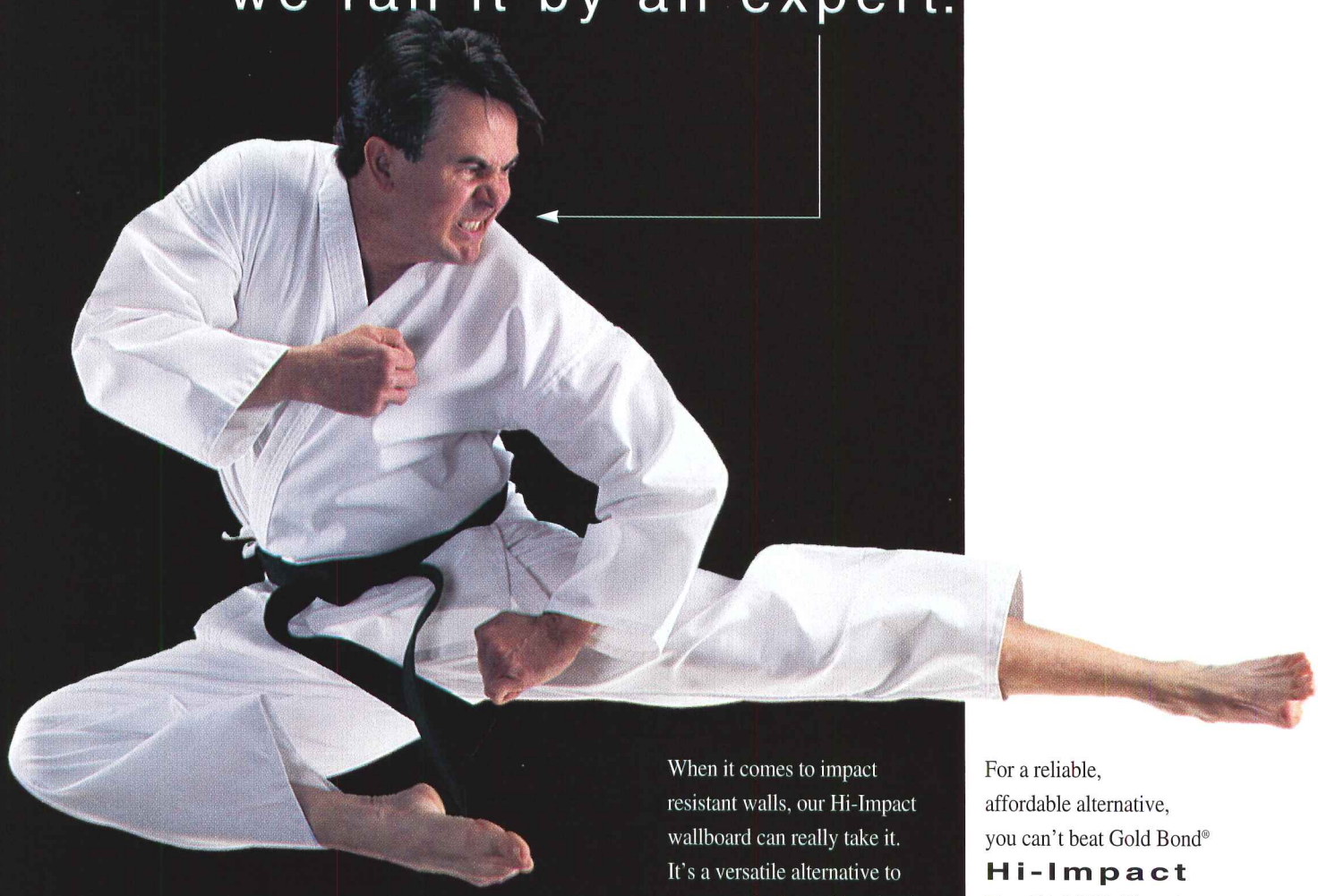
to buy the 230 page volume *Modern American Houses: 40 Years of Record Houses* or *Record Houses* Collections. Order back issues and reprints. Or buy a *Record Houses* CD-Rom.

DIGITAL ARCHITECT: CABLING & INFRASTRUCTURE

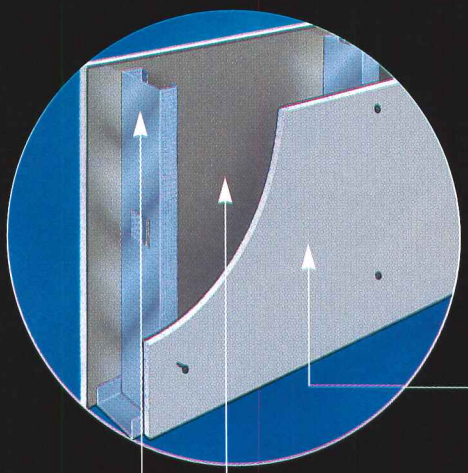
A QUICK CLICK zooms you to IT Vendor Guides and software reviews with links to manufacturer web sites. **NEW this month: "The Design Implications of Technology" with a valuable cabling and infrastructure vendor guide.** Past *Digital Architect* columns, digital product reviews and related Vendor Guides are just a click away.



Before we introduced our new Hi-Impact® wallboard, we ran it by an expert.



When it comes to impact resistant walls, our Hi-Impact wallboard can really take it. It's a versatile alternative to concrete block used in schools, public housing and healthcare facilities. Hi-Impact is less labor intensive to install and accommodates more decorating options than other wall systems. Backed with Lexan® film, it's available in four levels of impact resistance to fit your needs.



*Gold Bond® Fire-Shield® gypsum wallboard backed with Lexan® polycarbonate film**

Lexan® polycarbonate film

20 gauge steel framing

*Lexan is a registered trademark of General Electric Company.

For a reliable, affordable alternative, you can't beat Gold Bond®
Hi-Impact
Fire-Shield® Wallboard.

National Gypsum Company
2001 Rexford Road
Charlotte, North Carolina 28211
For technical information,
1-800-NATIONAL
1-800-FAX-NGC1
www.national-gypsum.com

National Gypsum COMPANY
GOLD BOND® BUILDING PRODUCTS

CIRCLE 36 ON INQUIRY CARD

Next Door Nobu, New York City, Designer: Rockwell Group

Triple-wear layers with melamine resins provide additional wear resistance.

The plank is overlaid with melamine resins containing hard particles for wear resistance.

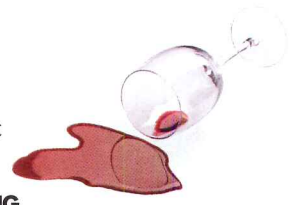
Core papers for increased indentation resistance and heat dispersion.

Specially engineered, moisture resistant, wood based core.

Backing, engineered to provide balance and stability for the installed plank.

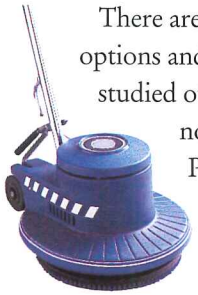
"Pergo Publiq Wears Like Iron."

-Drew Nieporent, "America's best restaurateur"



And he should know. **NIEPORENT HAS BEEN CALLED "AMERICA'S BEST RESTAURATEUR,"** by *The New York Times Magazine*.

Mobs of people come into his restaurants from NY to London to Tokyo. And when they cram into the incredibly popular *Next Door Nobu* and *Layla*, they're walking on Pergo Publiq—the only laminate floor with patented triple-wear protection.



NIEPORENT ON PERGO PUBLIQ: "Pergo Publiq solved a major problem for us. We get endless wear and tear on our floors.

With Pergo Publiq you'll never have the mess of sanding or waxing! What you will have is an unprecedented warranty, born out of 20 years of laminate flooring experience. Call us for details.

In fact, we were refinishing our *wood* floors every three months at astronomical costs. **WHEN I SAW PERGO PUBLIQ I IMMEDIATELY LIKED IT, BUT NOW I LOVE IT.** Pergo Publiq is the only laminate floor exclusively engineered for commercial environments. Wine and cigarettes can't stain it and high heels won't dent it. Pergo Publiq **NEVER NEEDS SANDING, WAXING OR REFINISHING**—it's a maintenance dream.

Pergo Publiq is unique. There are lots of pattern and design options and **IT'S SLIP RESISTANT.** We studied other types of flooring, but nothing compared to Pergo Publiq's looks or performance. **WITH PERGO PUBLIQ'S UNPRECEDENTED WARRANTY,** the floor is one aspect of the restaurants I don't worry about."

THE WORLD'S LAMINATE FLOOR LEADER. Pergo invented laminate flooring 20 years ago. "That was enough for me."

Pergo Publiq is provided and serviced through a select distribution network along with factory trained and endorsed installers. For a colorful, free information kit call us toll free at **1-888-54-PERGO**.

PERGO® PUBLIQ

Commercial Laminate Flooring

CIRCLE 37 ON INQUIRY CARD

® Sunbrella Firesist and are registered trademarks of Glen Raven Mills, Inc. • SEF+™ is a trademark of Solutia. Dean & Deluca® is a registered trademark and is used with permission. Awning fabrication by Plastex, Charlotte, NC. • www.sunbrella.com

Even the outside of Dean and Deluca® is appetizing.

Before you smell the aroma, before you taste the food, before you walk through the door, you get a sense of the wonderful experience that awaits. The culinary masters at Dean & Deluca® even know how to whet your appetite with architectural design. By blending the beauty of Sunbrella Firesist® modacrylic fabric with the building's European style, they've created a true gourmet presentation.

But presentation is only part of the recipe. Choosing the finest ingredients for building design is vital. That's why Sunbrella Firesist was the obvious choice. Superior flame retardancy is inherent in the fabric, instead of just applied to the surface. In fact, it's woven from SEF+™ self-extinguishing modacrylic fibers. So it meets the strictest fire codes. Sunbrella Firesist fabric also resists fading from sun and rain, because our solution-dyed colors are locked-in. That keeps it looking fresh for years. In fact, we offer a five-year limited warranty. Sunbrella Firesist even makes the inside of Dean & Deluca more appealing. Our breathable awning fabric doesn't trap heat or moisture, which reduces air conditioning costs and keeps patrons comfortable.

When you design your next gourmet masterpiece, choose Sunbrella Firesist. We have more than 25 styles and colors to choose from. So you can find something that suits your personal taste.

Check the Yellow Pages under "Awnings and Canopies" for the awning dealer near you. Or contact Glen Raven Custom Fabrics, LLC, Glen Raven, NC 27217.

sunbrella firesist®
GLEN RAVEN MILLS, INC.

CIRCLE 38 ON INQUIRY CARD

ATLANTIS RESORT: Paradise Island, Bahamas | OWNER/DEVELOPER: Sun International Hotels Ltd.

ARCHITECT: Wimberly Allison Tong & Goo | PRODUCT: Azurlite® Glass

LOOKS ARE STILL EVERYTHING.

We both know it's important that a building use the best technology available. And that energy efficiency, even in paradise, can make or break a project. Still, a building makes its mark with knockout looks.

You've never forgotten that great architecture is about great design. And neither have we.

PPG Architectural Glass gives you the most advanced glass technology you can imagine. So you can spend your time creating stunning buildings. PPG offers you a vast array of styles and colors unmatched in the industry. Like PPG Azurlite® Glass, with its crisp, beautiful aquamarine appearance

to inspire you – and the energy efficiency that will inspire your client, too.

PPG Azurlite glass gives you an unmatched combination of desirable color, aesthetics, high visible light transmittance, low reflectivity and low shading coefficient.

See just how smart real beauty can be. Call the PPG Solutions Hotline today for your Azurlite Glass sample. 800-377-5267.

PPG Glass Technology
SINCE 1883

CIRCLE 39 ON INQUIRY CARD

visit our website @ www.ppgglass.com

John A. Cunningham
Larry H. Adams, Jr.
Associated Consulting International

"Textures transform a surface into landscape."

Something spectacular is sure to come up when these two partners put their heads together. "The ceiling is too often the forgotten opportunity," says John Cunningham. "With textures, we can create dimension ... we can create excitement." Colleague Larry Adams concurs: "We want to rev up the experiential quality of the space ... to design a fusion of imagination and engineering." What can you sculpt with our SANDRIFT™ Acoustical Ceilings, DONN® Brand Grid and CURVATURA™ 3-D Ceiling Systems?

USG CEILING SYSTEMS

Call us today at 1-800-USG-4YOU or visit our website: www.usg.com

© 2000 USG Corporation

Imagine The Upside.

CIRCLE 40 ON INQUIRY CARD

A new direction in Tinseltown: L.A. rebuilds from within

Correspondent's File

By David Hay

For better or worse, Los Angeles has been viewed as the model of a truly suburban city. New growth has always been targeted for the undeveloped edges of the sprawling metropolis. But recently, thanks to a resistance to longer and longer commutes and an increase in the cost of surrounding land, the eyes of architects and developers have turned toward L.A.'s core. The result: a spate of new construction inside the city boundaries. An even more startling break from tradition is a boom in the artful rehabilitation of existing structures. Both trends highlight L.A.'s sophisticated design consciousness and may soon turn the city into a denser urban environment.

The change is most evident downtown. For years, the urban core, ringed by freeways, was more likely to be driven past than visited. Soon, thanks to major new public buildings, downtown Los Angeles may resemble cities that came of age in the 19th century and may draw a wide swath of residents to its cultural and civic attractions.

Pritzker row

In two years' time, a stroll along Grand Avenue will take pedestrians past buildings designed by three Pritzker Prize winners: Jose Rafael Moneo, Frank Gehry, FAIA, and Arata Isozaki. At the eastern end of Grand, abutting Freeway 101, cranes tower over the 5.6-acre site of Our Lady of the Angels Cathedral. This $163 million project—designed by Moneo with Leo A. Daly as executive architect—will be the major place of worship for a growing archdiocese.

The design involves immense volumes, and the architects are banking on the adobe tones of concrete and the bright California light to make the cathedral warm, even embraceable. The base of each section of exterior wall juts out, and the cathedral's green roof, tilted at many angles, furthers the impression of complexity. Inside, two huge wall screens and over 20 windows lined with alabaster will spill soft light off the buttresses and into the 3,000-seat nave.

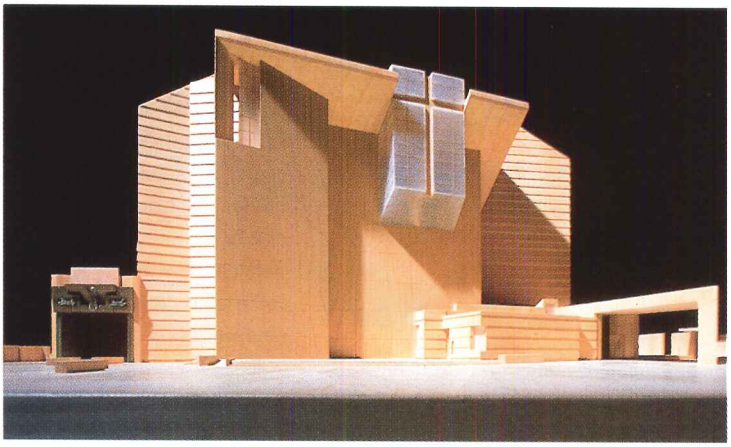
The client, the Archdiocese of Los Angeles, insisted that the cathedral have a 500-year life span—an unpredictable goal because, as project architect Hayden Salter notes, "We're using a material that's only been around for 100 years." The architects added a waterless moat around the cathedral to act as air space: The 58,000-square-foot building, resting on more than 200 rubber cushions, can sway up to 2 ½ feet in any direction during an earthquake.

Disney—at last

Walking west on Grand—past the increasingly outdated Dorothy Chandler Pavilion complex—brings one to the site of Gehry's Walt Disney Concert Hall. When both are completed, visitors will be able to compare Moneo's overscaled volumes with Gehry's use of wavelike, abstract surfaces to disguise the mass of his large-scale structure. Currently, Gehry's design is simply a billboard at the site, but by the middle of the summer, the free-form outlines of his hall will become clear with the construction of its braced-steel frame.

The project recently emerged from a four-year construction halt, caused by budget problems, with a different look. Work on the hall resumed late in 1999, thanks in part to large additional contributions by the Disney family and the Walt Disney Co. to help meet the $274.5 million cost. The most obvious change from Gehry's original design is on the outside: The proposed curved Italian limestone cladding has been jettisoned in favor of stainless steel, which has been given a soft finish.

Craig Webb, an associate principal at Frank O. Gehry and Associates, says the architects "love the way stainless steel picks up light, as well as the movement and color in the environment." The shiny skin may work some additional magic at night: The architects are testing its ability to register projected



With new funding in place, Walt Disney Concert Hall (top model) will soon take shape; Moneo's concept for the 58,000-square-foot Our Lady of the Angels (bottom model).

David Hay is a writer on architecture and the arts who lives in Los Angeles.

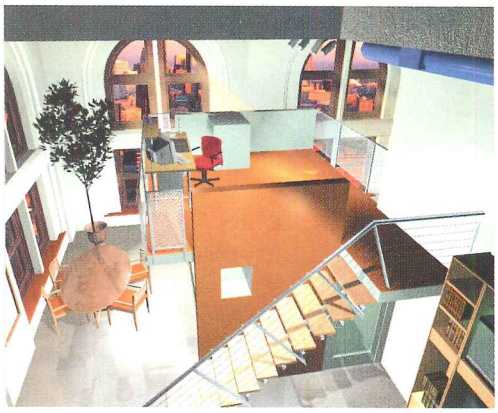
images, which could announce the evening's program for the hall's main tenant, the Los Angeles Philharmonic, or even carry advertising.

The architect was also asked to install a small experimental theater and art gallery so that the Disney-funded California Institute for the Arts could have a downtown presence. For the interior of the 2,275-seat concert hall, new research carried out by his acoustical engineers led Gehry to make some refinements in the sail-like wooden ceiling. Combined with the curving wooden walls, the ceiling is intended to give orchestra-goers the sensation of being aboard a ship.

On the other side of Grand is the new home of the Colburn School, a three-story complex designed by Hardy Holzman Pfeiffer Associates. Its modern Romanesque brick facade and concert hall roof, clad with zinc-coated shingles, make it a visually attractive bridge between its neighbor to the south—Isozaki's red sandstone Museum of Contemporary Art—and its glimmering neighbor-to-be across the street.

Walking? In L.A.?

These buildings on Grand, as well as the public library, renovated and extended by Hardy Holzman Pfeiffer, all boast public plazas—and they won't be the only ones competing for pedestrian traffic. An open court now connects Gehry's remodeledwarehouse gallery, the Geffen Contemporary, with Gyo Obata's year-old Japanese American National Museum on First Street. It's this novel idea of walking in L.A.—laughable as the concept may sound—that may draw new residents to the Medici apartments, a 600-apartment complex being built on Seventh Street. It is the first new housing to be built in this area in a decade.



Historic buildings on Spring Street have been converted into mixed-used loft spaces (top); Grand Street features the new home of the Colburn School (bottom).

The downtown also has a growing number of rehabilitation projects. Developer Gilmore Associates' conversion of three historic buildings on Spring Street—originally built between 1900 and 1912—into 235 mixed-used loft spaces has a waiting list of prospective renters. The future tenants are "urban pioneers," says architect Wade Killefer, AIA, whose firm, Killefer Flammang Purtill, is designing the $30 million conversion. "But with huge windows, concrete floors and ceilings, [the apartments] are ideal for young, single hipsters who work at home."

On the other side of Freeway 110, Los Angeles Center Studios has built six soundstages at the base of the former Unocal building, designed by Marcel Breuer. The successful studios have already inspired talk of further expansion.

Nadel Architects reclad a 1965 building with a new floor-to-ceiling glass wall.

Hollywood is also enjoying a long overdue revitalization; the area has been in decline for over 40 years. The horrified expressions of the seven million-plus tourists who come to see the stars' footprints at Grauman's Chinese Theater are a testament to how bad things have gotten. But now the gone-to-seed area is developing into a modern entertainment center.

HOLLYWOOD IS ALSO ENJOYING A LONG OVERDUE REVITALIZATION. THE AREA HAS BEEN IN DECLINE FOR OVER 40 YEARS.

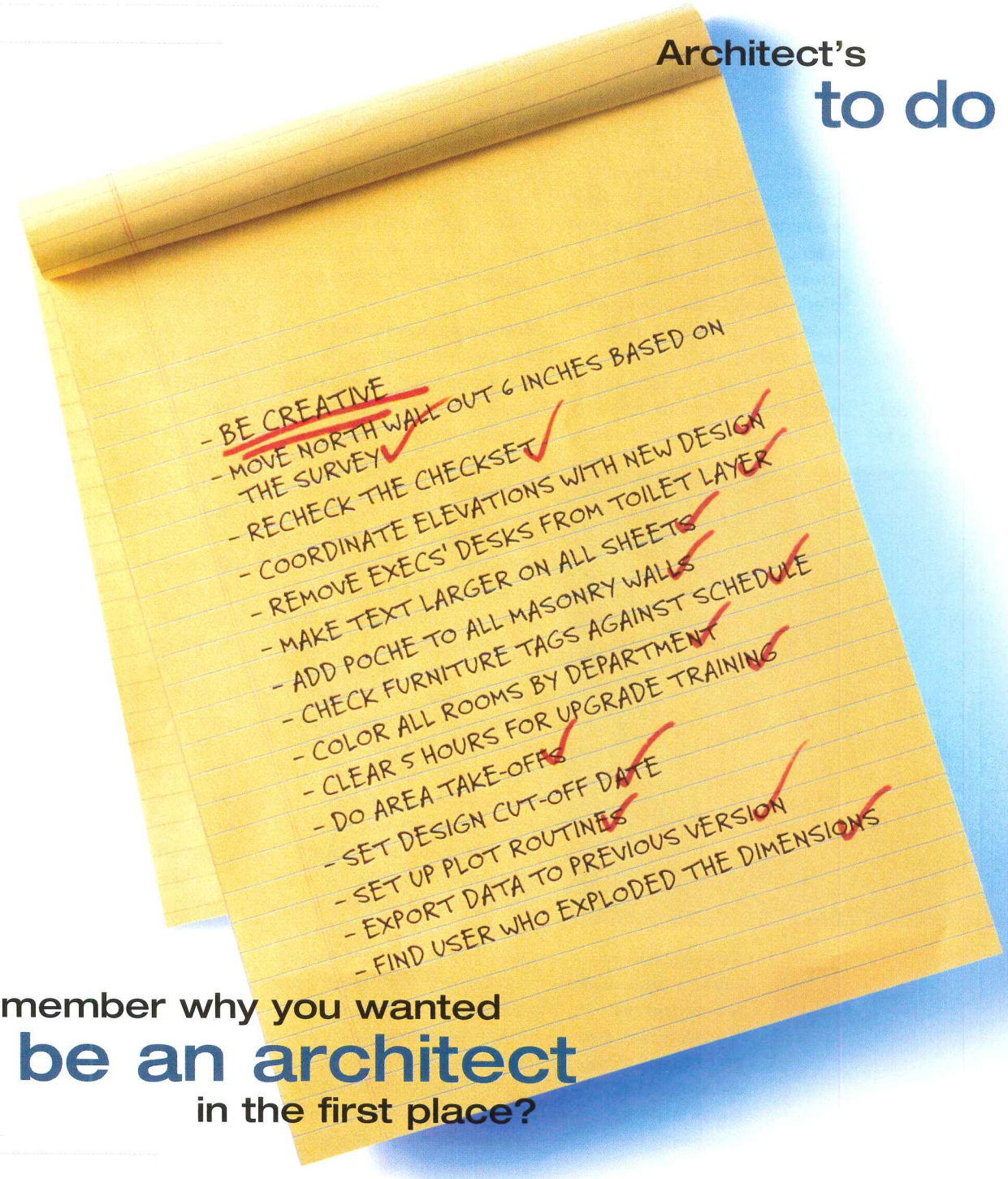
The largest development is TrizecHahn's $430 million complex of stores, cinemas, pedestrian courts, and a hotel on the corner of Hollywood Boulevard and Highland Avenues. Design architects Ehrenkrantz Eckstut & Kuhn and executive architects Altoon & Porter have created an homage to Cecil B. DeMille's 1916 film *Intolerance,* with a central Babylon Court that features a giant mock-Byzantine archway framing the Hollywood sign in the distance. Elephants sit on multistoried pedestals at the south end of the court.

On the north end will be the new home for the Academy Awards, currently dubbed the Premiere Theater, as naming rights have yet to be purchased. Designed by New York City's Rockwell Group, the 140,000-square-foot structure will have 3,600 seats and will cost a total of nearly $100 million. Its highest-profile user, the Academy of Motion Picture Arts and Sciences, gave architect David Rockwell some unusual instructions. "The space had to be designed for live theater, yet in a way that celebrates movies, and with the understanding that its major event would be broadcast on television," says the architect.

The Academy's interests also extended beyond the theater itself. "They wanted the building to facilitate a sequence of events—from arrivals on Hollywood Boulevard, to entry into the theater, to access to the Governor's Ball after the show," says Rockwell. Inside, he opted for extensive use of glass and other translucent materials. "Hollywood's greatness has always been communicated by the mediums which use light, so it seemed fitting," he notes.

While the inspiration for this project—and many smaller developments in the area—is the fabled history of the movies, Michael Rotondi, FAIA, and Clark Stevens, AIA, of Roto Architects, joining with the John Ash Group, took a markedly different approach for their $20 mil-

Architect's to do list:



Remember why you wanted to be an architect in the first place?

Architecture is all about composition. . . order. . . harmony.

Until now, however, architectural CAD software has been complicated, unwieldy, and inconsistent with the real work of architecture.

Revit changes all that.

- Revit makes it easy to design, because its parametric building modeler encourages design alternatives.
- Revit makes it easy to innovate, because it instantly revises all plans and views affected by any change.
- Revit makes it enjoyable to use CAD, because you work directly with real parametric building components, not lines and arcs.
- Revit makes it easy to build, because it automatically maintains schedules with drawings. Revit always guarantees the model's consistency.
- Revit works with your current software, because it can open, read, and write industry-standard files.

In short, Revit changes everything. With Revit, your architectural software adapts to the way you work, not the other way around.

For more information, visit **www.revit.com**. You'll also discover a new way to buy Revit, via subscription. It's revolutionary. Just like everything else about Revit.

1 877 47 REVIT

revit
revolutionizing building technology

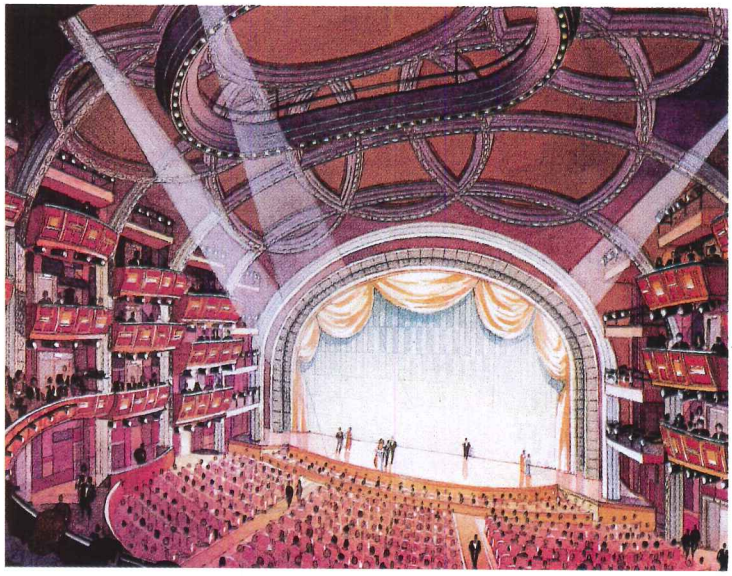
CIRCLE 41 ON INQUIRY CARD

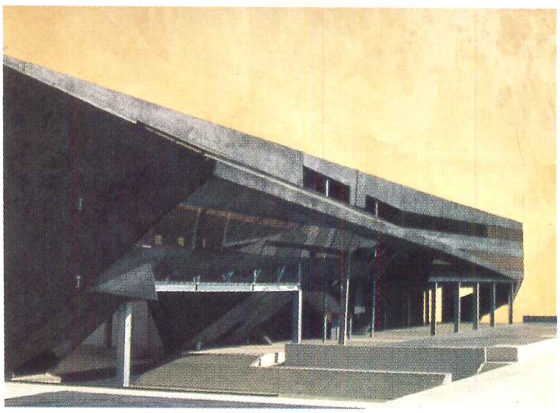
Copyright© 2000 Revit Technology Corporation
Revit is a trademark of Revit Technology Corporation

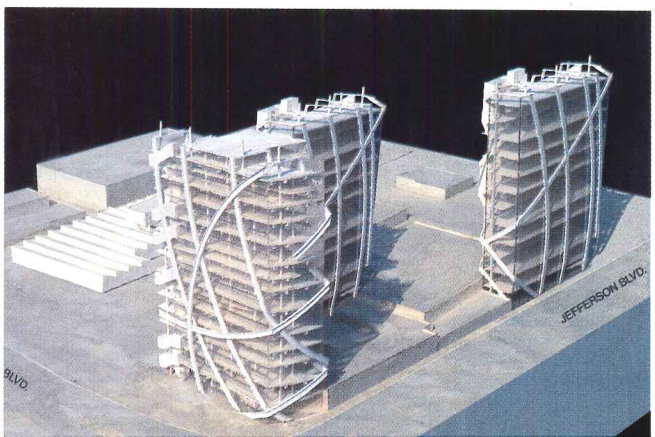
lion Hollywood-Orange building. "We looked to the future," says Rotondi. Their design, flanking the north side of Grauman's (the TrizecHahn complex is to the south), is a glass-enclosed retail space for the tourists who are dropped off by buses behind the Chinese theater.

"Right now people stay, on average, 20 minutes on Hollywood Boulevard," says Ash. "Our job is to keep them here for two hours." Their "Times Square in a glass box" is a maze of walkways: Some head directly to the street, others angle across the front of the building and offer views of Hollywood Boulevard, while still more reach an upper deck, where an outdoor plaza offers dining facilities. Glass panels facing the boulevard will double as video billboards. At night, the architects predict that, lit from inside, the building will become a cubist lantern bursting with orange light.

"The boulevard was once very much a living street for Los Angelenos as well as tourists," says Roxanna Tynan, the economic development adviser to city councilwoman Jackie Goldberg. "That's what we hope will happen again."







A vision of the new home for the Academy Awards (top); the "Stealth Theater and Office Complex" (middle) and Jeff/Jeff Towers (bottom), designed by Eric Owen Moss.

New media, new spaces

The search for dazzling office space to satisfy the new media businesses that Los Angeles is now attracting in droves has led to some highly innovative solutions. On the once neglected border of Culver City and Los Angeles, architect Eric Owen Moss, FAIA, working for Samitaur Constructs, has turned a former light-industrial area into a striking new community and business center.

One component of this micro-urban development is the $40 million Wedgewood Holly Complex, where Moss revamped several derelict 1930s warehouses and designed two new buildings. Fronting these light and airy new offices, all built around a large courtyard, is a structure that Moss calls the "Stealth Theater and Office Complex." With its black exterior and sharp, cross-angled front, it bears considerable likeness to the fighter aircraft of the same name. The 50,000-square-foot building will be home to Ogilvy & Mather.

For the eastern end of the site, Moss designed three 14-story glass towers, rising out of an existing sawtooth warehouse and supported by a steel column grid. To carry the earthquake and wind load on what Moss has named the Jeff/Jeff Towers (so-called because of their location on a curve in Jefferson Boulevard), the architect proposes to tie up the buildings "like ribbons on a package" with five-foot-wide steel beams curving around their exteriors. Inside, each floor offers 22-foot ceilings, catering to all the possible media-production needs of its expected tenants.

Another solution to the dearth of upscale office space lies in the rehabilitation of office towers built in the 1950s and 1960s. A striking example of such an upgrade has been completed by Nadel Architects in the Westwood village area. The firm took a 22-story building—constructed in 1965 and noted for a gaudy red-and-orange sign advertising a rooftop restaurant called Monty's—and reclad it with a new floor-to-ceiling glass wall. Project designer Michael Walden played around with different colors—copper, silvery blue-green, and clear glass—to make the facade appear, especially in the setting sun, like a glowing, abstract painting.

Back to school

Perhaps the greatest challenge for architects in Los Angeles is offered by the public sector. In the next five years, education authorities plan to build up to 150 new schools. The shortage of available land presents a particular challenge; this makes the elementary school designed by Kevin Daly, AIA, and Chris Genick, of the firm Daly Genick, an interesting model of what could be done.

The design turns a former two-story mini-mall near MacArthur Park into the 12-classroom Camino Nuevo school. The architects built a freestanding extension to widen the upstairs passageways, converted the sloping parking lot into an assembly/play area, and shaded much of the building with curved wooden lattices. "We didn't want any connotation that kids in the poorest part of L.A. were going to a [repossessed] mini-mall," says Daly.

The ability to turn what Daly refers to as "the crappiest of buildings" into something both eye-catching and long-lasting gives hope that a new, denser Los Angeles could also be a more attractive city. Considering the extraordinary downtown contributions of the Pritzker Prize winners, architects and developers have been alerted that the disposable designs so prevalent in the last 50 years are not what the design-savvy citizens of L.A. desire. ■

Architects can influence policy and contribute to the public good

Practice Matters

By Andy Pressman, AIA

Many architects share aspirations to improve communities and the environment and to address basic social problems through design. This drive toward civic activism is not only laudable but essential if practitioners are to enhance the public's perception of architecture and make the field more relevant to broad segments of society.

Activist strategies

There is growing evidence that architects are skillfully forging alliances in the realms of politics, policy, and education. And there appears to be an increasing awareness of what architects can offer in the civic arena. Local planning and zoning boards and other profession-related groups, such as the National Trust for Historic Preservation, Main Street, Habitat for Humanity, the Congress for New Urbanism, and AIA chapters, for example, need volunteers or board members. In these roles, architects can be innovative and persuasive in proposing and implementing bold initiatives, and they can testify at hearings on pressing community issues. In a general sense, the skills architects practice virtually every day make them especially effective in public service: a capacity for synthetic vision, problem solving, and group facilitation.

ARCHITECTS' SKILLS MAKE THEM ESPECIALLY EFFECTIVE IN PUBLIC SERVICE.

Nonprofit community-development corporations, such as the United South Broadway Corporation in Albuquerque, often require advice from architect-volunteers or board members. Architects bring value to such groups because they can specifically guide an A/E selection process, represent the organization's interests in neighborhood planning and economic development, help assess prospective sites, and advise on proposed project feasibility.

Identify appropriate organizations

It is critical to approach prominent members of the community to learn where help is needed most. Attending city council meetings is a great way to see who is active in town and to gain insight into the disposition of council members and the mayor. Ask them about becoming an adviser or board member. Moreover, there might be an opportunity to sit on city policy committees. Consider writing an op-ed piece for the newspaper, communicating directly with government representatives, or even running for office.

Community design centers, located throughout the country, typically provide planning, programming, building survey and evaluation, cost estimates, and design services to nonprofit community groups. They are supported by a network of volunteer designers from professional societies and universities. (The Association for Community Design publishes a directory of these centers.) Regional or local foundations also present opportunities for applying specialized architectural expertise. Cornerstones Foundation in New Mexico, for example, is well known nationally for its excellent community-based church-restoration program.

Pro bono work can provide enormous benefit to society. "Clients" who might not otherwise afford architectural services—and who really need them for code compliance or other facility improvements—include religious institutions, child-care centers, and homeless shelters. This type of work can take many forms but should be executed with the same reasonable standard of care as any other architectural project. Outline services in writing so all parties are aware of specific objectives.

There are worthy local projects to which architects can offer their special skills and energy. DiGeronimo, Pa., architects of Paramus, N.J., allots 7 to 14 percent of gross receipts to charities as pro bono service. For example, the firm renovated a halfway house for babies afflicted with AIDS. The "house" was upgraded (walls, heating system) to comply with code. The architects developed and filed documents with the building department and stayed with the project through construction.

While the motivation to pursue publicly minded work is fundamentally noble, there are secondary pragmatic benefits. Greater exposure and contacts are natural consequences and may produce leads for future work involving the community and important social agendas.

Case studies

Bruce Fowle, FAIA, of Fox & Fowle Architects in New York City, refutes the Rodney Dangerfield dictum that architects "don't get no respect." Fowle implores architects to "speak about community issues." Contrary to what architects believe, Fowle says the public respects them and wants to hear what they have to say.

Speak out he does, especially regarding zoning initiatives. Fowle is currently involved on an AIA task force that is assessing a proposal to simplify New York City "bulk" zoning regulations. His primary concern is the impact of these restrictions on the quality of architecture in the city. Fowle says, "There's nothing more important than ensuring that zoning regulations are not unduly restrictive and that they allow the culture of the city to survive. Due to zoning constraints on tall, thin towers, you can't even design an Empire State Building anymore!" He believes that if architects are not in the trenches, then developers and bureaucrats will make myopic decisions without considering long-term implications or the public interest. If Fowle and his committee had not been so vocal, an architectural perspective would not be a respected part of the dialogue. Fowle orchestrates a

successful system of checks and balances in one of the largest and most politically complex cities in the world.

Architect Michael Pyatok, FAIA, based in Oakland, Calif., is another brand of activist. He has called on architects to take leadership positions on affordable housing, urban planning policy, environmental sustainability, historic preservation, and design guidelines. Pyatok became active in his local AIA chapter; he held public forums and sponsored talks about the housing crisis. That led to membership in the National AIA Affordable Housing Task Force, which promoted housing-related projects at various chapters. He observes, "Talented designers have power they haven't begun to tap. They have an automatic platform since they are credible. They can use that platform to advocate important causes at the same time they're making awesome buildings."

Supplementing Fowle's and Pyatok's large-scale approach, Albuquerque architect Mark Childs, AIA, believes architects can use their skills to raise children's awareness of the built environment. He volunteers to work with elementary school teachers to develop and present urban design workshops in the classroom. One urban design game he conducted with second graders was an original idea he devised for the incremental development of a town. They were enthralled: "Why'd you put your gas station next to my house?" They stayed through recess to play design.

PUBLIC SERVICE HAS THE SIDE EFFECT OF ENHANCING RECOGNITION OF THE FULL SCOPE OF THE PROFESSION.

Yet another example of activist effort is illustrated by New York City architect Richard Dattner, FAIA. He is a master at engaging the political process. He "demarginalizes" his practice by selecting commissions that align with his socially responsible principles. For example, Riverbank State Park in West Harlem was built on the roof of a sewage-treatment plant in a neighborhood opposed to the plant's construction.

Eight years of political maneuvering included extensive design sessions with neighborhood residents and elected officials. The intent was to demonstrate that high-quality design and programming of recreational facilities would provide a genuine community amenity and neutralize the plant's location, thereby avoiding the NIMBY issue. A constant threat of loss of funding from federal, state, and city agencies prompted the state to require a value engineering analysis.

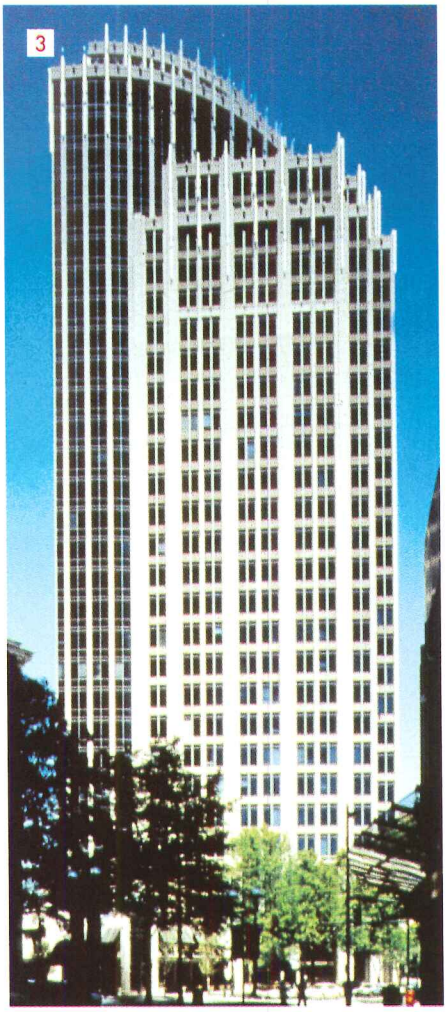
Dattner responded with creative design solutions that preserved the project's original spirit while reducing costs. His overarching responsibility and determination to contribute to the public good resulted in one of the most frequently used parks in the state.

Architects design projects of all types, but they can also strive to become model citizen-professionals. By wisely embracing social responsibility and political process, they can positively influence the public domain in ways that extend their talent and good will beyond buildings. This, of course, has the side effect of enhancing public recognition of the full scope of the profession. In light of societal problems and challenges, it seems especially timely for more of us to consider emulating these examples and become agents of progress and indispensable resources in our communities. ■

CIRCLE 44 ON INQUIRY CARD

APA
ARCHITECTURAL PRECAST ASSOCIATION

AWARD OF EXCELLENCE



The 2000 APA Awards For Design & Manufacturing Excellence

is a national award program sponsored by the Architectural Precast Association. Each year a jury of your peers selects the best designs utilizing architectural precast concrete. Finished structures must display a highly animated use of precast which gives life and vitality to the building surface. Other considerations include a good control of medium, consistent color and textural control, and a design that exploits the potential of an architectural precast system.

1 ***Winner:*** S.C. Johnson & Son Professional Headquarters Sturtevant, Wisconsin
Design: Zimmerman Design Group with Hellmuth, Obata & Kassabaum, Inc.
Manufacturing: International Concrete Products Germantown, Wisconsin

2 ***Winner:*** Citicorp Tampa Campus Tampa, Florida
Design: HKS Architects, Inc.
Manufacturing: Gate Precast Company Monroeville, Alabama

3 ***Winner:*** IJL Financial Center Charlotte, North Carolina
Design: Smallwood, Reynolds, Stewart & Stewart
Manufacturing: Metromont Prestress Company Charlotte, North Carolina

4 ***Commendation:*** Bellagio Hotel & Casino Las Vegas, Nevada
Design: Marnell Carrao Associates
Manufacturing: Architectural Cast Stone Santa Ana, California

2000 Jury Members:

Chairman – William Bain, Jr., FAIA, RIBA, NBBJ Architects • Seattle, Washington
Alan J. Beard, FAIA, CSI, GBD Architects • Portland, Oregon
Robert W. Widmeyer, AIA LMN Architects • Seattle, Washington

ARCHITECTURAL PRECAST ASSOCIATION
PO Box 08669 • Ft. Myers, FL 33908-0669 • Tel: (941) 454-6989 • Fax: (941) 454-6787 • Email: info@archprecast.org • Website: www.archprecast.org

Design choices are infinite with Architectural Precast Concrete. When you demand quality and beauty, demand Architectural Precast Concrete.

CIRCLE 45 ON INQUIRY CARD

Building On Generations Of Experience

We're committed to the future! At EAGLE Window & Door we continue to offer a rich heritage of superior craftsmanship. Many of our employees are second- or third- generation window crafters, and remain the strength and heart of our business. That's why we're reinvesting in our community by building a new, state-of-the-art manufacturing facility. From the oldest, continually-operated window and door facility in the country (circa 1860's) to the newest, EAGLE is dedicated to carrying on a long-standing tradition. Isn't it time you experience a legacy in the making!

EAGLE WINDOWS · DOORS

For information about EAGLE, call (800)453-3633 or visit our website at www.eaglewindow.com.

© 2000 EAGLE Window & Door, Inc. - Dubuque, Iowa

An American Architectural Products Corp. Company

CIRCLE 46 ON INQUIRY CARD

Enough snickering. Suburbia is more complicated and varied than we think.

Critique

By Robert Wilson

As the editor of *Preservation* magazine, a publication that sees itself as being about place, I've realized recently that we have been overlooking a pretty significant subject: suburbia, the place where half of Americans live. We have run stories about sprawl and the New Urbanism and made the usual condescending references to cookie-cutter houses and placeless places. But we have failed to look at the suburbs with the same curiosity and courtesy that we've shown to Dubrovnik, say, or Sioux Falls or Paducah.

"Why is that?" I now wonder. Snobbery is part of the answer. Nothing can be less hip than suburbia. At a time when our cities are showing new signs of life and our open space is still being chewed up at an exponential rate, whose imagination is going to catch fire over the problems of the suburbs?

Part of the answer is also linguistic. The s-word itself has become so ubiquitous and so baggage-laden that it barely means anything anymore. There is a paradox lurking here. The word *suburbia* has been used to describe the increasingly varied places where more and more of us live—gritty inner suburbs that share many of the problems of their urban neighbors, immigrant neighborhoods at every economic level, and new greenfield developments sporting one McMansion bigger than the next. Yet our definition of the word remains fixed in a former time, decades ago, when women worked at home and men commuted to work. The biggest problem with suburbia is that we are all so certain that we know what it means. We watched *Father Knows Best* and read our Updike, and even a recent film like the Oscar-laden *American Beauty* confirms what we think we know: suburbia is a dull, sterile, unhappy place.

A persistent bias

As this suggests, the problem is also cultural. For the most part, American culture and opinion are still created, even in the Internet age, in cities at either edge of the continent. City dwellers, whether native born or the still more unforgiving recent converts, think of the suburbs as a mediocre place for mediocre people, a place where they will never venture or from which they have happily escaped. Even those who work in cities and live in suburbs (many of which now offer more urban amenities than nine-to-five cities) share this anti-suburban frame of mind. If intellectuals do deign to look at the suburbs—whether cleverly in a film like *American Beauty* or clumsily, as in another recent film, the ugly paranoid fantasy *Arlington Road*—they assume that so much banality must be hiding something deeply evil.

Beyond the movies

I'm really not here to defend suburbia, only to suggest that it is a more complicated, more various, and more quickly evolving place than we think. Two writers I admire, Witold Rybczynski and Joel Garreau, have helped me reach this state of cautious curiosity. The former, in his recent biography of Frederick Law Olmsted and elsewhere, has reminded me that the suburb was a noble idea that was often, in the first decades of its existence, nobly executed. Many of these places, such as Chevy Chase near Washington, D.C., continue to function admirably well. Garreau's insight is that Venice didn't become Venice the instant it was built, but developed over a period of centuries. If we remember that the suburbs, especially the postwar suburbs over which we do most of our hand-wringing, are still relatively new places, the question becomes not "Why are they so bad?" but, "What is the next step to making them better?"

Who's to blame?

As a journalist, I am naturally filled with righteous indignation about the subject. My instincts are first to find someone to blame and second to flatter myself that I know the solution. So, here goes: One reason that the suburbs are not better is that the best minds in architecture abandoned them. Once, not just Olmsted but Frank Lloyd Wright, Le Corbusier, Clarence Stein, and others considered, in an urgent and serious way, the questions of where and how people might live if they didn't live in cities or on farms. Am I wrong in

The pattern of progress? A new development takes shape outside Memphis.

Robert Wilson is editor of Preservation *magazine.*

believing that between the Garden City movement of the 1910s and 1920s and the New Towns of the 1960s there was a wasteland of ideas beyond the city limits—just as the suburbs began to lay waste to vast portions of the American landscape? And that there was precious little between the New Towns and the New Urbanists? Isn't this why the design and execution of suburbs have been so disappointing, because the field was abandoned to the merely avaricious?

A REASON THE SUBURBS AREN'T BETTER: THE BEST ARCHITECTS ABANDONED THEM.

For anyone who is irritated by how much attention the New Urbanists get, here is the simple answer to their popularity with the media: However retrograde their ideas, however short their accomplishments to date might fall, at least they have an idea and at least they have acted upon it.

The New Urbanists spent a certain amount of time reacting to Vincent Scully's suggestion that they should really be thought of as the New Suburbanists, but in their new book, *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*, Andrés Duany, Elizabeth Plater-Zyberk, and Jeff Speck frankly admit and defend their suburban focus. Whether they helped create the slow-growth, sustainable-growth, antisprawl movements that have captured the imagination of so many voters in recent elections at all levels of government, or whether they merely capitalized on these movements, their book seems timely. In a recent front-page article, the *New York Times* reported that academics have suddenly taken an urgent interest in suburbia. Other major newspapers across the country have latched on to the subject, perhaps as an outgrowth of the widening interest in sprawl.

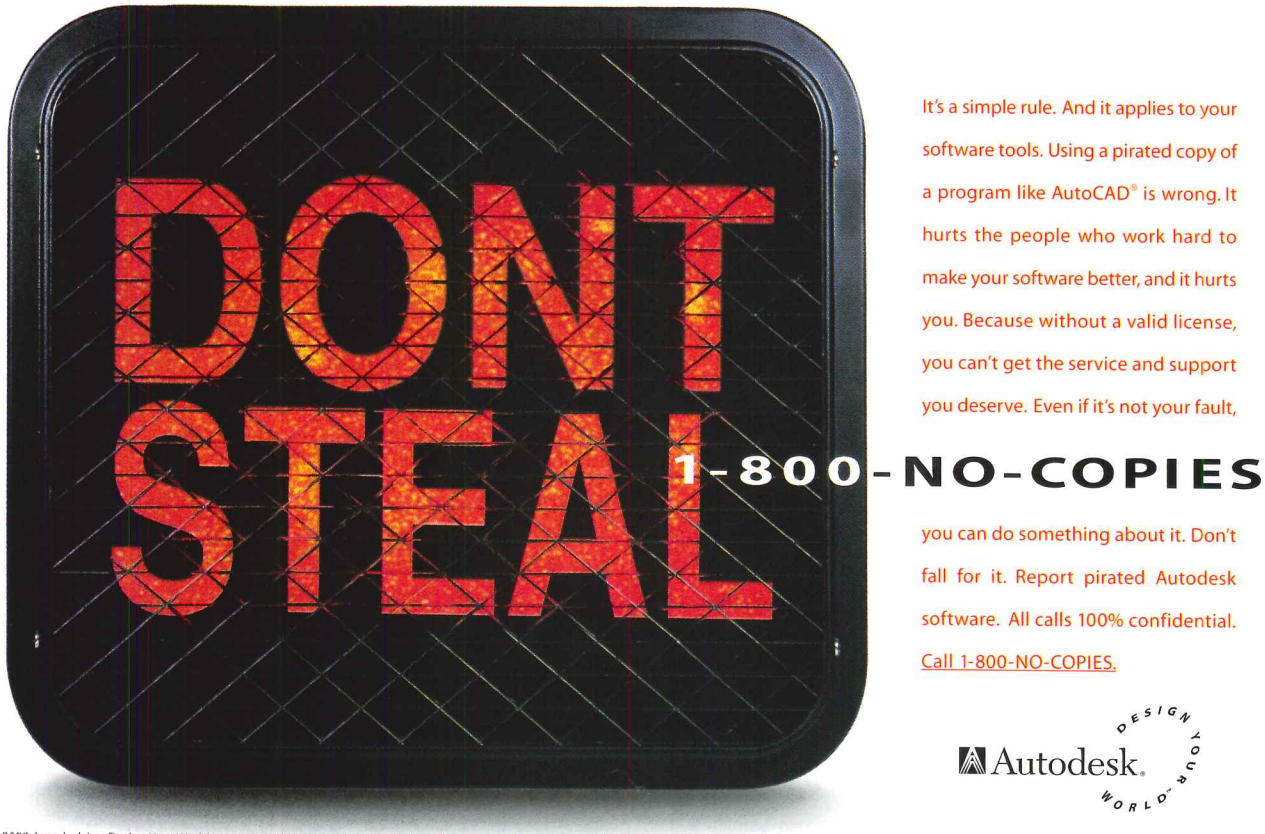
Recent stories in *Preservation*, beginning with a cover story on the new suburban immigrants, have not thrilled hardcore preservationists, for whom suburbia has always been a particular *bête noire*. For me, this resistance is only a speed bump on the road to the movement's democratization.

Do I foresee the wholesale preservation of postwar suburbs? Probably not. Rapid evolution would be far more desirable. Still, alarms were sounded recently in Houston, where a whole neighborhood of brick ranch houses was under siege. The truth is that most people love their suburban homes and neighborhoods and will fight to save them. And if preservationists have learned anything in the last century or so, it is that the notion of what is worth preserving changes. Just recall how Victorian buildings were despised as recently as a few decades ago. Perhaps the split-level will be the retro rage in 2050.

Design creeps in

As money and newly sophisticated consumers pour into the suburbs, good design and architecture are beginning to follow. In my neck of suburbia, northern Virginia, where even a determined electorate has had trouble slowing sprawl, there are nonetheless hopeful signs that good ideas are arriving—from town-center schemes for shopping and living to interesting and appealing buildings for churches, college campuses, and office complexes.

Most welcome of all, perhaps, is the improved architecture for public buildings, including schools, which were the most bereft places we allowed to be built in the bad old days just ending. May all of you who read these words enthusiastically enter the fray, enriching yourselves even as you enrich a vast part of our landscape that urgently needs you. ■



It's a simple rule. And it applies to your software tools. Using a pirated copy of a program like AutoCAD® is wrong. It hurts the people who work hard to make your software better, and it hurts you. Because without a valid license, you can't get the service and support you deserve. Even if it's not your fault, you can do something about it. Don't fall for it. Report pirated Autodesk software. All calls 100% confidential. Call 1-800-NO-COPIES.

Autodesk. DESIGN YOUR WORLD

©2000 Autodesk Inc. Design Your World is a trademark. AutoCAD and the Autodesk logo are registered trademarks of Autodesk Inc. in the U.S. and other countries.

www.autodesk.com/piracy

Snapshot

By Ingrid Whitehead

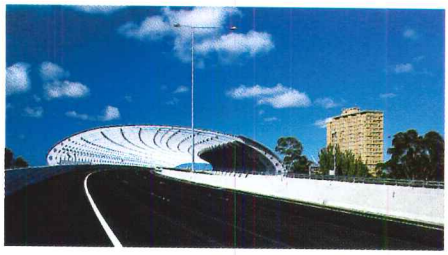
Speed, sound tubes, sticks, and the city

Like a massive steel spider perched on the road, the brazen gateway sculpture that beckons motorists into Melbourne is both scary and splendid to behold. Meant to be experienced at speeds of 100mph, Denton Corker Marshall's City Link Gateway is a tribute to the ancient use of a true city boundary.

Connecting the Tullamarine Freeway—which leads to the Melbourne International Airport—with the Westgate Bridge, the gateway consists of an elevated "sound tube" through which cars must pass to get to the next group of dramatic elements: a precariously angled yellow steel beam, approximately 16-by-16 feet in width and 98 feet high. Beyond the massive beam, 39 aligned red "sticks," each approximately 98-feet tall and 3-by-3 feet wide are located in a row, which from afar resembles a solid wall. The yellow beam, metaphor for a gateway arch, is cantilevered 196 feet over the roadway.

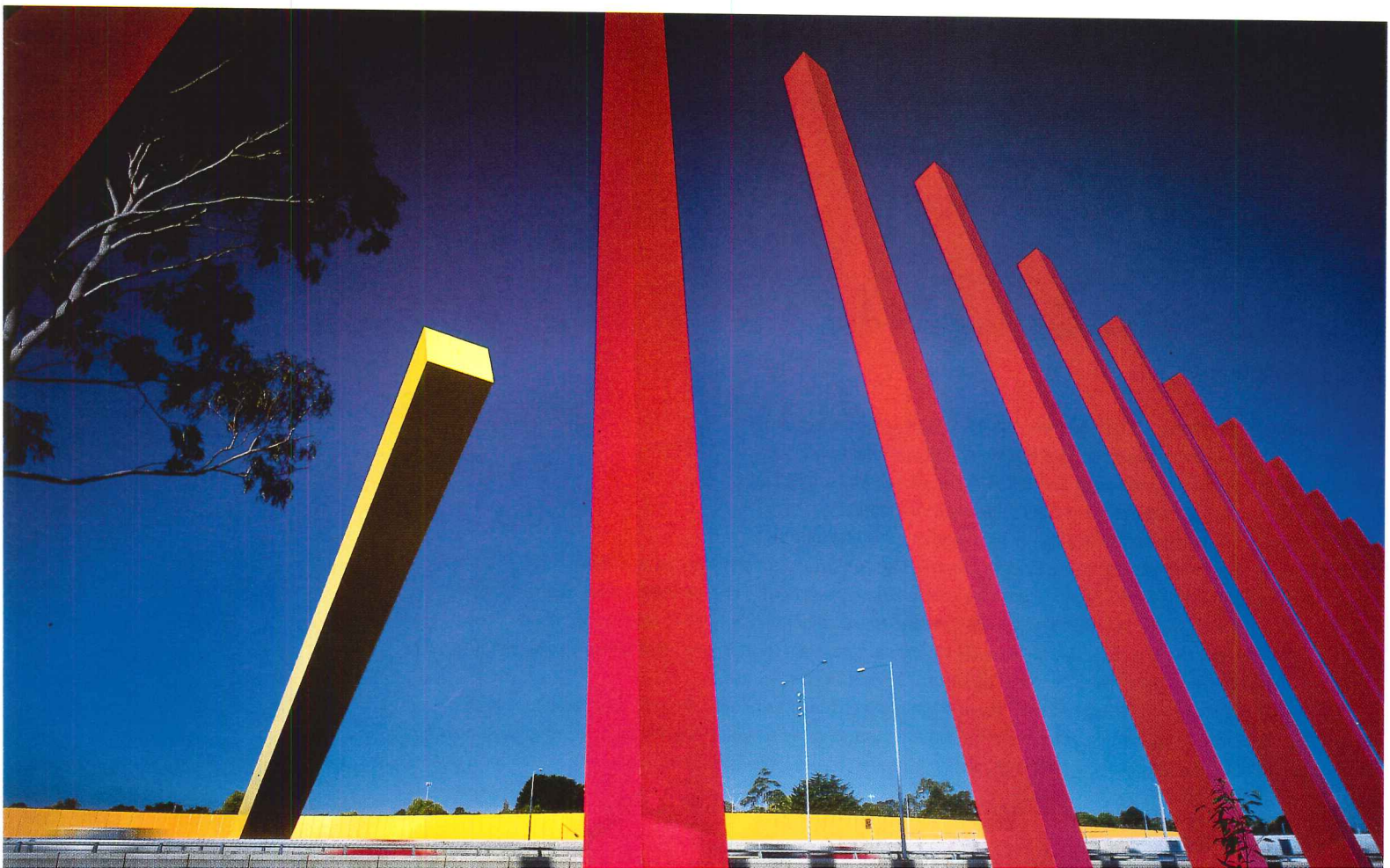
"Scale was critical given the speed of travel and the need to make an 'iconic' impact," says architect John Denton, "so we created a dynamic composition of elements that change as you travel through, making references to city walls—the long sinuous orange sound wall, passing through the red sticks and the boom gate in the open posi-

Snapshot



tion, a direct reference to contemporary gateways we all experience in the car."

Recognizing the monumental impact of the architects' simple, bold, dramatic sculpture, the Melbourne Gateway won the Australian Council of Building Design Professionals Urban Design in Australia Award last year. Chairman of the judging panel Graham Humphries called the project one of "national importance, which will project Melbourne well into the next century." ■



PUT US IN YOUR PLANS

AND WE'LL DELIVER FOR YOU. ANYWHERE.

Looking for a window supplier that can deliver for you, anywhere in America? Look to TRACO.

Historic restorations. Schools and universities. Healthcare facilities. Hotel and motel applications. Office developments. Condominium projects. Whether you have designs on a single project or an entire industrial complex, you can look to us with confidence for retrofit or new construction. And look to us for quality.

We're the only window supplier with six manufacturing facilities strategically located throughout the U.S. to deliver that quality to you – where and when you need it. All backed by one of the most extensive dealer networks in America.

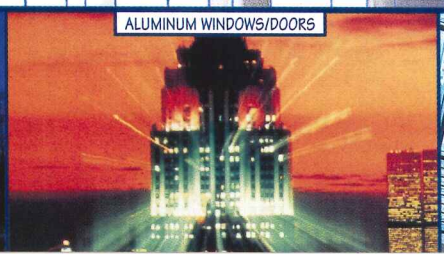
Now that's what we call a plan.

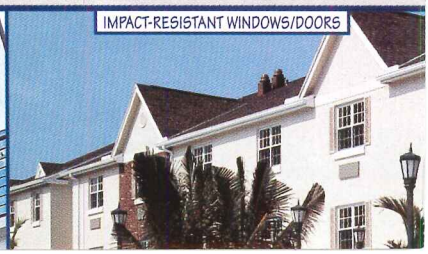
1-800-GO-TRACO • www.traco.com

TRACO™

The Windows And Doors That Greet The World

CIRCLE 49 ON INQUIRY CARD

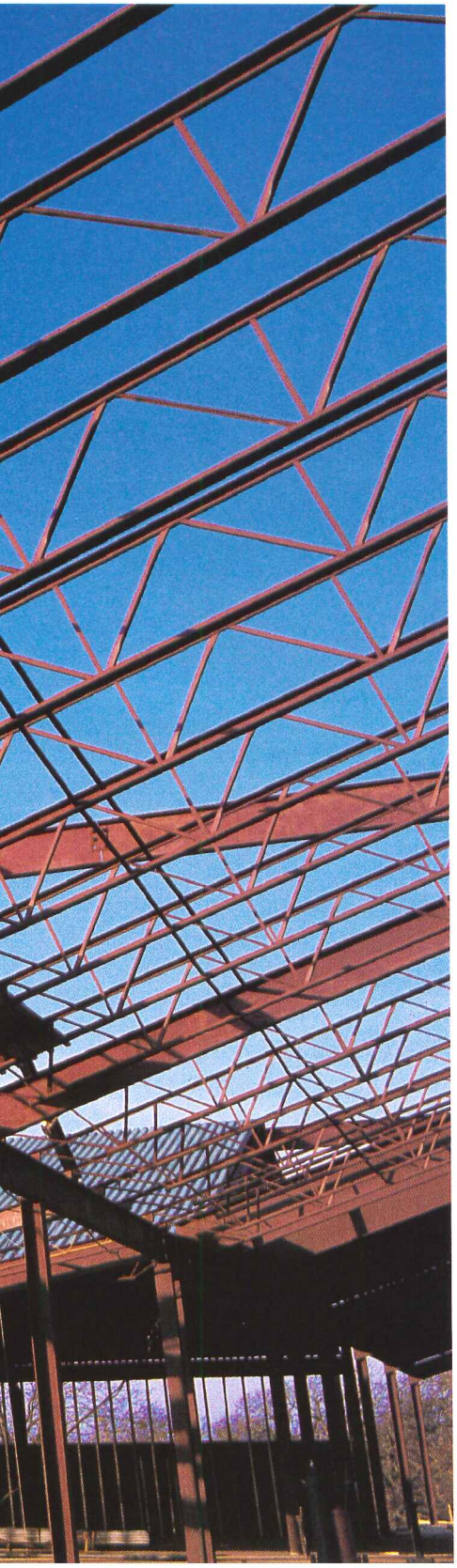




EVERYTHING YOU NEED TO
ABOUT SLOPED SEAT JOISTS CA
AT BRANSFORD ELEMENTAR

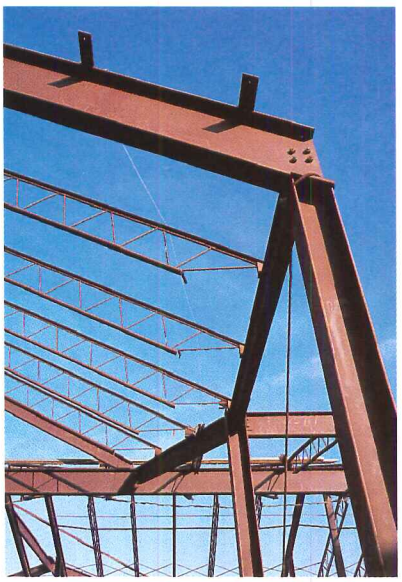
Bransford Elementary School in Grapevine, Texas was built with Vulcraft sloped seat joists.

NOW E LEARNED CHOOL.



Take a lesson from the Bransford Elementary School in Grapevine, Texas. Where the structural engineer saved money using Vulcraft sloped seat steel joists instead of wood construction for the pitched roof design.

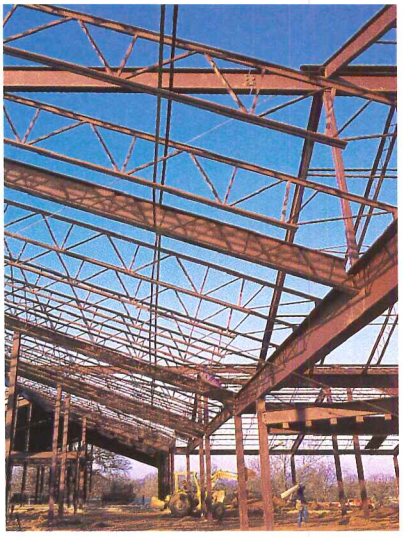
Vulcraft sloped seat joists work in even the most complex customized framing jobs where wood construction has often been preferred in the past. But now things are changing. The rising cost of wood construction makes steel joists more competitive than ever. And aesthetic considerations are making pitched roof designs more popular. All across the country, contractors, engineers, and architects are turning to America's largest producer of steel joists for engineering experience, economical pricing, and unique design alternatives.



Sloped seat joists can be designed to fit almost any degree of pitch.

Vulcraft's sloped seat joists can be designed to fit almost any degree of pitch you could want, offer superior strength, and are easy to erect in any kind of weather. And, as we did for Bransford Elementary, we can coordinate the design and delivery of our high quality steel deck to go with our joists, allowing construction schedules to be met and costly delays avoided.

To take full advantage of Vulcraft's engineering expertise with sloped seat joists, contact us early in your design phase. We'll be happy to assist you in finding the most efficient and economical solution for your project.



Sloped seat joists work in even the most complex customized framing jobs.

Maybe it's time you went to the head of the class with Vulcraft. Give us a call or consult Sweet's 05100/VUL and 05300/VUL.

VULCRAFT
A Division of Nucor Corporation

PO Box 637, Brigham City, UT 84302, 801/734-9433; PO Box 100520, Florence SC 29501, 803/662-0381; PO Box 169, Fort Payne, AL 35967, 205/845-2460; PO Box 186, Grapeland, TX 75884, 409/687-4665; PO Box 59, Norfolk NE 68702, 402/644-8500; PO Box 1000, St. Joe, IN 46785, 219/337-1800.
Architect: WRA Architects Inc., General Contractor: Steele-Freeman Inc., Structural Engineer: Randy Cooper, Steel Fabricator: Hutcheson Steel Inc., Steel Erector: Blakeman Steel. Photographs in this advertisement may not reflect complete or final installation. Consult Steel Joist Institute Technical Digest No. 9 for information concerning safe handling and erection of steel joists and joist girders.

CIRCLE 50 ON INQUIRY CARD

One more way to
build on our knowledge

No Chipping, No Flaking

Ultra 90+™

The only ceiling with a warranty against nicks, scratches, chipping, flaking, punctures and indentations.

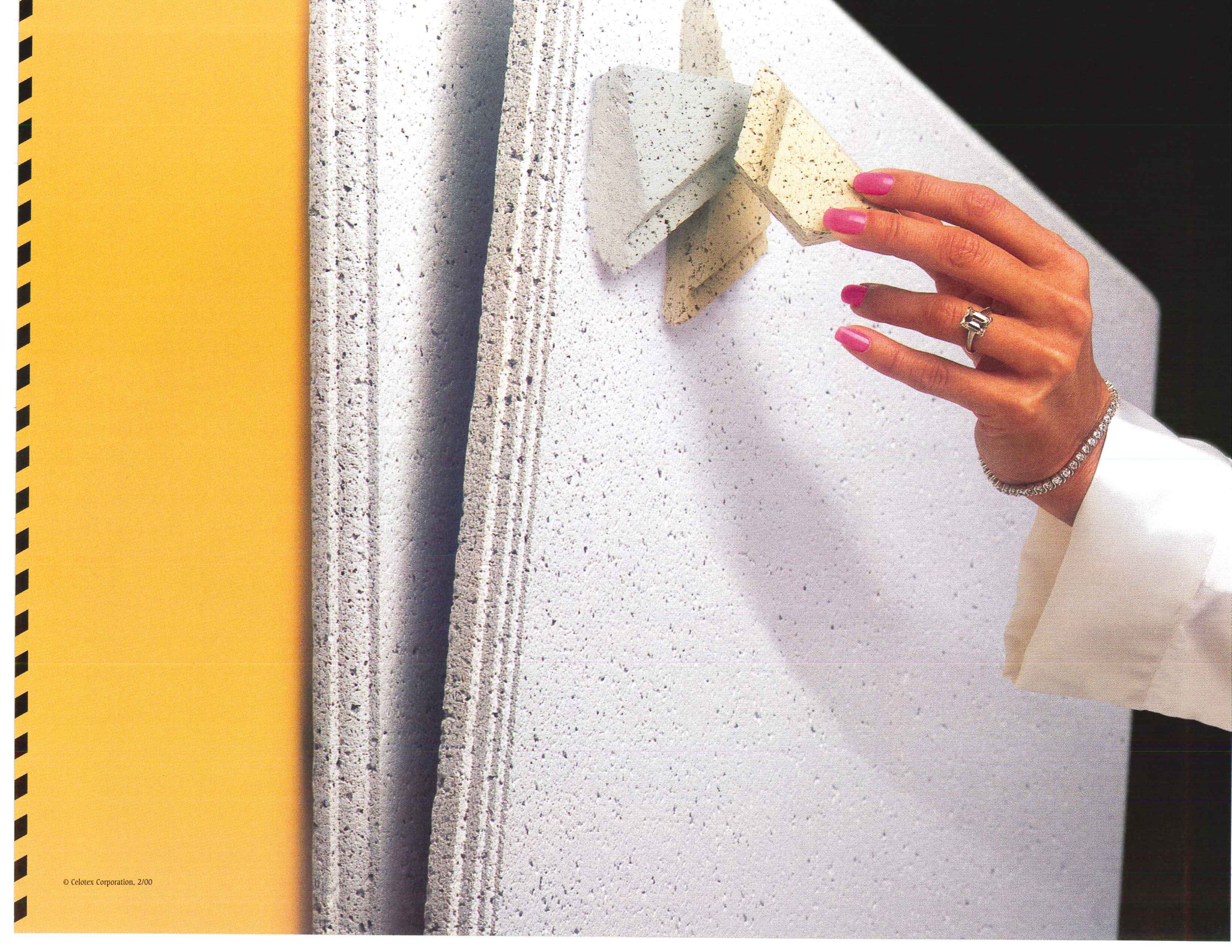
There's only one way to produce ceiling panels offering the benefits of **Ultra 90+.** You pour them into a mold and cure them slowly. What comes out is a casting... **smooth** yet too strong to crack, scratch, puncture, chip, flake, or sag even to **90% RH and 104°F.** Look to **Ultra 90+** for Ultra-high light reflectance, a variety of **smart edge details,** and **9 designer colors** that aren't just painted on, but, like stone, the colors go clear through. Enough to deserve a **10-year warranty** for long-lasting beauty. There's nothing out there comparing to Ultra 90+ with the **UltraGuard™ finish.** To learn more, visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the Company You Can Talk To."

Celotex

Build On Our Knowledge™

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

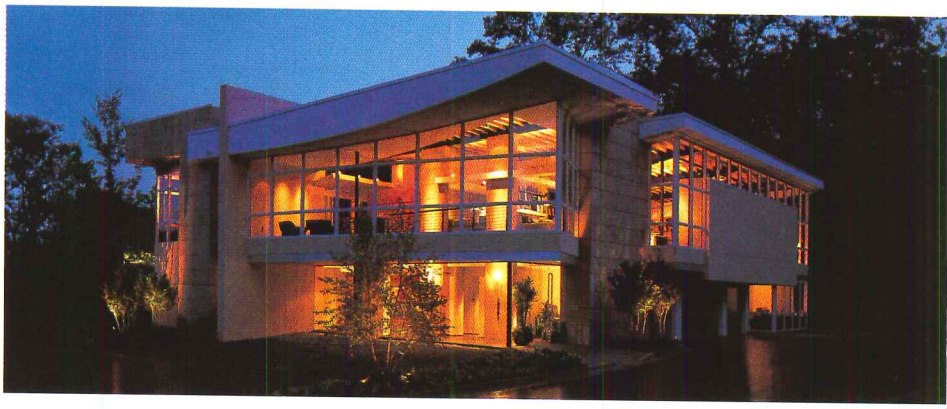
CIRCLE 51 ON INQUIRY CARD



© Celotex Corporation, 2/00

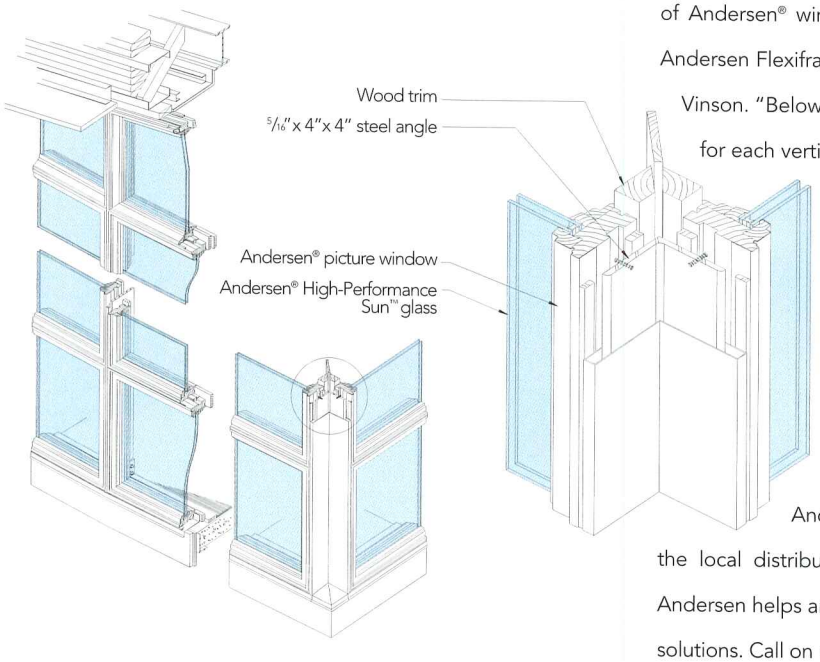
PFVS Architects, Inc., Atlanta, GA
Director Of Design and Architect In Charge: Clarence T. Vinson, AIA
Design Associate: Preston Bennett • General Contractor: Dudley Barrett, Atlanta, GA
Fenestration: Andersen® Flexiframe® and casement/awning picture windows
in white color with Perma-Shield® low maintenance exteriors and
energy efficient Andersen High-Performance Sun™ glazing

"Andersen," the AW logo, and "Flexiframe" are registered trademarks of Andersen Corporation. All other marks where denoted are marks of Andersen Corporation. © 2000 Andersen Corporation. All rights reserved. 0332A



ARCHITECTURE DEFINED

ANDERSEN FLEXIBILITY REFINED



"We wanted our new offices to be a statement about what we do as architects," said Director of Design Clarence Vinson. The result? Using interlocking forms, spatial planes and contrasting materials, this firm defined its profession, and refined the role of Andersen® windows in commercial design. "We used the Andersen Flexiframe® windows in a truly flexible way," said Mr. Vinson. "Below the curved roof soffit, we specified the height for each vertical mullion and the windows were made to fit the arc without curving themselves. Below them, Andersen helped us create a wall of windows by using their standard sized windows with low maintenance exteriors and energy efficient glazing." Andersen people were flexible, too. Said Mr. Vinson, "From the expert support of the architects at Andersen Corporation, to on-time delivery by the local distributor, everyone was incredible." This is how Andersen helps architects achieve imaginative, flexible window solutions. Call on us to play a definitive role in your next project.

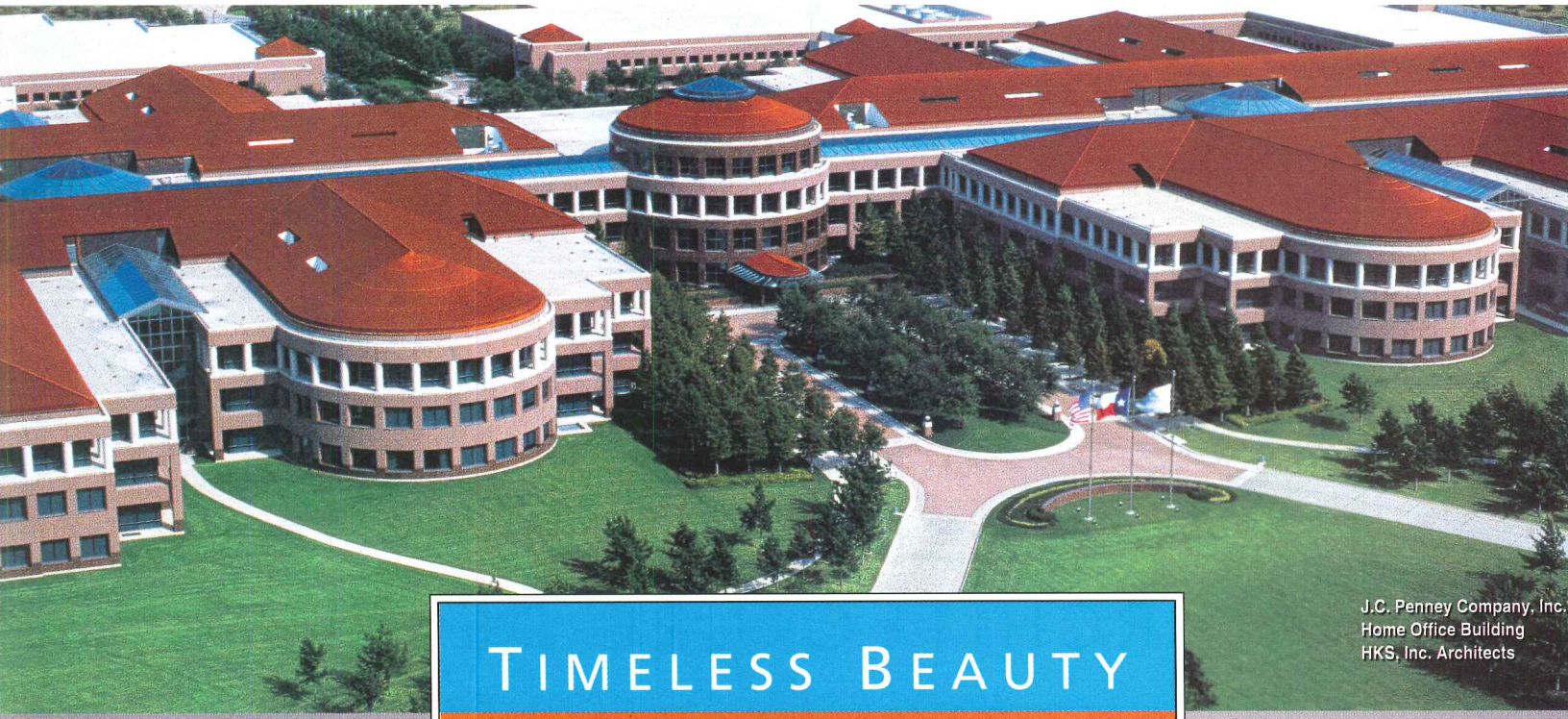
Get a CD-ROM portfolio of this and 160 more projects, and our catalog, by calling 1-800-426-7691 reference# 2627.

ANDERSEN® COMMERCIAL

Andersen AW Windows·Patio Doors

www.andersenwindows.com

CIRCLE 52 ON INQUIRY CARD



J.C. Penney Company, Inc.
Home Office Building
HKS, Inc. Architects

TIMELESS BEAUTY
TIMELY SUPPORT

Get both when you build with architectural copper. Just call 888-4ARCH11 and tap into a complete network of support services — including professional design assistance. • There's also CDA's comprehensive *Copper in Architecture Handbook*. It features design details and specifications — in hard copy and in AutoCAD®/ WordPerfect® files* — for nearly any application. • A six-part videotape series examines the functions, forms and details of different copper roofing styles. • A 72-minute video installation guide covers all copper roofing systems. • You also get access to CDA's databases, publications, training programs, manufacturers and local supplier/contractor listings. They're all part of CDA's "Copper in Architecture Program" — providing the assistance needed to put copper's timeless beauty and dependability to work in your next project. For a free copy of our brochure, *Copper in Architecture* call **888-4ARCH11**. And visit us at ***http://www.copper.org.***

AutoCAD is a registered trademark of Autodesk, Inc.
WordPerfect is a registered trademark of Corel Corporation.
* On 3½" IBM-compatible disks.

COPPER DEVELOPMENT ASSOCIATION INC.

260 Madison Avenue, New York, NY 10016

CIRCLE 53 ON INQUIRY CARD

American Institute of Architects 2000 Honors & Awards

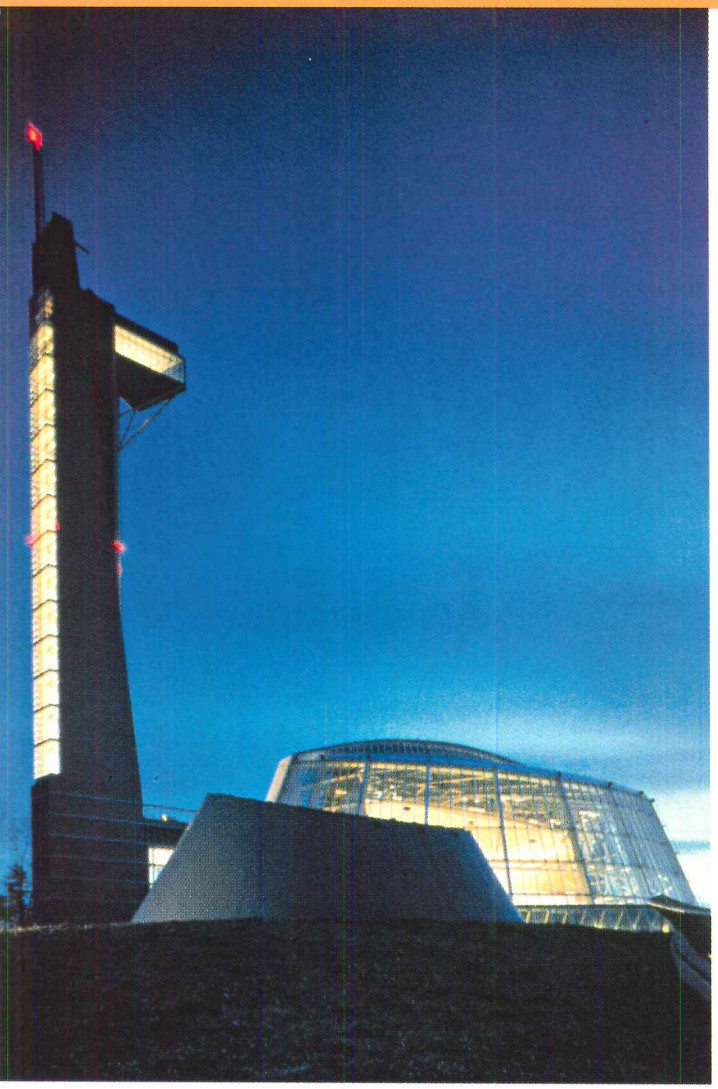
Architecture p. 94
Interiors p. 110
Urban Design p. 124
25-Year Award p. 134
Gold Medal p. 145
Firm Award p. 166

The U.S. is enjoying its longest period of sustained economic growth since record keeping began in 1854. The construction business is robust: While activity has slowed from the torrid pace of the last two years, the slight improvement reported during the first three months of 2000 suggests the industry is "stabilizing at what is still a very healthy level," according to industry tracker F.W. Dodge. We all know what this means: Architects are busy.

So busy, in fact, that the American Institute of Architects named a record number of 38 winners when it came time to reveal its 2000 Honor Awards. To judge from the character of these honored projects, American architects are finding work in a wide variety of locales and building types.

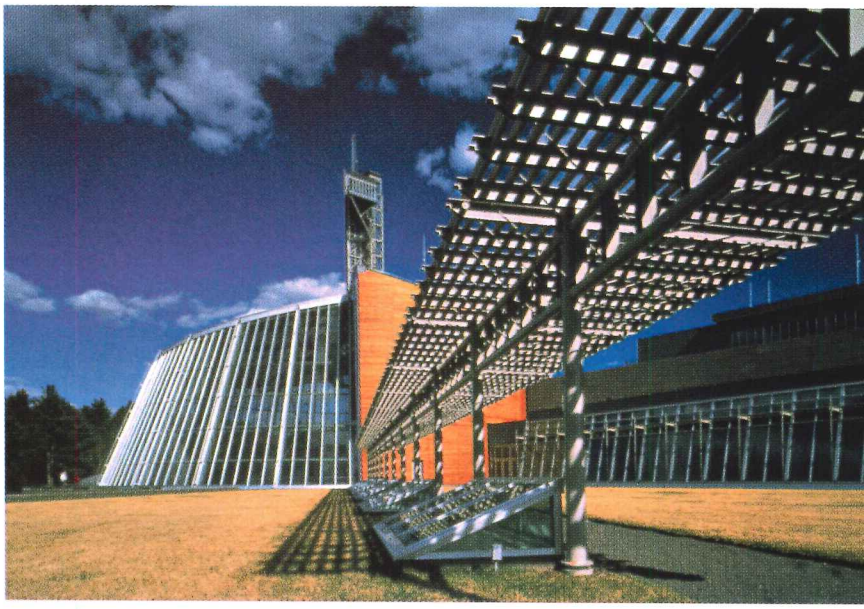
Architects were cited for the restoration of classic icons, such as the rehab of San Francisco's city hall and plans for a new Penn Station in New York. Other award-winning projects range from a sustainable-growth scheme for southeast Florida and a cabin in rural Washington to a park-and-ride center in Iowa. Some projects involve injecting new life into moribund sections of American cities, such as Detroit and Louisville, while others address far-flung spots, including Shanghai and Hong Kong—where waterfront districts are being redeveloped—and Malaysia and Turkey. Richard Meier, FAIA, was a three-prize winner, taking home two architecture awards as well as the 25-Year Award for his Smith House in Connecticut.

The following pages chronicle the full selection of this year's winners, along with features on the AIA's two top honors: the Firm Award, which went to Gensler, and Gold Medal, bestowed on Ricardo Legorreta. Accompanying quotes, taken from the jury's decisions, shed light on what makes this work exceptional. Soren Larson



Mashantucket Pequot Museum and Research Center
Mashantucket, Connecticut
Architect: *Polshek Partnership Architects*

The architects used three principal program elements—gathering space, museum, and research center—to provide a link to the cultural heritage of a Native American tribe.



"A COMPLEX PROGRAM RENDERED WITH TOUCHING ATTENTION TO HISTORICAL AND CULTURAL REFERENCES, WITH ORIGINALITY AND IMPRESSIVE REFINEMENT IN DETAIL."

PHOTOGRAPHY: © JEFF GOLDBERG/ESTO

Neugebauer House
Naples, Florida
Architect: *Richard Meier & Partners*

The house, on a wedge-shaped waterfront site, is approached via a winding access road lined with palm trees. The front lawn is uninterrupted except for a cluster of palms and a low, opaque cylinder that discreetly encloses a two-car garage. The horizontal front of the house is clad in two-by-three-foot limestone slabs.

"AN ACROPOLIS OF BEAUTIFUL FORMS CONTAINING A COMPLEX PROGRAM OF CONTEMPLATION, CIRCULATION, AND WONDER."

The Getty Center
Los Angeles
Architect: *Richard Meier & Partners*

The center, an unusual cultural campus, brings together all the components of the J. Paul Getty Trust on a hilly, 10-acre site jutting southward from the Santa Monica Mountains into a residential neighborhood [November 1997, page 72].

Search ing for the answer

Identify and compare products the simple way –
the c-z.com marketplace.

C-Z .com

w w w . c - z . c o m

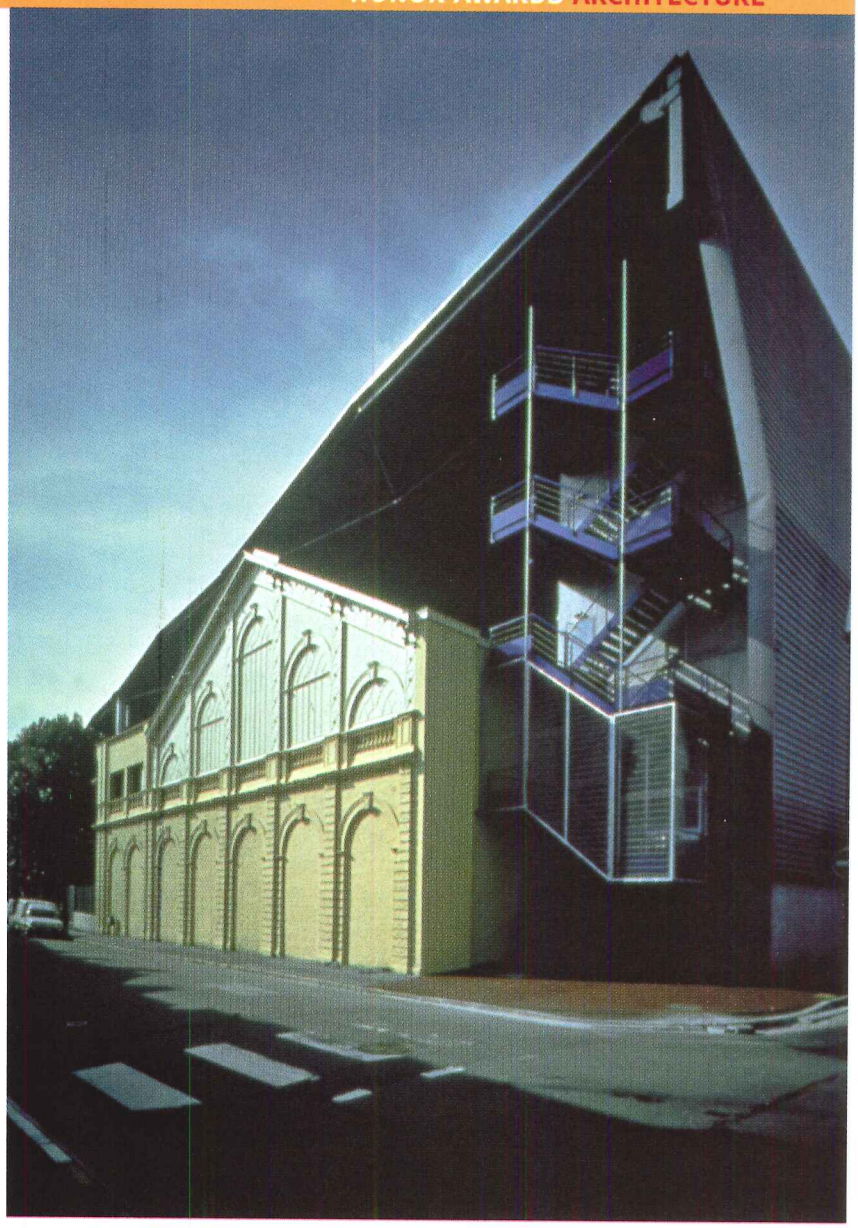
CIRCLE 54 ON INQUIRY CARD

C-Z

Le Fresnoy National Studio for Contemporary Arts
Tourcoing, France
Architect: *Bernard Tschumi Architects*

To protect existing structures and house additional, multifunctional programs such as exhibition halls, a huge roof was built to cover both old and new.

"THE CONCEPT OF HAVING A PROTECTIVE COVER FOR EXISTING STRUCTURES IS IMMENSELY INTRIGUING."



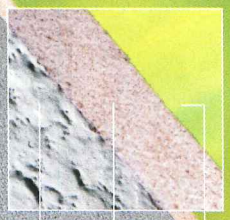
Kaufmann House Restoration
Palm Springs, California
Architect: *Marmol and Radziner Architects*

A house originally designed by Richard Neutra in 1946 was meticulously restored to its original form, size, and aesthetic. The architects removed any additions that were not part of Neutra's plan [September 1999, page 92].

"IN THIS HOUSE THE DESERT BLOOMS AGAIN. WITH METICULOUS CARE AND SKILL, THE ARCHITECTS HAVE RESTORED A LANDMARK STRUCTURE AND SITE."

We're strong, solid, and dependable.

In other words, not just another pretty face.



AQUA TOUGH™

Presenting the first gypsum sheathing with no face layer. New USG® FIBEROCK® Brand Sheathing with AQUA-TOUGH™ is engineered to offer superior strength and water resistance without the need for face layers. That means no delamination, stronger attachment and long lasting system performance.

USG FIBEROCK Brand Sheathing's patented AQUA-TOUGH formula provides integral water resistance throughout the panel, while the embossed drainage pattern on the back quickly removes intruding water.

For long lasting performance, install the only sheathing that's water resistant from the surface through the core – USG FIBEROCK Brand Sheathing.

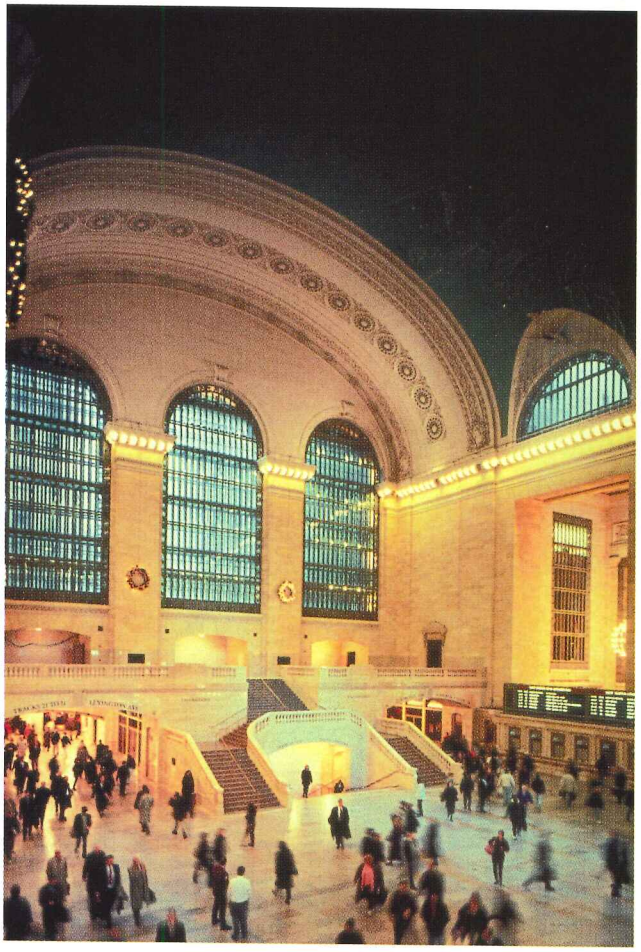
USG FIBEROCK® BRAND SHEATHING

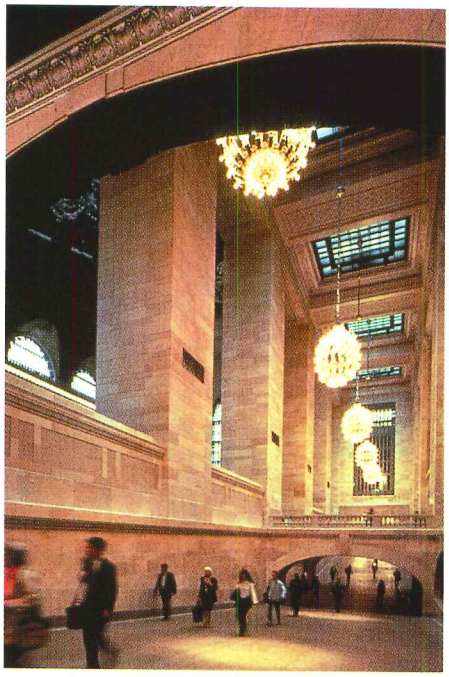
official building products supplier of NASCAR®

CIRCLE 55 ON INQUIRY CARD

www.usg.com 1-800-USG-4YOU
©2000 USG Corporation

NASCAR® is a registered trademark of the National Association for Stock Car Racing Auto Racing, Inc.





Grand Central Terminal
New York City
Architect: *Beyer Blinder Belle Architects & Planners LLP*

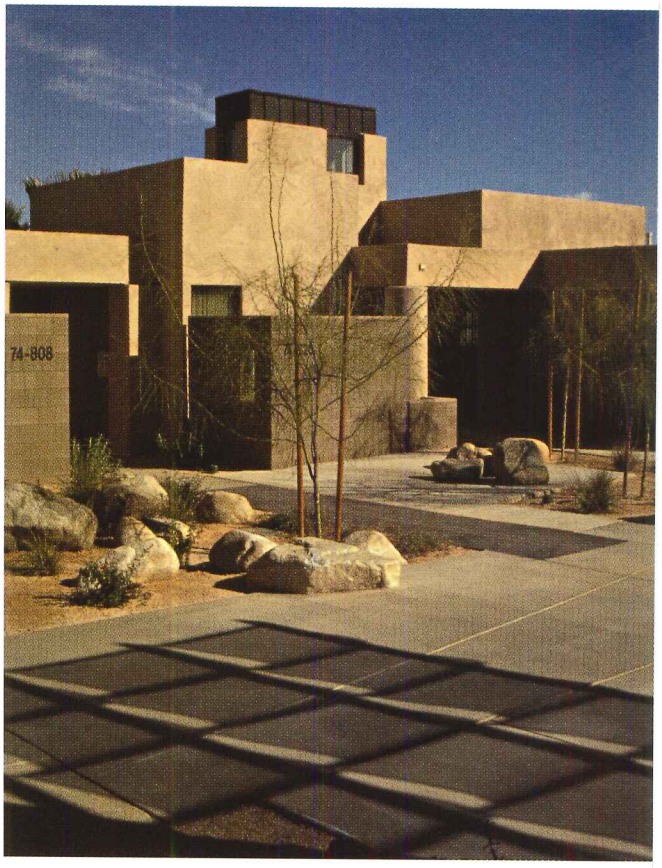
A New York landmark was in dire condition until a revitalization plan brought it back to full use. The marble was cleaned, escalators and a monumental staircase added, and the ceiling constellations restored to view [February 1999, page 84].

"AN IMPORTANT CIVIC SPACE OF GRAND SCALE HAS BEEN RESTORED AND REVITALIZED WITH BOTH SKILL AND RESPECT."

Desert housing for low-income seniors
Indian Wells, California
Architect: *Studio E Architects*

The need to keep climate-control costs down for low-income seniors dictated a design that uses building orientation and shading devices to keep residents cool.

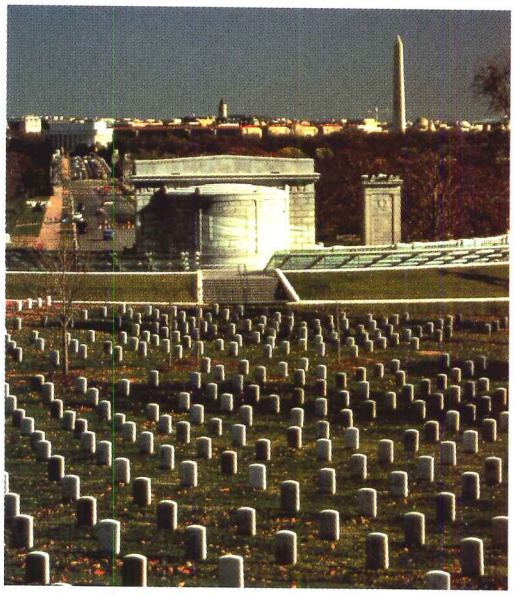
"A HIGH LEVEL OF CLIMATE-SENSITIVE DESIGN. AN OASIS-LIKE SETTING FOR COMFORTABLE DESERT LIVING."



© 1998 Sony Electronics Inc. All rights reserved. Reproduction in whole or in part without written permission is prohibited. Sony is a trademark of Sony.

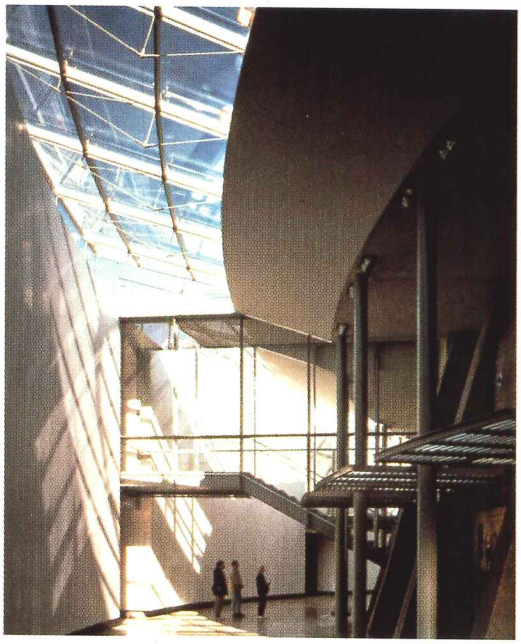
CIRCLE 56 ON INQUIRY CARD

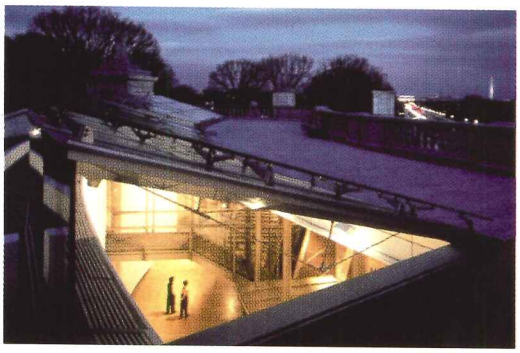
"PERFECTLY ADAPTED TO ITS SITE, INVENTIVE, EVOCATIVE, AND SUPREMELY APPROPRIATE AND NOBLE."

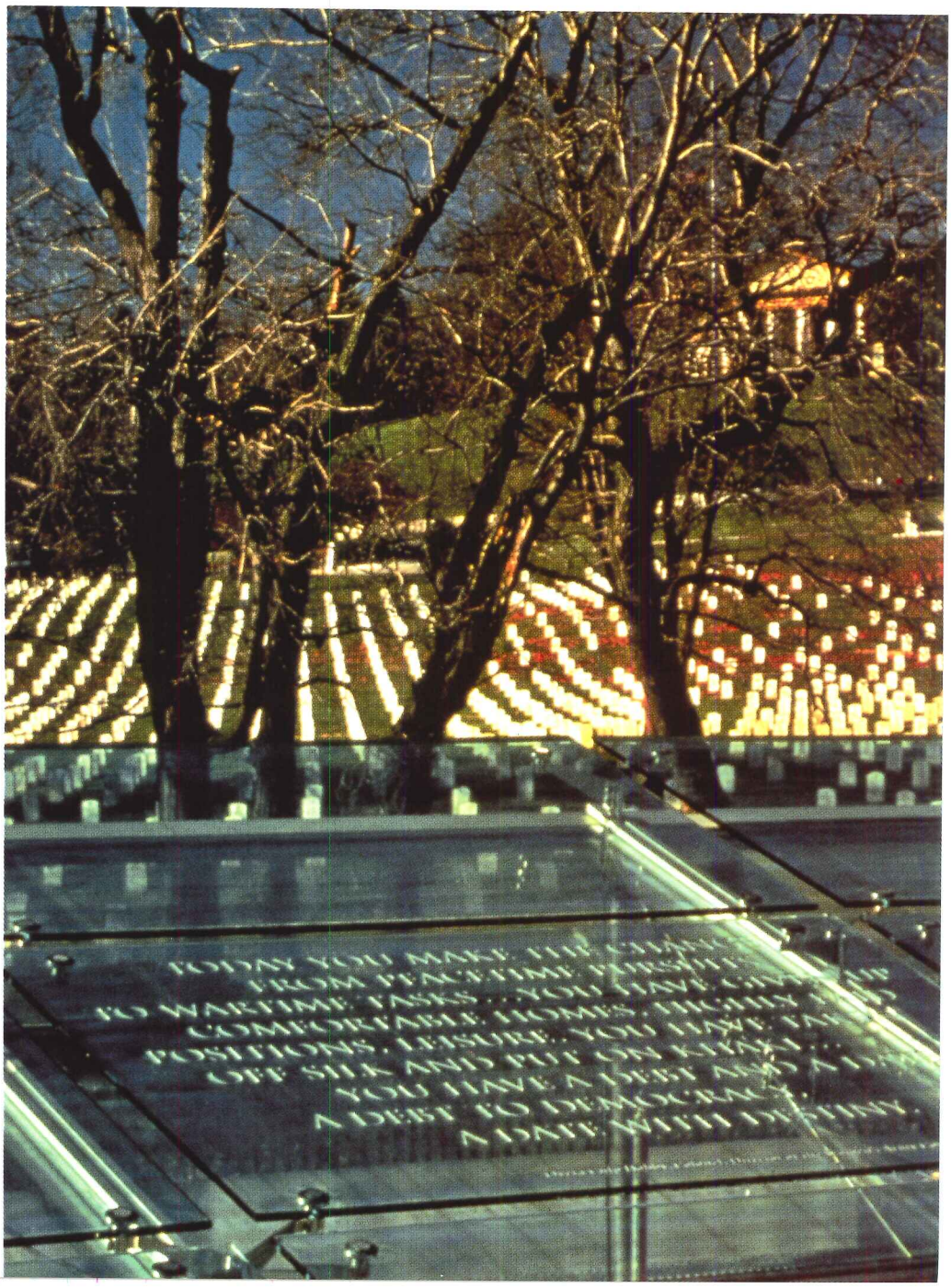


Women's Memorial and Education Center
Arlington, Virginia
Architect: *Weiss/Manfredi Architects*

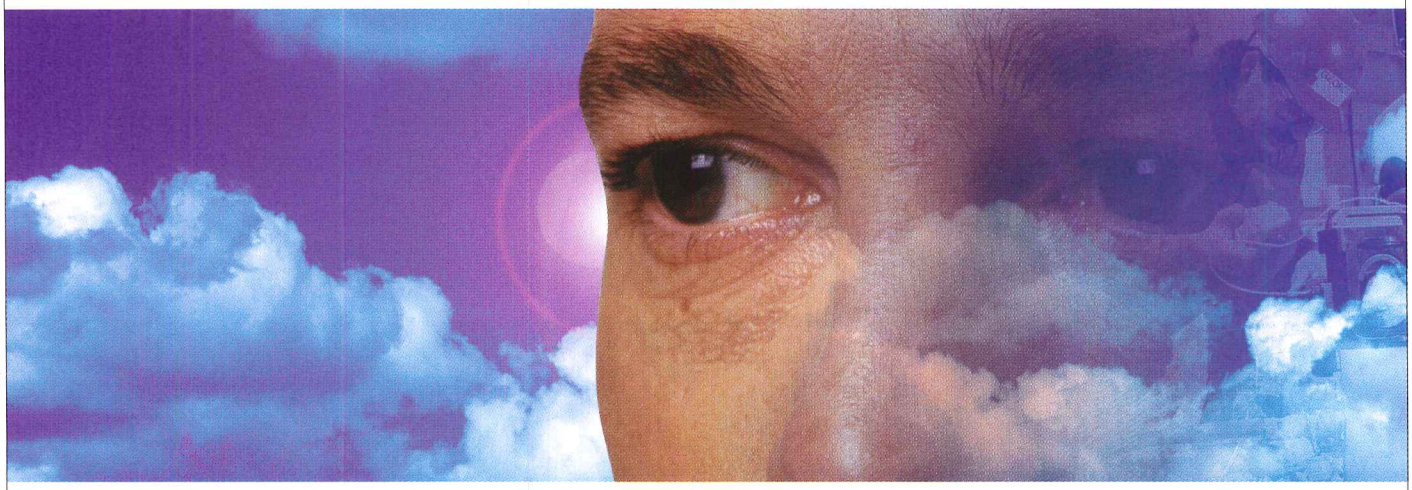
This memorial, commemorating women's efforts in the defense of the U.S., is defined by a 250-foot-in-diameter arc of glass tablets that is illuminated at night.







NECA / IBEW CONTRACTORS • WE DO MORE



We're not in the insurance business, but we sell peace of mind.

There's no substitute for getting the job done right the first time. NECA/IBEW contractors have the best trained workforce to head off potential problems before they happen and to insure healthy performance on any job.

NECA/IBEW contractors deliver peace of mind on all types of electrical construction jobs, especially those involving the latest technologies. NECA contractors can also monitor the efficiency and reliability of a power distribution system, providing preventive maintenance that saves money and helps to avert system breakdowns.

When you need the job done right the first time, on time and on budget, call a NECA/IBEW contractor.

To hire an electrical contractor who employs IBEW workers, contact your local NECA chapter or IBEW local union. To find a NECA contractor, call The NECA Connection at 800-888-6322 or visit our website.

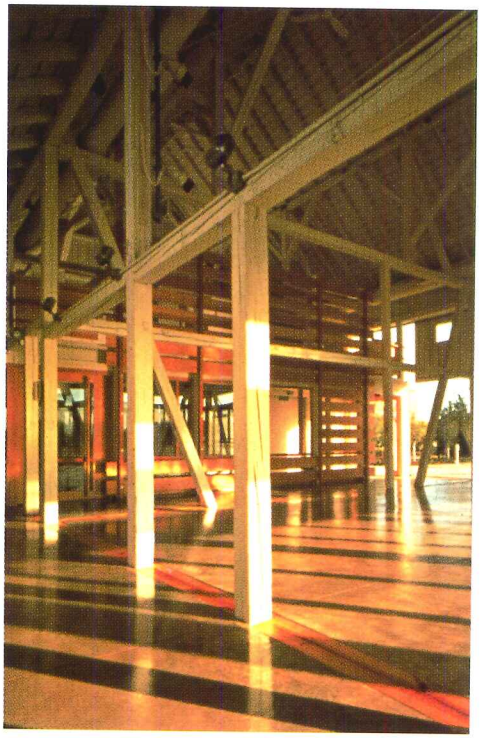
http://www.necanet.org

National Electrical Contractors Association
International Brotherhood of Electrical Workers

A • THE QUALITY CONNECTION COMMITMENT TO EXCELLENCE

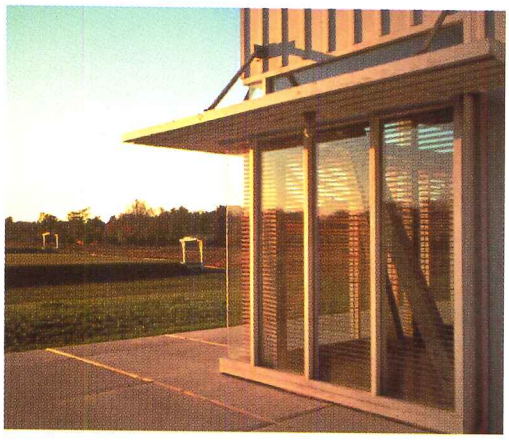
CIRCLE 57 ON INQUIRY CARD

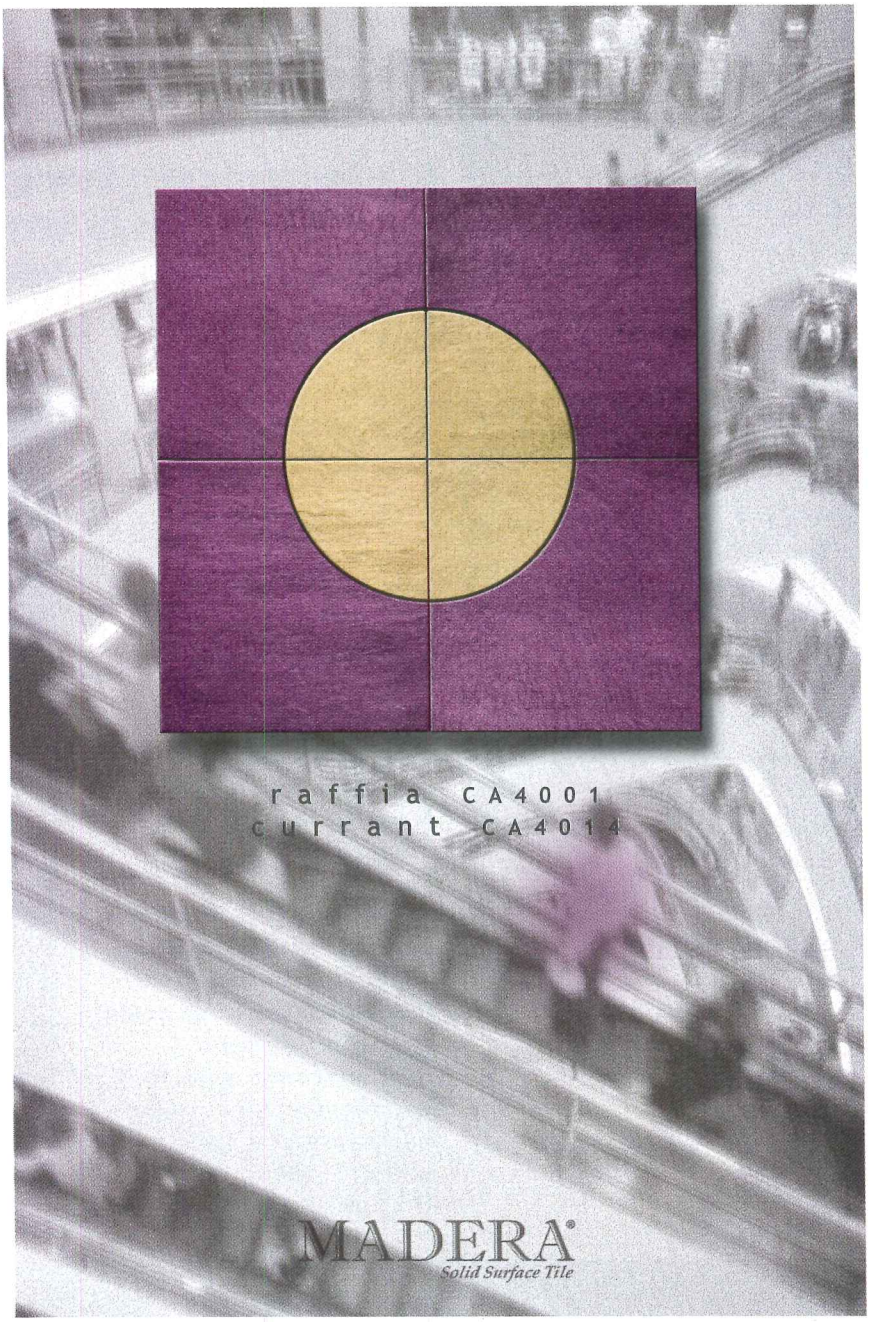
"EXTRAORDINARY, SIMPLE COMPOSITIONS OF OLD AND NEW ELEMENTS PROVIDE A SPECIAL AND HISTORICAL PERSPECTIVE."



Olympia Fields Park and Community Center
Olympia Fields, Illinois
Architect: *Weiss/Manfredi Architects*

The architects' plan for a community center combines an existing park with an adjacent 10-acre farm that has turn-of-the-century barns and a farmhouse. Community center offices, meeting and support spaces, and a multipurpose room are in a barn, while a silo addition holds a library annex and meeting room.





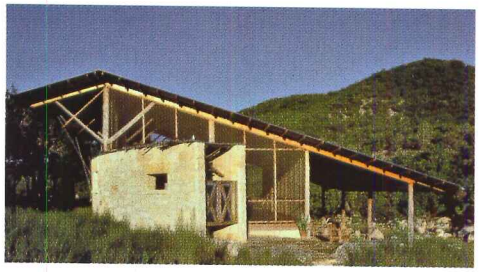
sustainable design

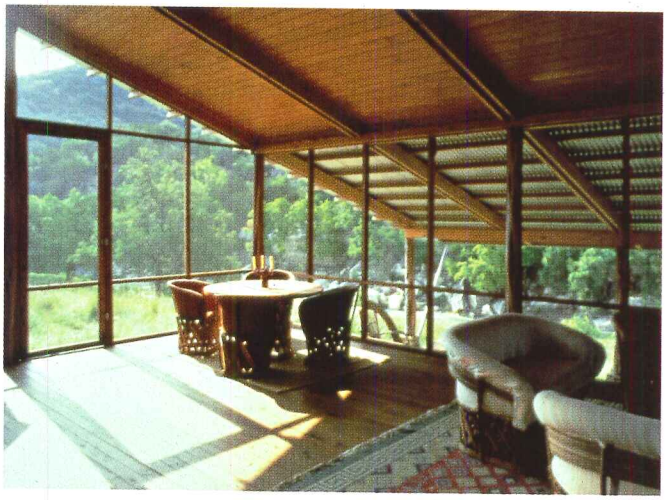
s i x t y f o u r c o l o u r s

www.maderatile.com

1.800.767.4495

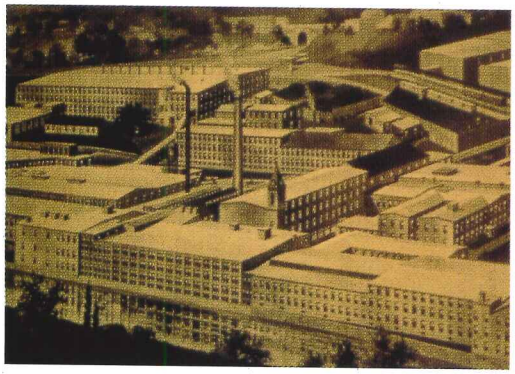
CIRCLE 58 ON INQUIRY CARD

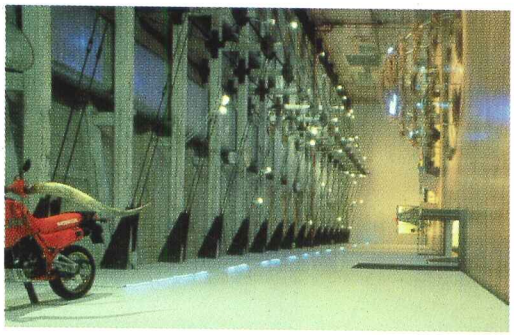




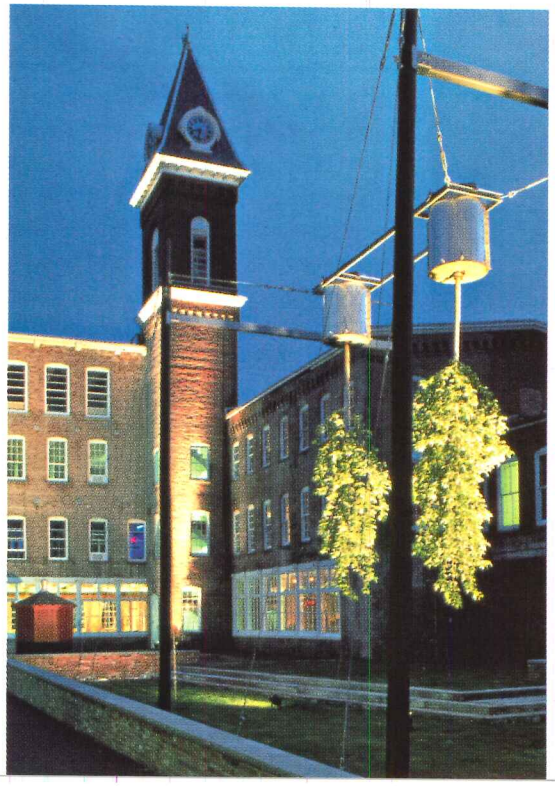
The Hill County Jacal
Pipe Creek, Texas
Architect: *Lake/Flato Architects*

Named for a Mexican term referring to a lean-to structure, this country house, sited on a rock ledge, is oriented toward the southeast and prevailing summer breezes while turning its stone back to the north winter wind. A screen-enclosed space with a curved stone wall holds fireplace, sleeping, and cooking alcoves, while a bathroom and storage rooms are placed at the ends.





"A PRESERVATION AND EXPOSURE OF THE EVOLUTION OF CONSTRUCTION TECHNIQUE IS EFFECTIVE."



Massachusetts Museum of Contemporary Art
North Adams, Massachusetts
Architect: *Bruner/Cott & Associates*

A new complex for Mass MoCA emerged from a 19th-century manufacturing complex. While the patina of history was preserved and honored, courtyards were created by selective removal, areas filled with columns were demolished, floors were removed, and grand galleries emerged [August 1999, page 58].

PUT US IN YOUR PLANS

AND THE SKY'S THE LIMIT.

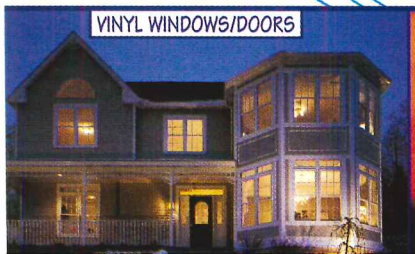
Looking for a skylight manufacturer who is also a valued business partner? Look to TRACO Skytech Systems,® Inc. and our SkyTeam Partnership Program.

From design development, through bidding and manufacturing to construction of skylight projects, the Skytech SkyTeam will be there from the ground up. Design support includes specification consultation, three dimensional skylight visualization and modeling, as well as seminars, hands-on workshops and full-time management personnel dedicated to your business – your needs.

Add the beauty and function of our product and a single-source partnership with the largest distribution network in America, and you'll see why things are looking up. TRACO Skytech Systems,® and the SkyTeam Partnership Program.

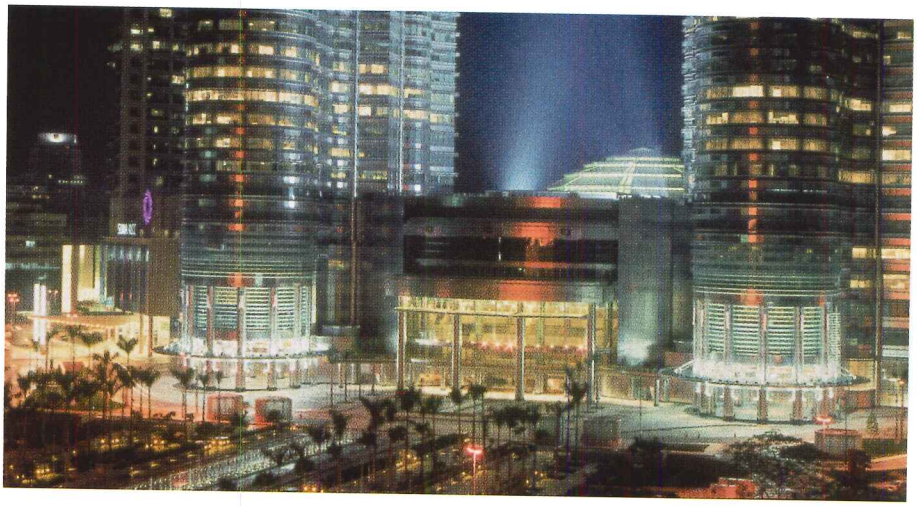
Now that's what we call a plan.
CIRCLE 59 ON INQUIRY CARD
1-877-270-9484 • www.skytechsys.com

TRACO™
Skytech Systems®, Inc.



Kuala Lumpur City Centre, Phase I
Kuala Lumpur, Malaysia
Architect: *Cesar Pelli & Associates*

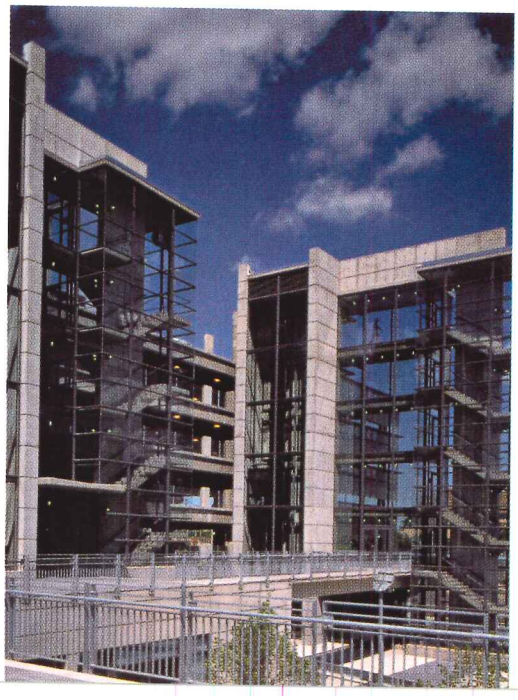
Local colors, patterns, and crafts characterize the massive Petronas complex: two 88-story towers, a concert hall, parking for 5,000 cars, and an entertainment galleria at the base [January 1999, page 92].



"A UTILITARIAN PROJECT CARRIED OUT WITH FINESSE AND INNOVATIVE ATTENTION TO DETAIL."

Center Street Park and Ride
Des Moines
Architect: *Herbert Lewis Kruse Blunck Architecture*

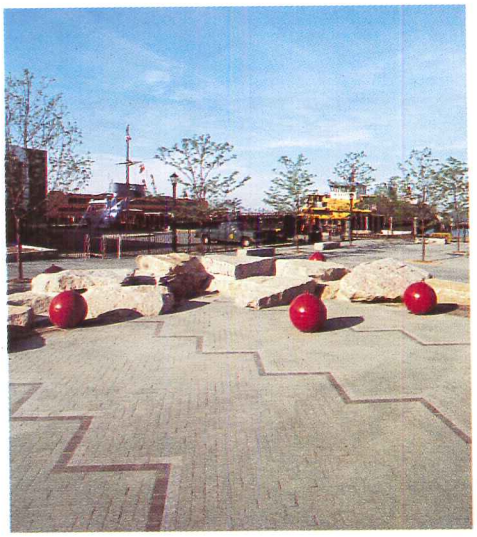
This project was intended to limit traffic within the central business district by locating parking for workers on the near periphery of downtown. The architects conceived a large rectangular box to house the vehicles, while glass-and-steel elevator and stair towers provide views and humanize the large scale of the garage.



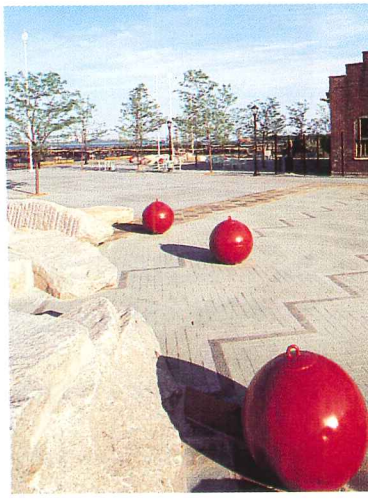
HANOVER® HAS DEVELOPED A LINE OF ASPHALT BLOCK UNIT PAVERS TO COMPLIMENT OUR CONCRETE PAVING

PRODUCTS. ASPHALT BLOCK IS A UNIQUE PAVING ALTERNATIVE FOR MANY REASONS. THE PAVER'S ASPHALTIC QUALITIES MAKE THEM COMFORTABLE TO WALK ON, FIRE RESISTANT, AND SOUND ABSORBENT. SPECIALIZED METHODS OF MANUFACTURING ENABLE THE PRODUCTION OF AN EXTREMELY DENSE PAVER WITH A NEAR ZERO PERCENT RATE OF ABSORPTION. AVAILABLE IN SEVERAL SIZES AND A VARIETY OF COLORS AND TEXTURES. HANOVER® ASPHALT BLOCK CAN BENEFIT ANY PROJECT.

ASPHALT BLOCK.
NOT ONE OF OUR USUAL CONCRETE SOLUTIONS.



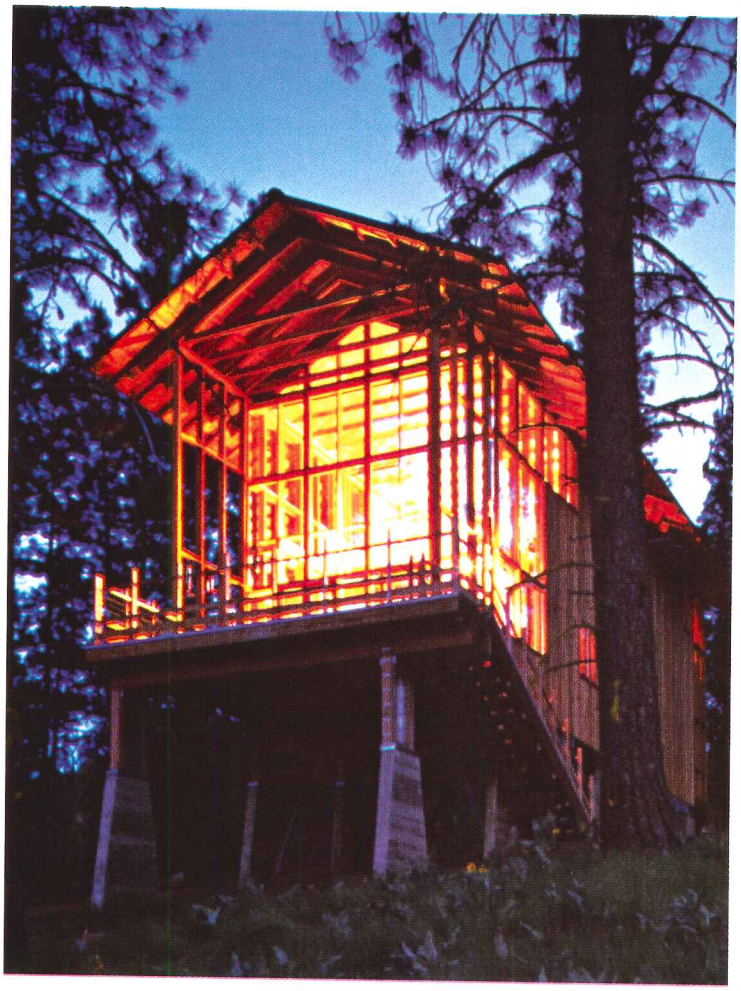
All Project Photos:
North Shore Esplanade Saint George,
Staten Island, NY
Landscape Architect: Johansson & Walcavage



HANOVER®
Architectural Products
Where Concrete and Imagination Meet

240 BENDER Road, HANOVER, PA 17331
(VOICE) 717-637-0500 (FAX) 717-637-7145
http://www.hanoverpavers.com

CIRCLE 60 ON INQUIRY CARD



Methow Valley Cabin
Winthrop, Washington
Architect: *James Cutler Architects*

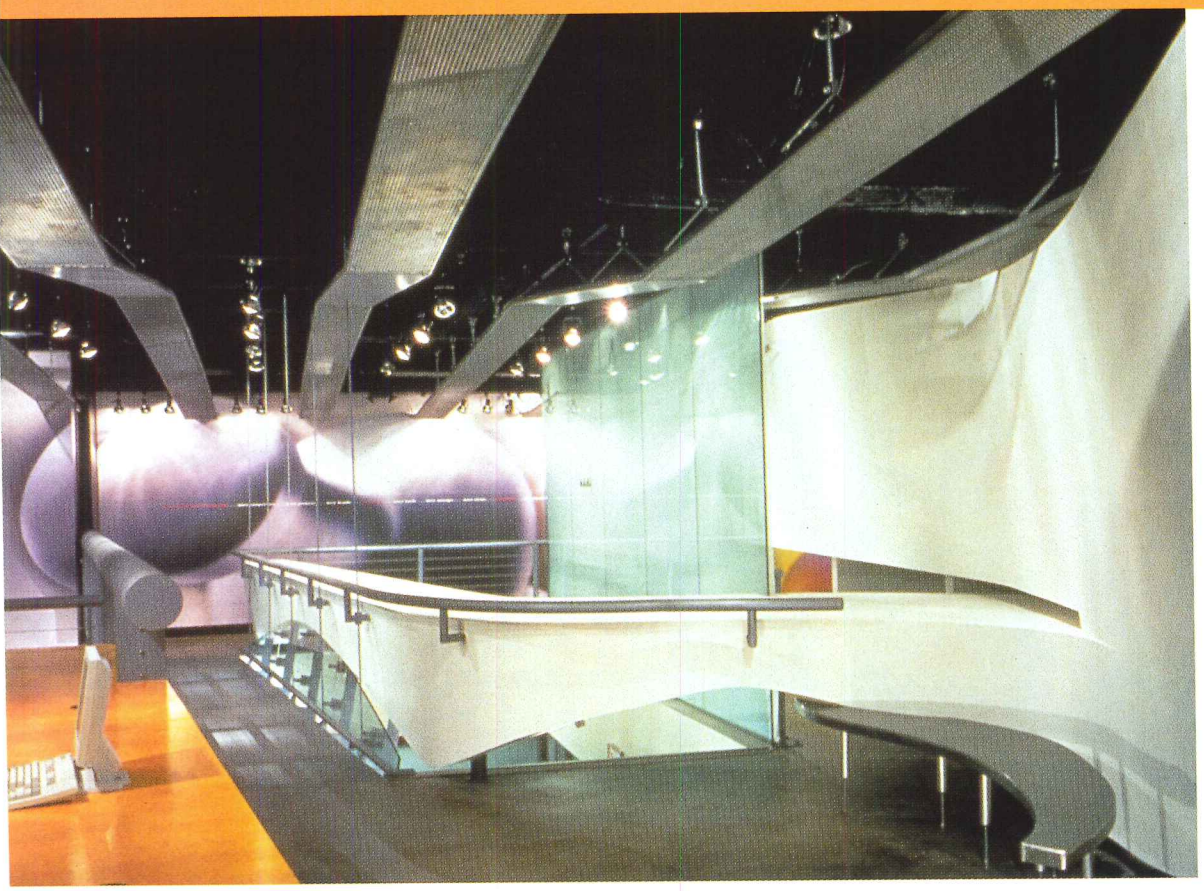
Concrete piers carry a framed "box," allowing the building to hover over a slope with minimal impact. The two-bedroom retreat captures views while offering substantial covered areas that provide shelter from sun and snow. The design exposes as much of every framing member as possible.

"SENSITIVITY TO SITE, BEAUTIFUL DETAILING, CLEAR EXPRESSION OF MATERIALS AS COMPONENTS AND UNIT."

U.S. Port of Entry
Point Roberts, Washington
Architect: *The Miller/Hull Partnership*

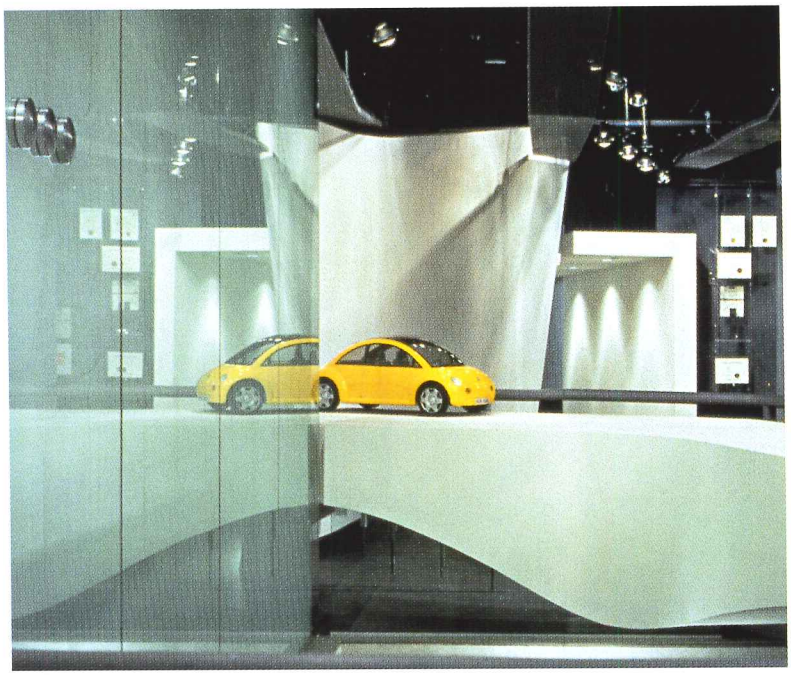
For the first station along the Canadian border to be commissioned under the General Services Administration's Design Excellence Program, the architects focused on integrating an appropriately scaled and elegantly detailed building—structured as a bridgelike gateway—with a forested setting to mark the international boundary.

"A DEFTLY ARTICULATED STRUCTURE WITHIN A PALETTE OF SIMPLE, ECONOMIC MATERIALS: WOOD, STEEL, AND GLASS."



SHR Perceptual Management Workspace
Scottsdale, Arizona
Architect: *Morphosis Architects*

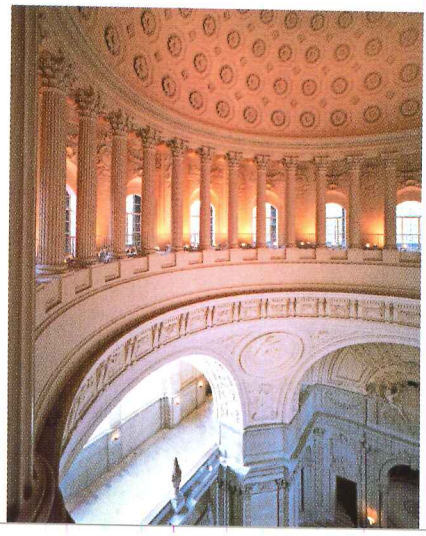
These offices for an advertising agency were designed to reflect the company's egalitarian ideology. The imagery becomes a common language that allows for clear communication between disciplines, departments, and consumers.



"SPATIALLY ENERGIZED ARCHITECTURE, SINUOUS SCULPTURE, FELT MATERIALITY AND UNFELT UNIVERSE BEYOND."

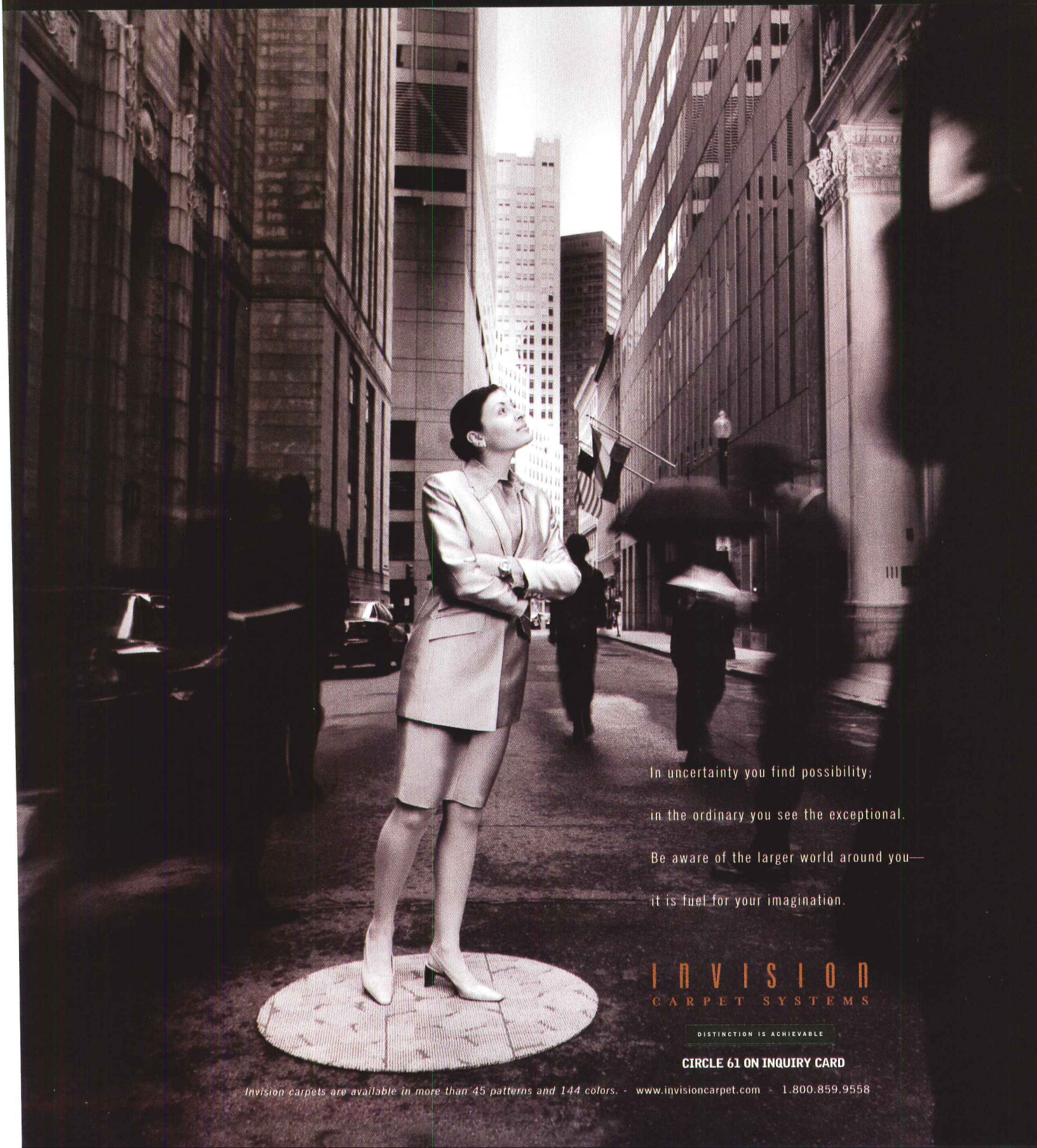
San Francisco City Hall Improvement Project
San Francisco
Architect: *Heller-Manus Architects (Supervising Architects); Komorous-Towey Architects/Finger & Moy Architects*

The centerpiece of the San Francisco Civic Center, the city hall features the fifth-tallest dome in the world. It has been transformed into a state-of-the-art public building but still preserves its historic architecture [June 1999, page 53; February 2000, page 156].



"AN EXTRAORDINARY SERIES OF SPACES TAKEN APART, MADE TECHNICALLY CURRENT, AND PUT BACK TOGETHER IN A FLAWLESS WAY."

A FORTUNATE FEW *live awake* IN THE WORLD.



In uncertainty you find possibility;

in the ordinary you see the exceptional.

Be aware of the larger world around you—

it is fuel for your imagination.

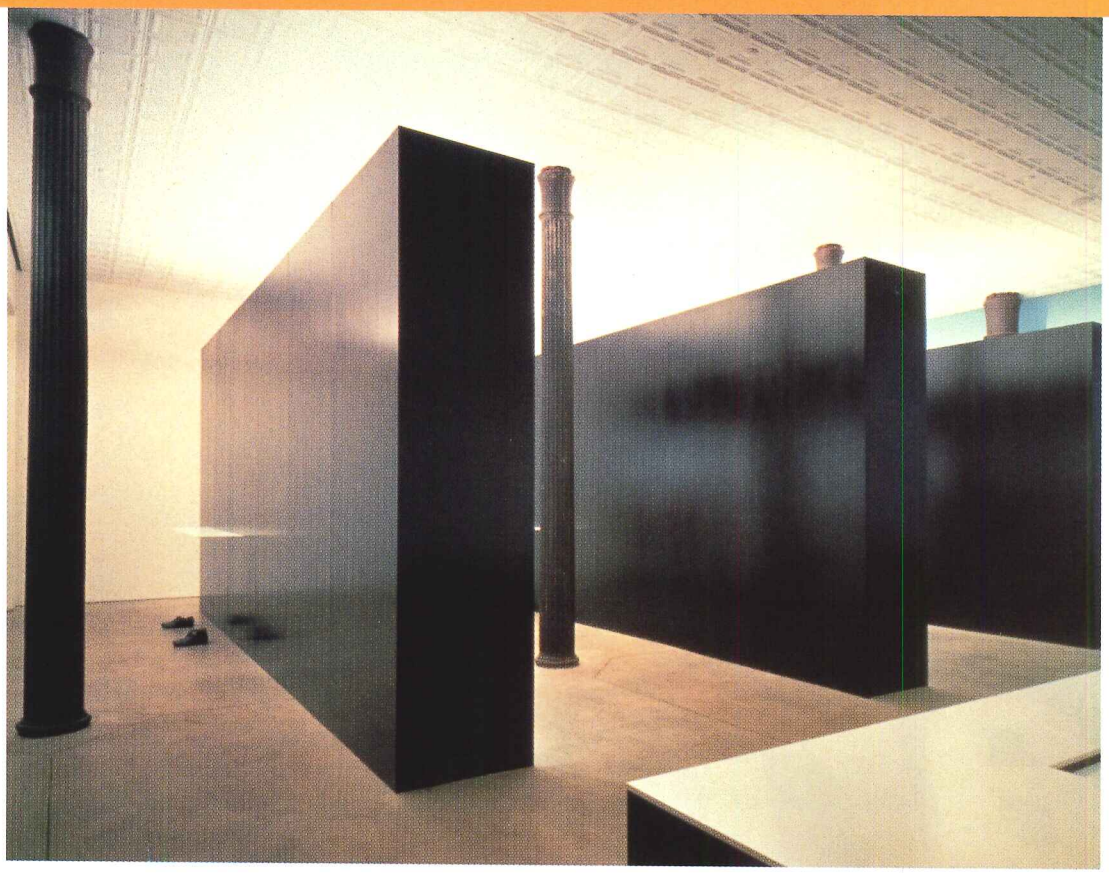
INVISION

CARPET SYSTEMS

DISTINCTION IS ACHIEVABLE

CIRCLE 61 ON INQUIRY CARD

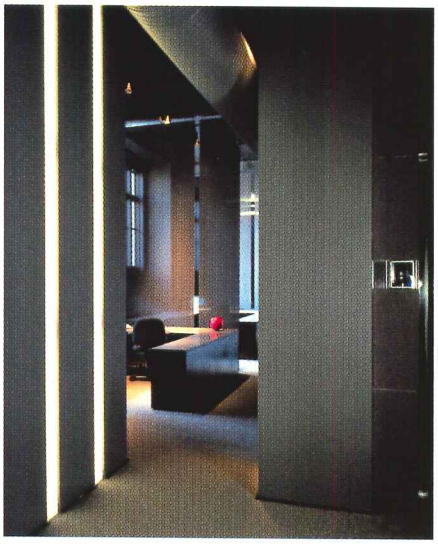
Invision carpets are available in more than 45 patterns and 144 colors. - www.invisioncarpet.com - 1.800.859.9558



Helmut Lang Boutique
New York City
Architect: *Gluckman Mayner Architects*

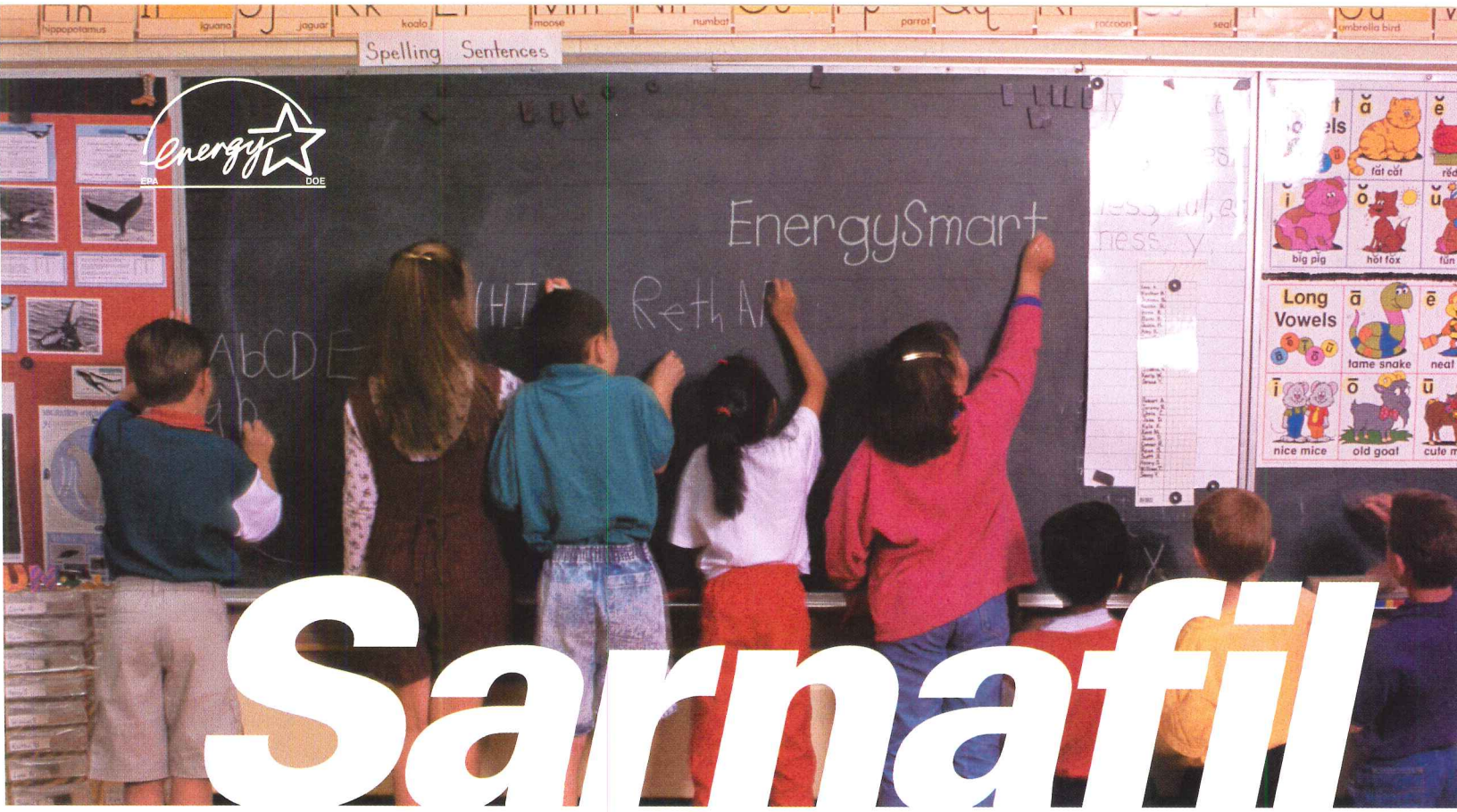
For the renovation of a 3,500-square-foot loft into a flagship retail store for a clothing designer, the architects located the merchandising area toward the rear—unusual for a boutique—while using the front space as a reception area [October 1999, page 99].

"THE TEXTURAL ELEMENTS AND ACCENT LIGHTING ARE STRIKING—DISPARATE ELEMENTS THAT WORK IN CONCERT."



Ackerman McQueen Advertising
Executive Offices and Video Conferencing
Tulsa
Architect: *Elliott + Associates Architects*

The client wanted theater; the architects created a main entry that puts visitors inside a transparent "blue box" of moving images and a "shadow-catcher wall," where a 50-foot textured glass slit allows the sun to create moving silhouettes of passersby.



Sarnafil

The smart way to keep a roof over their heads.

Putting educational funds where they count can be as easy as putting a Sarnafil ***EnergySmart Roof***™ over their heads. With ***ENERGY STAR***® compliant EnergySmart roofing, you'll start saving on HVAC costs immediately. Savings that keep on going for generations to come. Savings you can redistribute to vital educational spending. EnergySmart's highly reflective, thermoplastic roofing surface significantly reduces solar heat gain and lowers air conditioning costs by reducing heat from entering buildings in the first place.

*As an ENERGY STAR® Partner, Sarnafil has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

In fact, ***EnergySmart Roof***™ has one of the highest reflectivity and solar reflective indexes of all roofing membranes tested by the Lawrence Berkeley National Laboratory. Backed by Sarnafil's 35-year track record of international success, EnergySmart's heat-welded membrane technology quite simply delivers performance and durability you can count on for decades.

Lower energy consumption. Lower operating costs right now. Life cycle savings for years to come. As you plan new construction, reroofing – or how best to comply with impending EPACT mandates for HVAC efficiencies – check out the facts. Call Sarnafil today for a free brochure and free sample of Energy Smart Roofing.

James Clark Elementary School
Agawam, MA

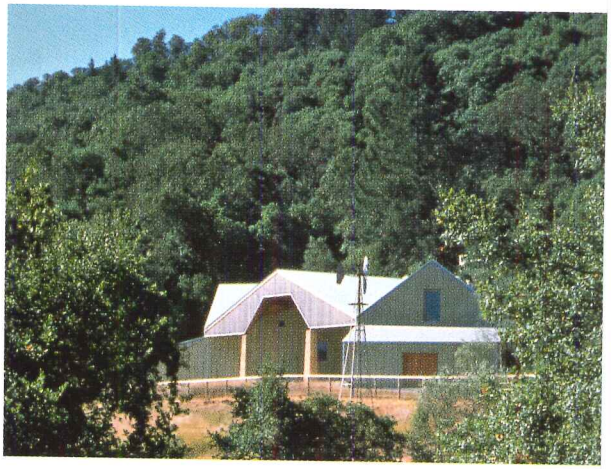
Choose the smart way to keep a roof over their heads. A Sarnafil ***EnergySmart Roof***™. The ceiling on educational spending just got a lot higher.

The EnergySmart Roof™

Sarnafil Inc.
100 Dan Road
Canton, MA 02021
Tel: 1-800-576-2358
Fax: (781) 828-5365
Email: webmaster@sarnafilus.com
Web: http://www.sarnafilus.com/ar.htm

Sarna
Sarnafil Division

CIRCLE 62 ON INQUIRY CARD



Long Meadow Ranch Winery
St. Helena, California
Architect: *Turnbull Griffin Haesloop*

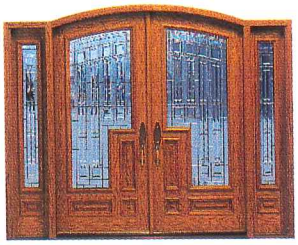
The winery's interior spaces range from production-oriented ground-floor rooms and cave cellar to the workroom, conference room, and private office upstairs. The plywood roof decking was stained to match the color of red wine. The downstairs features concrete floors and galvanized steel corners detailed for forklift traffic.

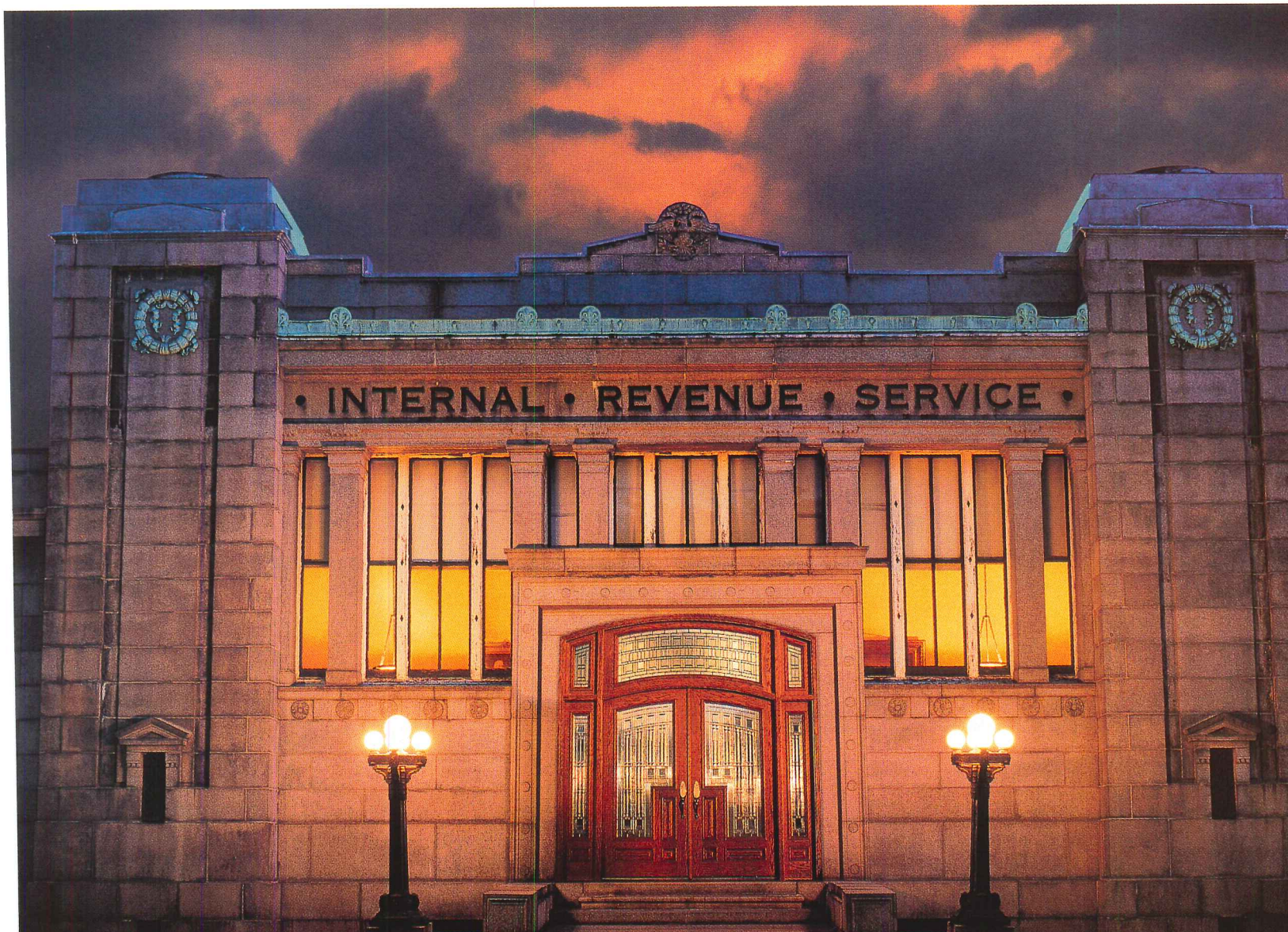
"WARM AND INVITING WITH SEAMLESS INTEGRATION OF THE INTERIORS WITH THE EXTERIOR."

Farnsworth House
Plano, Illinois
Architect: *Lohan Associates*

In 1996, the landmark Mies van der Rohe residence was completely flooded; the architects authentically restored the house to its original quality with fine materials and furniture.

The right door can make any place more inviting.





Now, think what our custom doors could do for your home. A door with no boundaries, save those of your imagination. A door handcrafted in the Old World style from the most beautiful hard woods available: Genuine Mahogany, Cherry, Maple, Walnut and Northern Red Oak. International Wood Products can deliver this door. All the way from your mind straight to your dream home. 1-800-877-9482 ext. IWP2 www.iwpdoor.com

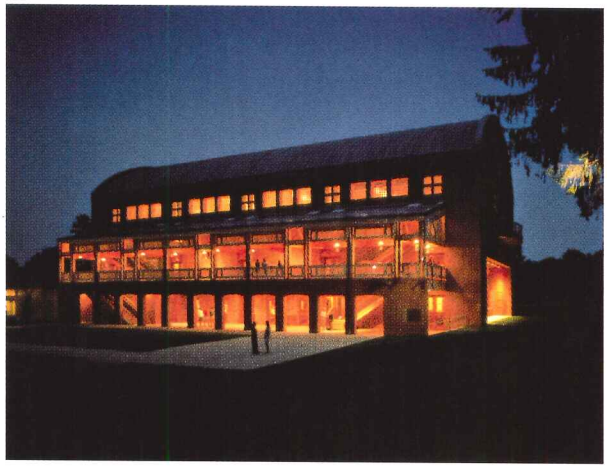
IWP® Part of the JELD-WEN family

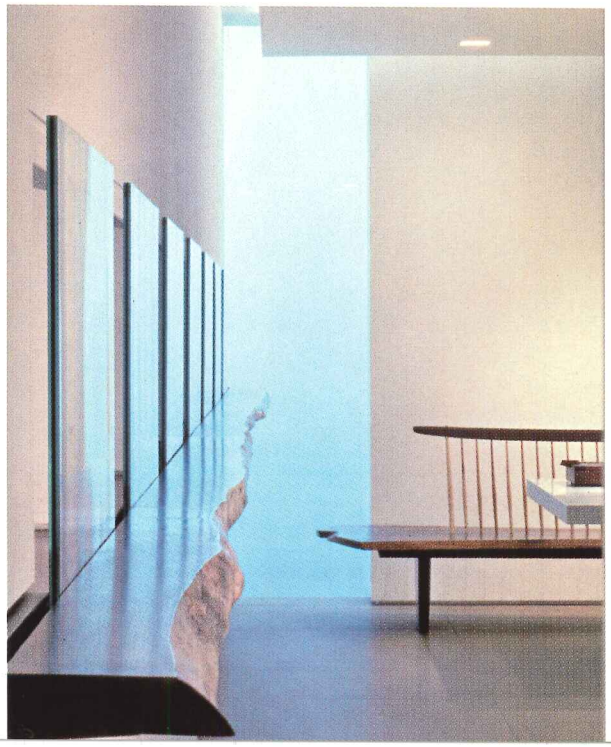
©1999 JELD-WEN, inc. All rights reserved. JELD-WEN, IWP and the IWP logo are registered trademarks of JELD-WEN, inc., Klamath Falls, OR.

CIRCLE 63 ON INQUIRY CARD

Seiji Ozawa Hall at Tanglewood
Lenox, Massachusetts
Architect: *William Rawn Associates, Architects*

This new concert hall fosters intimacy and immediacy between audience and performer and celebrates the sense of community, democracy, and simplicity found in New England meetinghouses.



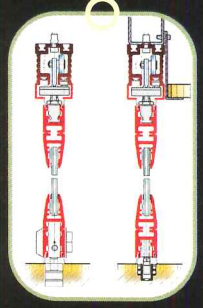


"THE CONTRAST BETWEEN ROUGH-HEWN AND FINISHED WOOD AND A PRISTINE ENVELOPE OF PLASTER AND GLASS IS PERVASIVELY SENSUAL."

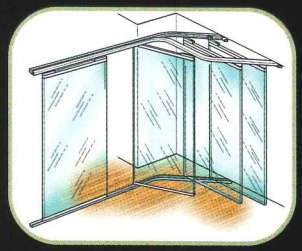
Colleen B. Rosenblat Jewelry Showroom and Office
Hamburg, Germany
Architect: *Gabellini Associates*

The design for this jewelry showroom, located in a former carriage house, balances a sense of openness and accessibility with atmospheric lighting and the need for security.

MOVE 880 LBS. OF GLASS WITH YOUR LITTLE FINGER.



Hawa sliding hardware systems add motion to glass. Panels weighing up to 880 lbs. travel along straight or curved tracks, and they park neatly in a recess or against a wall. For our comprehensive planning and technical support, contact the Häfele Architectural Products Group: 1-888-437-7477.



HÄFELE

CIRCLE 64 ON INQUIRY CARD

Iwataya Passage
Fukuokashi, Japan
Architect: *WalkerGroup/CNI*

This public underground connection between a train station and department store is animated by an interactive sound program, a water theme, and a series of three pedestrian "bridges," constructed of steel, steel cable, and suspended glass.

"THE MULTISENSORY NATURE MAKES IT A MOMENT OF PLEASURE, AN ESCAPE FROM THE URBAN REALM."

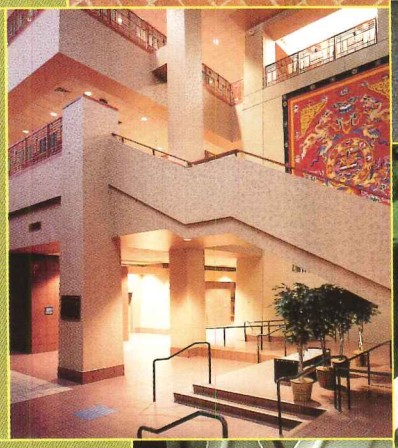
The Vinyl Institute

vinyl by design

flooring

electrical

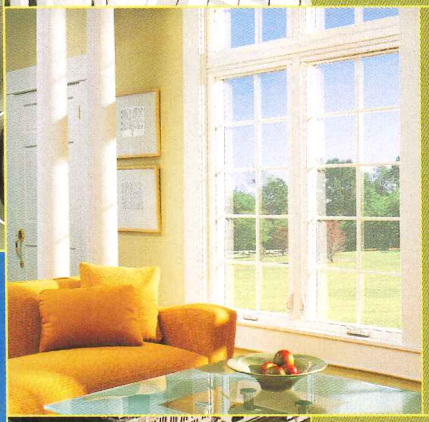
wall covering



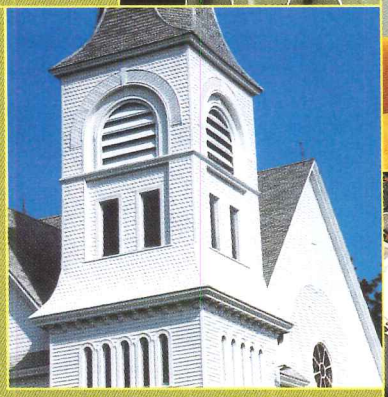
fencing, decking & railing

piping

windows



siding



roofing

Vinyl. It's versatile, durable, safe and easy to maintain in any building design. No wonder more and more architects and designers are choosing vinyl by design. Learn more about vinyl and continuing education opportunities by visiting www.vinylbydesign.com or by calling (703) 253-0671.

vinyl by design™

CIRCLE 65 ON INQUIRY CARD

Photos reprinted with permission of Armstrong World Industries, Inc.; EVC International NV; RJF International Corporation; Ther Industries Inc.; CertainTeed Corporation; Kohlmeyer Inc., Exterior Home Fashions, Wolverine; and Saxnafil Inc. All rights reserved.

"WITH ELEGANT DETAILING, A THEME RESTAURANT WITHOUT THE KITSCH."

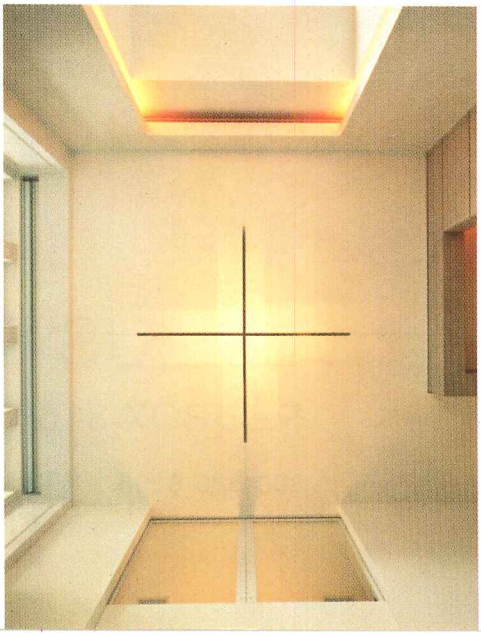
Oceanliner Dining Room and Lounge
Miami (registration)
Architect: *Shelton, Mindel & Associates, Architects*

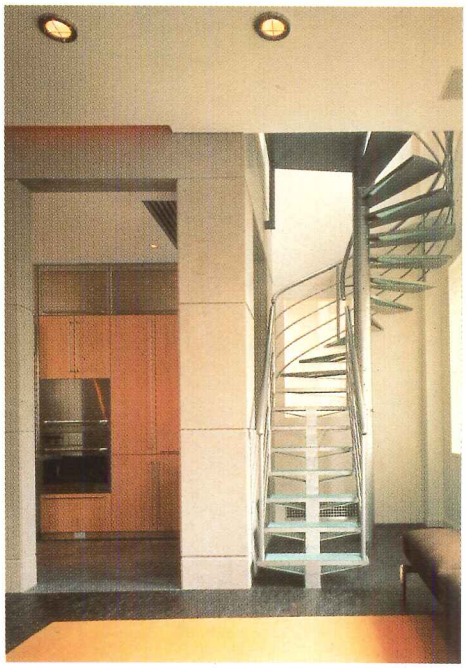
The new ship Mercury *features a consistent building vocabulary that draws on exposed web beams, riveted paneling, stainless steel, teak, and perforated metal to express the ship's structure.*

Fifth Avenue Duplex
New York City
Architect: *Shelton, Mindel & Associates, Architects*

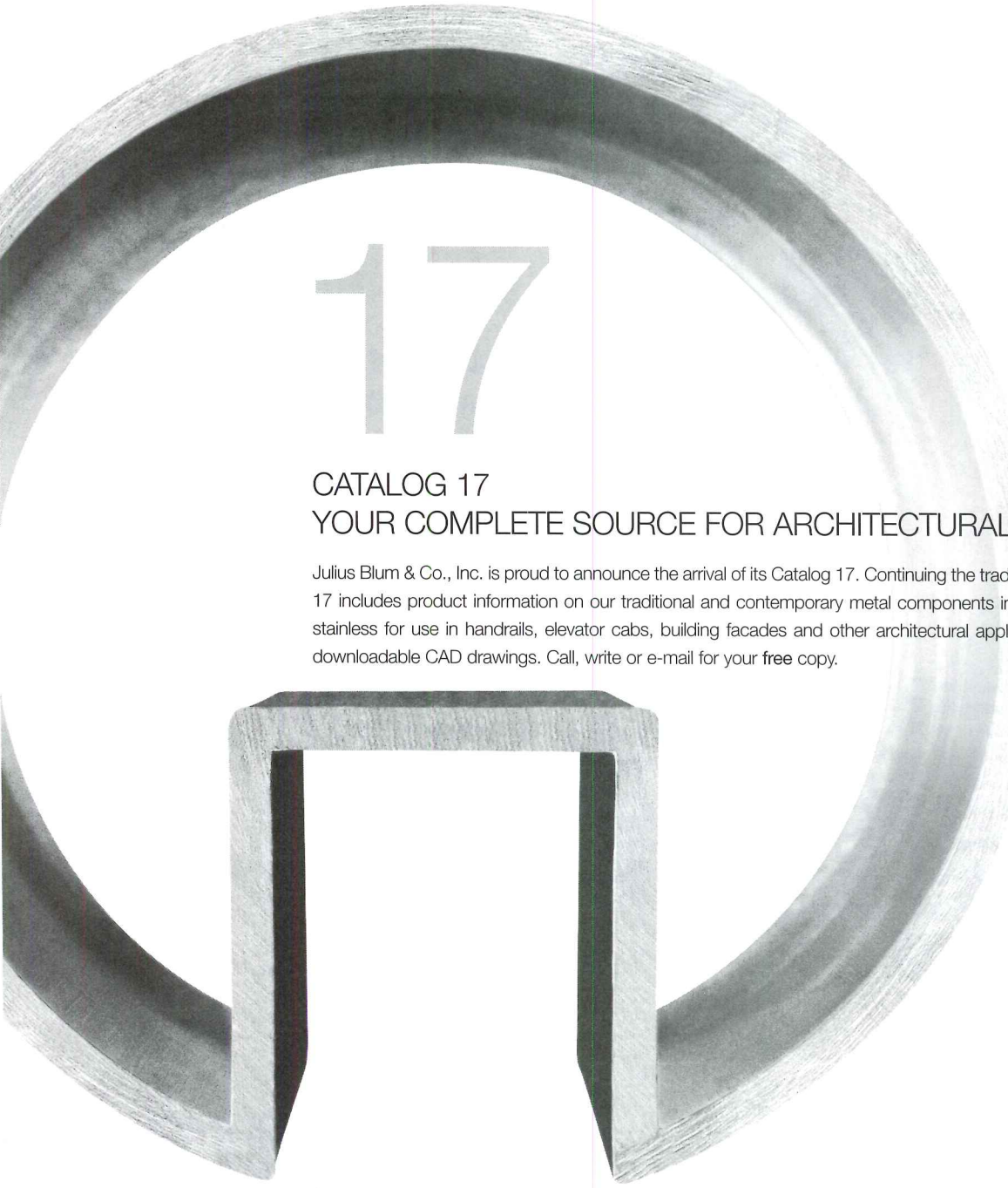
To renovate a prewar apartment, the floor slab was removed in three places, providing a sense of light and airiness. The living room was transformed into a double-height salon. A sculptural stair is contained in a vertical limestone element.

"THE MODERN DETAILING IS WELL THOUGHT OUT, WITH ALL ROOMS BROUGHT TO THE SAME LEVEL OF EXECUTION ... A SERENE COMPOSITION."



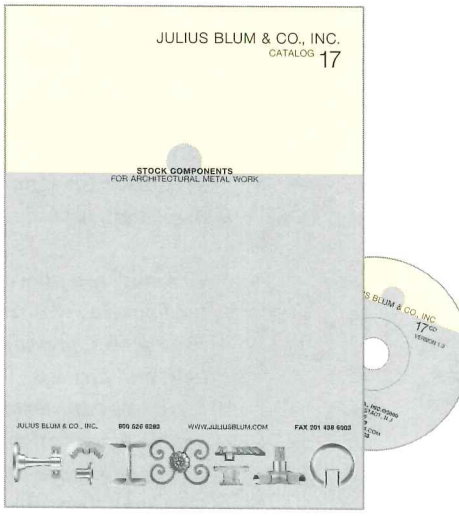


PHOTOGRAPHY: © MICHAEL MORAN PHOTOGRAPHY



CATALOG 17
YOUR COMPLETE SOURCE FOR ARCHITECTURAL METAL COMPONENTS

Julius Blum & Co., Inc. is proud to announce the arrival of its Catalog 17. Continuing the tradition of attention to style and detail, Catalog 17 includes product information on our traditional and contemporary metal components in aluminum, bronze, nickel-silver, steel and stainless for use in handrails, elevator cabs, building facades and other architectural applications. Each catalog includes a CD with downloadable CAD drawings. Call, write or e-mail for your **free** copy.



JULIUS BLUM & CO., INC.

P.O. BOX 816 CARLSTADT, N.J. 07072-0816

800 526 6293 WWW.JULIUSBLUM.COM **FAX 201 438 6003**

e-mail: bluminfo@juliusblum.com

CIRCLE 66 ON INQUIRY CARD

Greenwell Goetz Architects Design Studio
Washington, D.C.
Architect: *Greenwell Goetz Architects*

The architects designed a creative, stimulating workspace for themselves, with offices that are flexible, allowing for ongoing rearrangements while avoiding a warehouse look. The furniture and lighting meet high ergonomic standards.

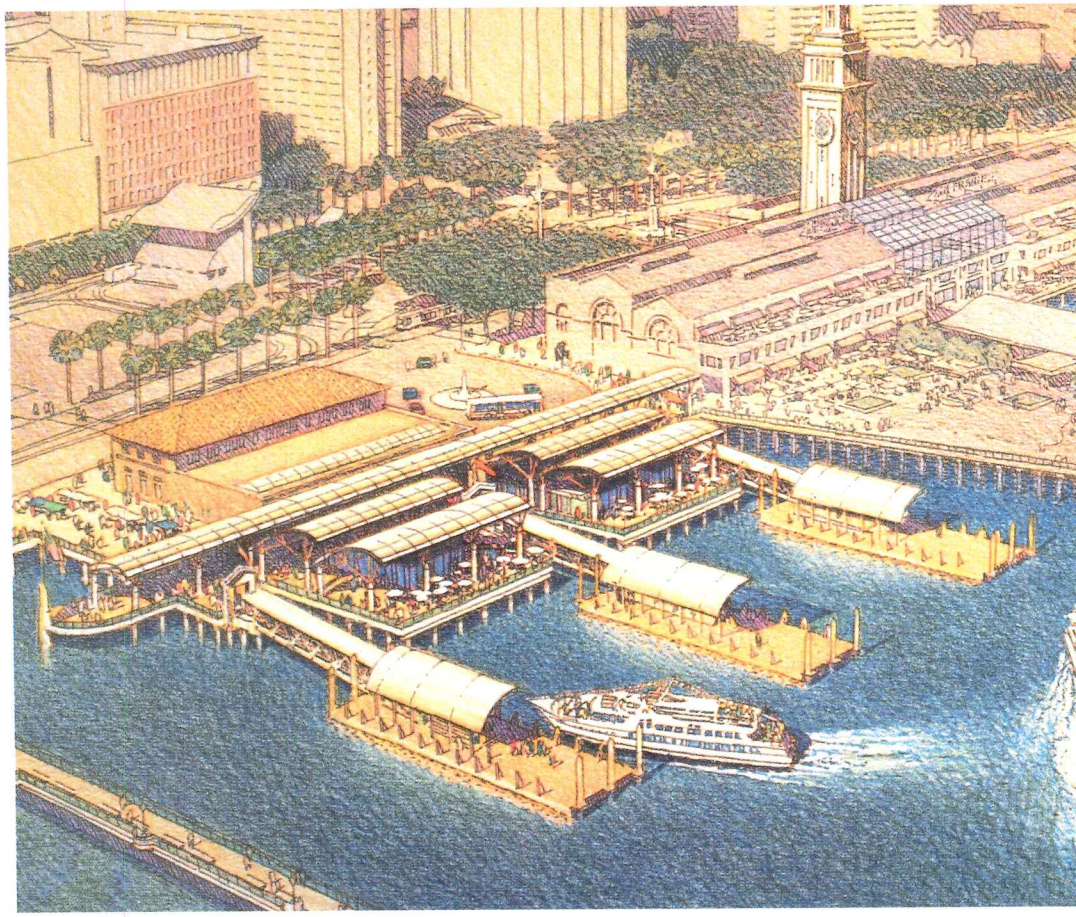
"TO ACHIEVE THIS KIND OF SPIRITUAL INTENSITY WITHOUT OVERT SYMBOLISM OR TRADITIONAL IMAGERY IS A LEAP OF FAITH."

St. Jean Vianney Catholic Church Sanctuary
Baton Rouge, Louisiana
Architect: *Trahan Architects APAC*

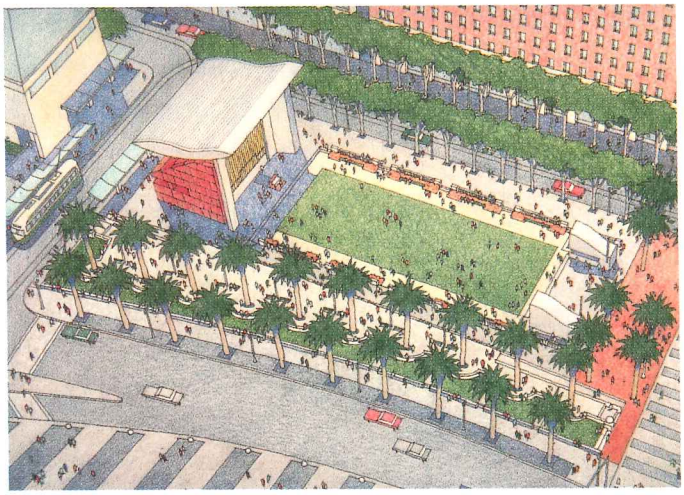
Here, simple forms and materials are meant to exalt the integrity of worship. With ample light, physical boundaries seem to dissolve.

Mid-Embarcadero Open Space/Ferry Terminal
San Francisco
Architect: *ROMA Design Group*

The mid-Embarcadero waterfront improvements are part of an urban design strategy to reposition the area as a meeting place as well as a movement corridor. The area now has the potential for a broad range of public uses, from major gatherings and civic events to everyday social and recreational activities.



"A VERY LARGE SPACE IS DIVIDED INTO URBAN ROOMS OF SPECIFIC USE, SPATIAL DEFINITION, AND VITALITY."

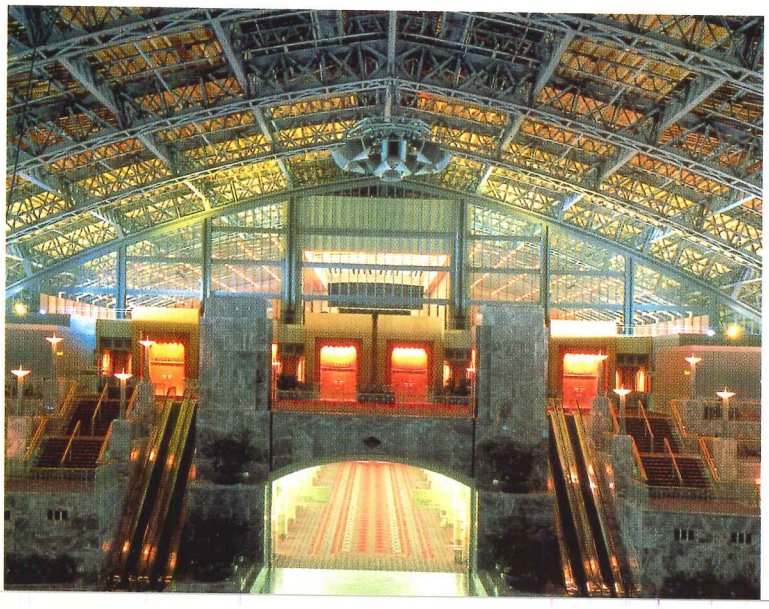


URBAN DESIGN

Pennsylvania Convention Center
Philadelphia
Architect: *Thompson, Ventulett, Stainback & Associates, with associate architect/architect of record Vitetta and consulting architect Kelly/Maiello.*

This major convention facility, located a block from city hall, covers four formerly derelict city blocks and also occupies the former Reading Terminal Train Shed, built in 1893.

"GENEROUS DOORS AND WINDOWS AND BRICK-AND-CONCRETE-CLAD STRUCTURAL BAYS CREATE A SCALE SYMPATHETIC TO ITS CONTEXT."



Windsor Town Centre
Vero Beach, Florida
Architect: *Merrill and Pastor Architects*

This project melds architecture, landscape, and infrastructure to create a new complex featuring a post office, a small store, a modest office component, a number of apartments, and a fitness center.

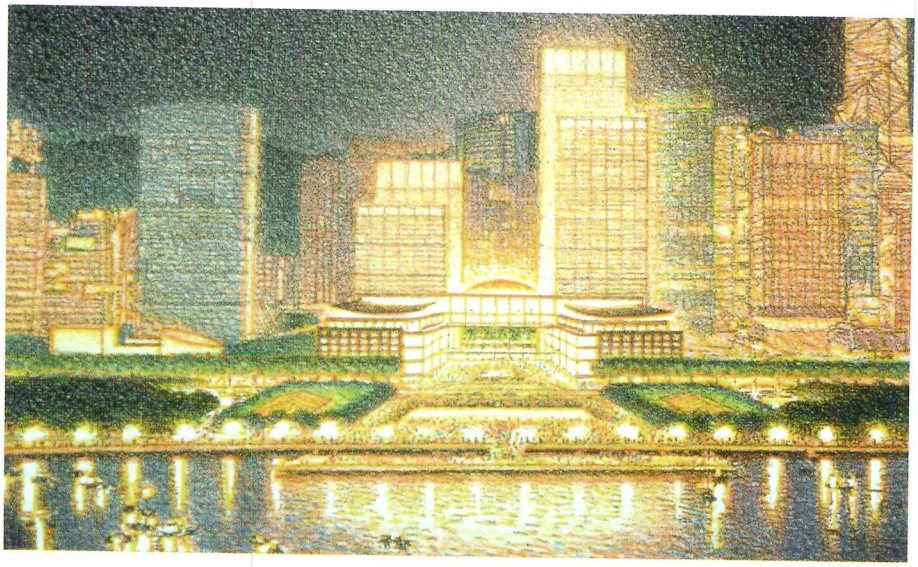
"THE BUILDINGS ARE BEAUTIFULLY PROPORTIONED, DETAILED, AND ASSEMBLED, RESULTING IN A PROJECT IN WHICH THE WHOLE EXCEEDS THE SUM OF ITS PARTS."

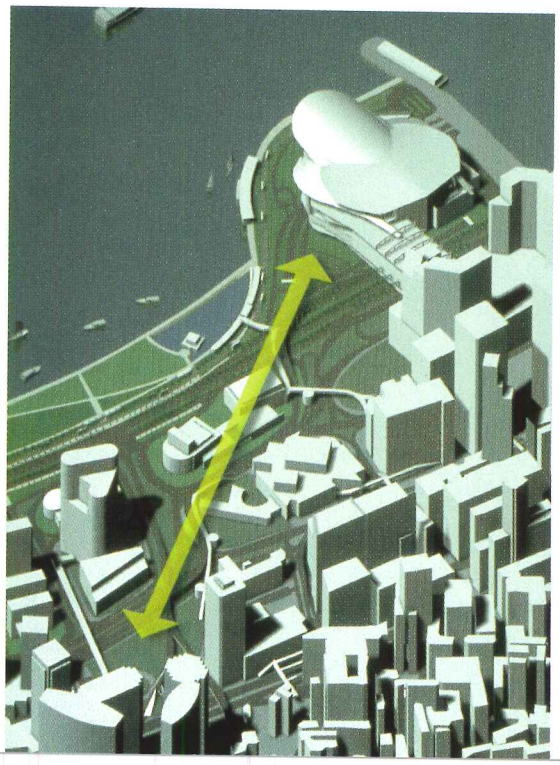
Harmonie Park/Madison Avenue Development Project
Detroit
Architect: *Schervish Vogel Consulting Architects*

The $40 million, phase-one program for renovations and new buildings in this downtown district included arts-related retail and restaurants, residential and commercial loft space in existing buildings, a renovated hotel, and new office and residential development.

Hong Kong Central Waterfront Development Plan
Hong Kong
Architect: *Skidmore, Owings & Merrill International*

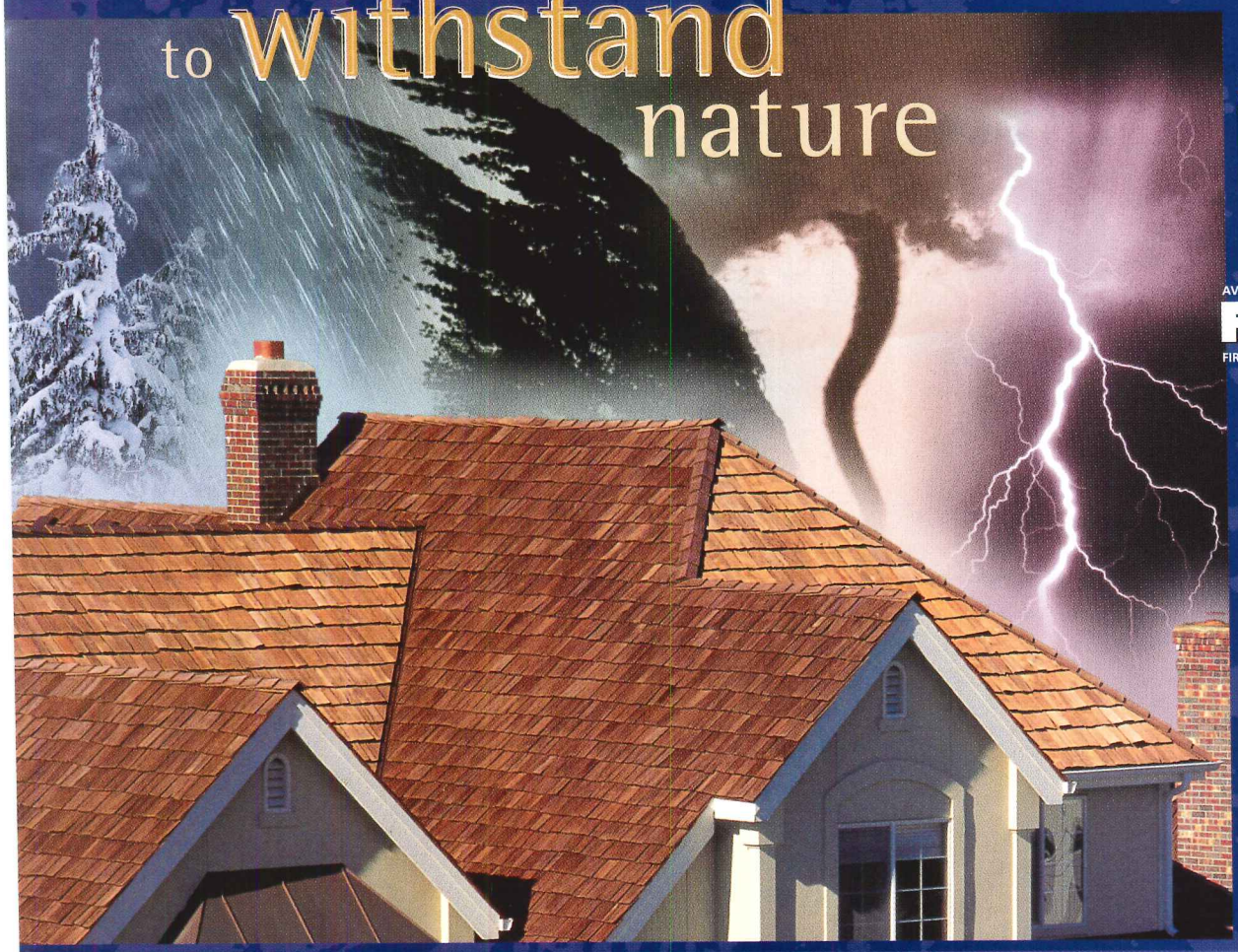
This master plan, the result of a private organization filing a formal objection to the Hong Kong government's plans for the waterfront, enhances civic, recreational, art, and cultural activity around a crescent park and boulevard [February 1999, page 54].



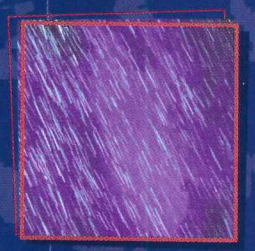


"THIS REVERSAL OF EGREGIOUS WATERFRONT LANDFILL AND DEVELOPMENT WOULD REPRESENT A MAJOR PUBLIC POLICY TRIUMPH."

created by nature to withstand nature



AVAILABLE WITH FTX® FIRE RETARDANT



As an architect, it's not just a roof, it's your reputation.

That's why you should specify Meeker premium cedar shakes.

As the most tested of all roofing products, cedar provides superior protection against wind, rain, snow, and anything else Mother Nature can dish out.

And Meeker handcrafted cedar shakes come with a 50-Year Transferable Warranty, so you—and your customers—can rest easy.

MEEKER

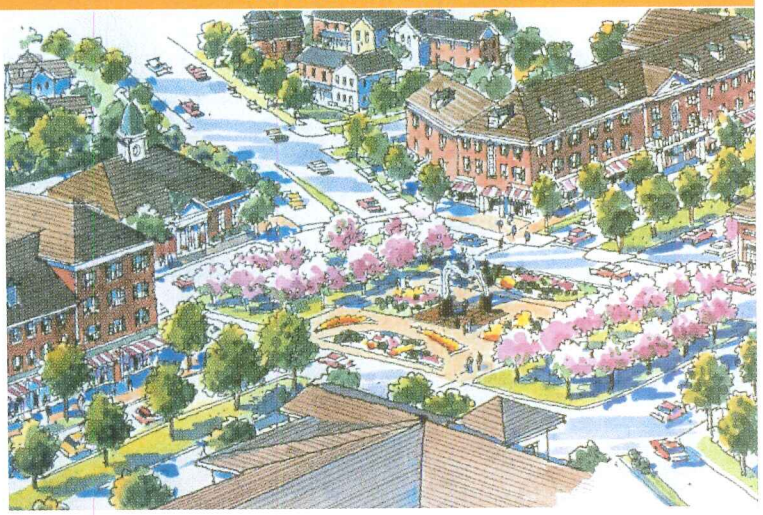
GENUINE CEDAR SHAKES

Circle 67 on inquiry card

Ask for Meeker cedar shakes, available anywhere within 10 days.
For more information please call 1.800.663.8761

www.meekercedar.com

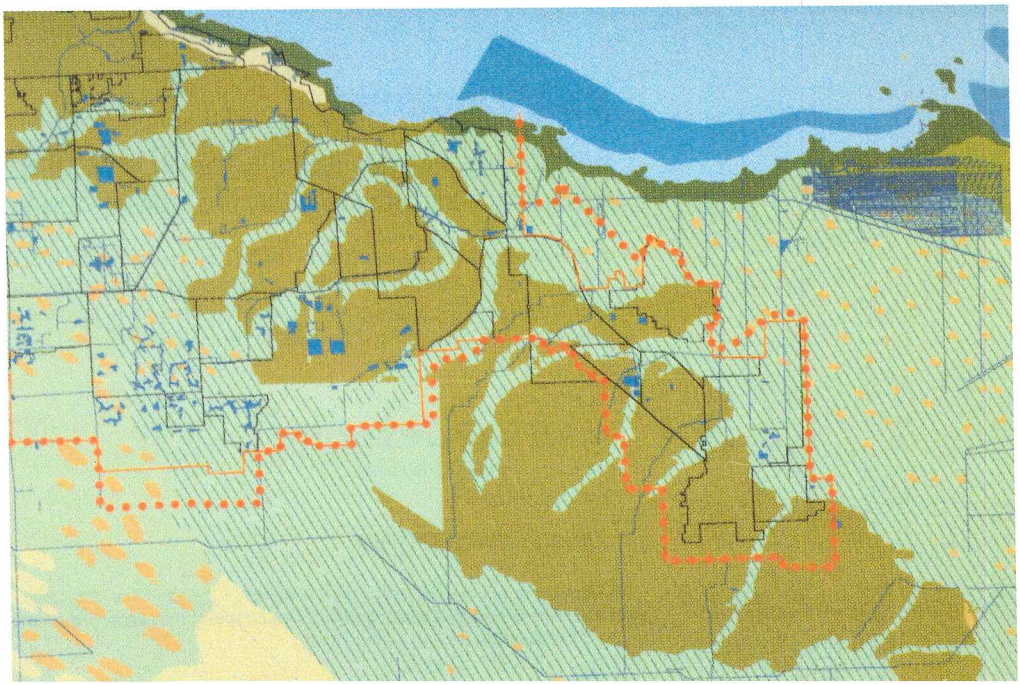
© 2000 Meeker Cedar Products Ltd.



The Village of Park DuValle
Louisville
Architect: *Urban Design Associates, with LaQuatra Bonci & Associates Landscape Architecture; Stull & Lee; William Rawn Associates Architects; Tucker & Booker; and Sabak, Wilson & Lingo*

In this HOPE VI project, the Housing Authority of Louisville aimed to transform derelict public housing into mixed-income neighborhoods with rental and homeownership opportunities for a wide range of income groups.

"INNOVATIVE DRAWINGS EFFECTIVELY DEPICT A REGIONAL SCALE OF CONCERNS NORMALLY DIFFICULT TO ADDRESS BY WORDS ALONE."



Eastward Ho: A Regional Vision for Southeast Florida
Dade, Broward, Palm Beach, Martin, and Stuart counties in Florida
Architect: *Daniel Williams, FAIA (former director of the Education and Research Center at the University of Florida's College of Architecture)*

The architect implemented a plan to protect local agriculture and urban heritage, to provide sustainable sources of clean, potable water, and to develop communities that connect to renewable resources.

PHOTOGRAPHY: © PAUL ROCHELEAU (DUVALLE); DANIEL WILLIAMS (FLORIDA)

relax.

kaleidoscope™

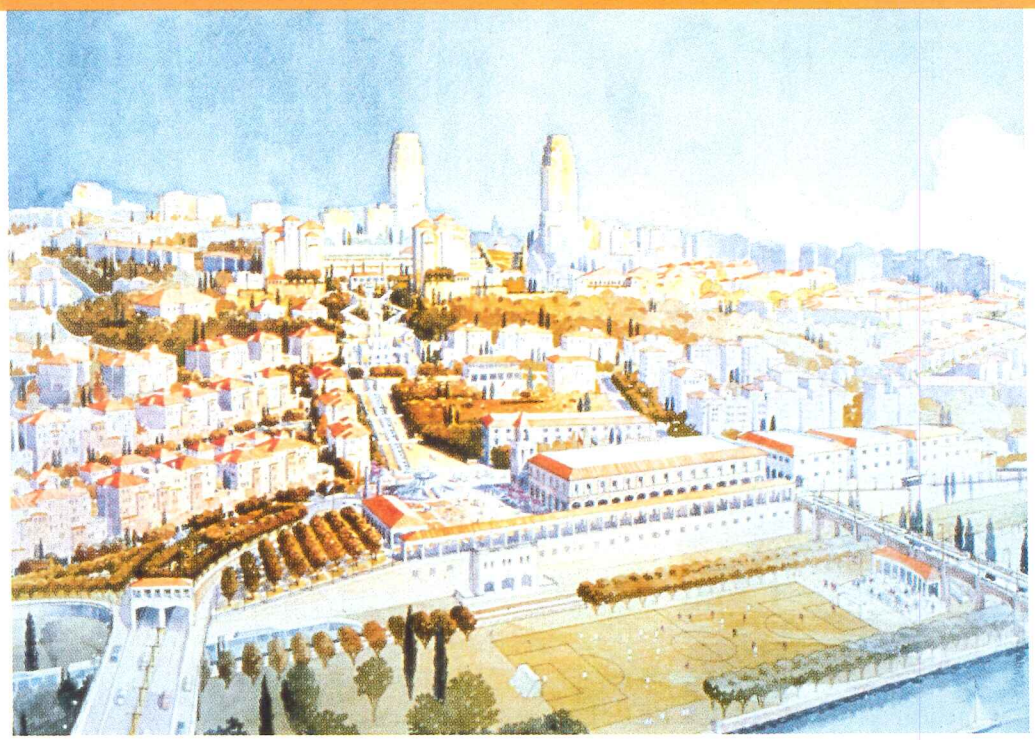
Whether you're designing a transit stop or a rest stop, Kaleidoscope provides just the right amount of shade.

the project: When Bal Harbour, Florida, wanted to replace its existing transit seating, the village turned to Kaleidoscope as an elegant, durable, and speedy solution. Modular and pre-finished, Kaleidoscope provides a comfortable respite from the elements.

landscapeforms™
www.landscapeforms.com
1.800.430.6208

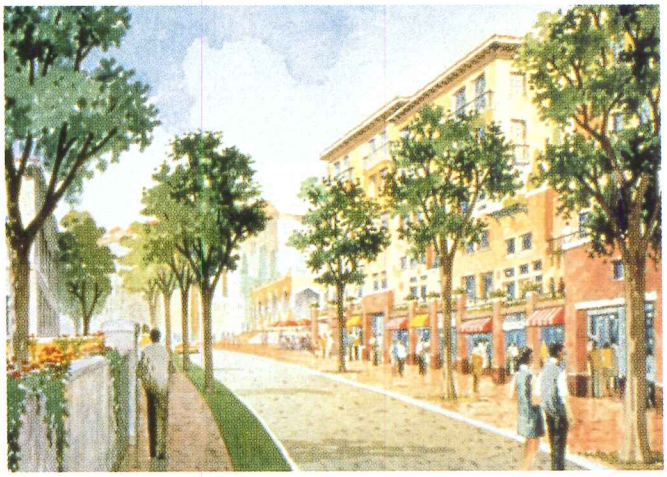
CIRCLE 68 ON INQUIRY CARD

Kaleidoscope is designed by Robert Chipman, ASLA; Brian Kane, IDSA; and Arno Yurk, AIA, IDSA. Kaleidoscope design is patent pending. Landscape Forms supports the Landscape Architecture Foundation at the Second Century level.

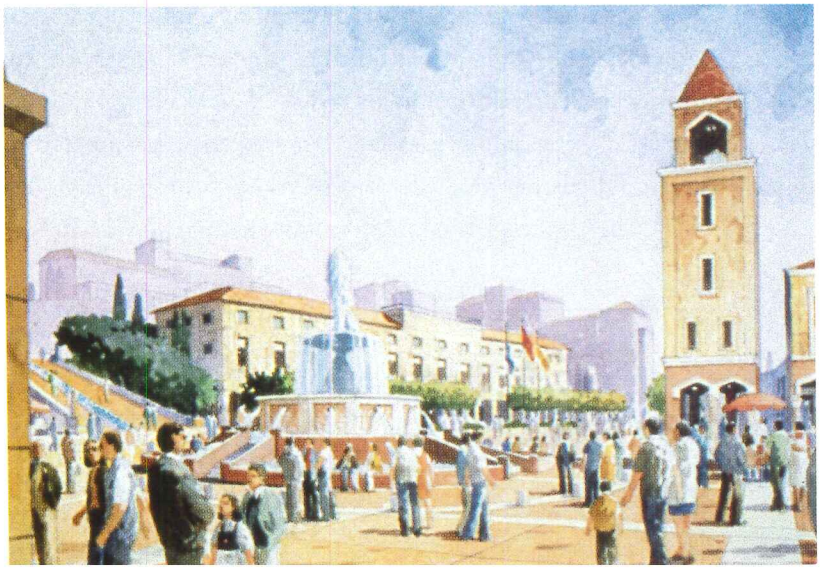


Bahcesehir
Turkey
Architect: *Torti Gallas and Partners—CHK Inc., with associate architect Oner Ozyar Inas A.S*

Bahcesehir, a new satellite city west of Istanbul, is guided by the design idea that the form of cities and towns should support and nurture the qualities of civic life and community.

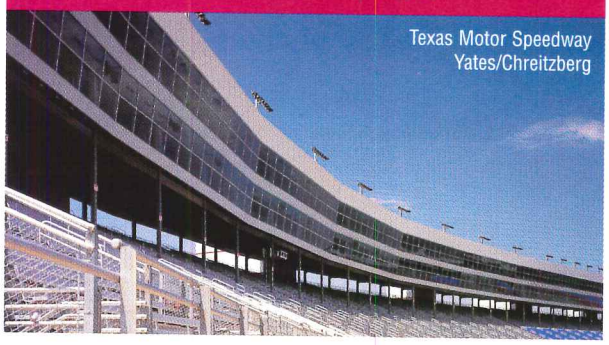


"IN AN ERA OF ALMOST UNIVERSAL ACCEPTANCE OF AMERICAN MODELS, THIS OFFERS A MORE SUSTAINABLE MODEL. THE GROWTH PRESSURES ON GLOBAL CITIES CAN BE SHAPED INTO BEAUTIFUL, LIVABLE TOWNS."

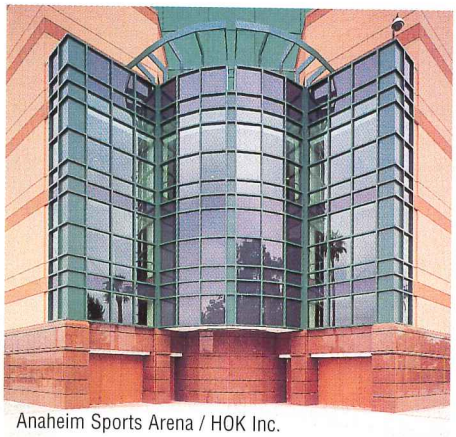


WE'RE BUILDING CHAMPIONS.

CURTAIN WALL



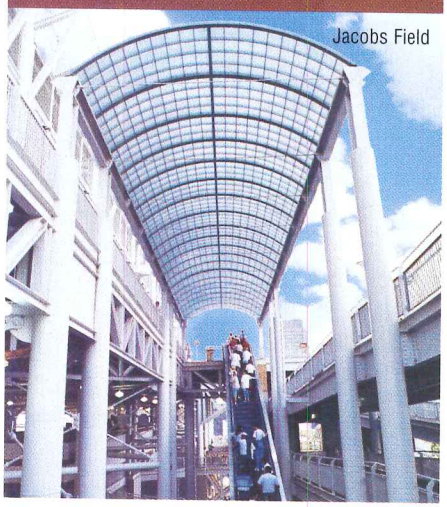
Texas Motor Speedway
Yates/Chreitzberg



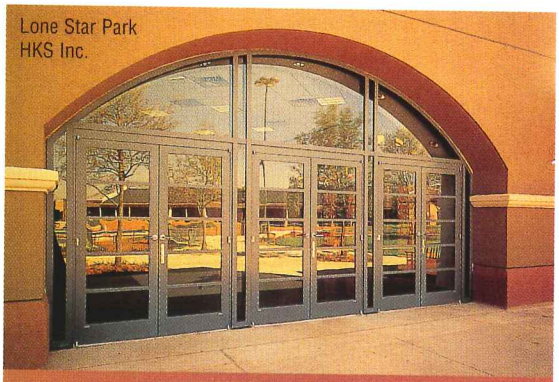
Anaheim Sports Arena / HOK Inc.

STOREFRONT

TRANSLUCENT PANELS



Jacobs Field



Lone Star Park
HKS Inc.

ENTRANCES

Champions aren't born, they're built – from the sturdiest foundation to the crowning glory.

Season after season, The Vistawall Group, consistently puts together champions.

Whether it's our curtainwall and skylights or our custom windows and doors, we've put together a line of high-performance products and services that's hard to beat.

The Vistawall Group has provided architectural products for some of the finest sports facilities in the country. We're your single source supplier: designing, engineering and manufacturing custom products for everything from ballparks to horse tracks.

The Vistawall Group. We've got the makings of a champion.

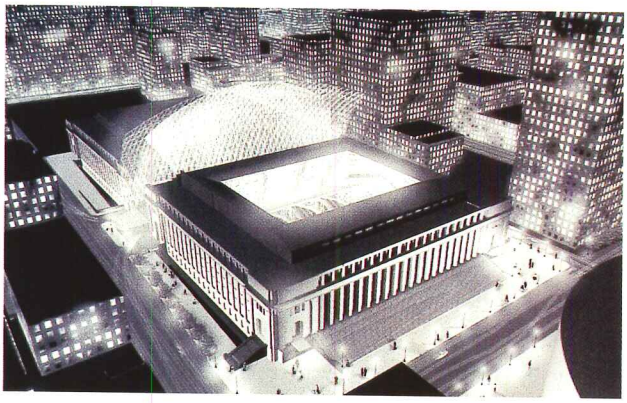
THE VISTAWALL GROUP
BUTLER MANUFACTURING COMPANY

800-869-4567
fax: (972) 551-6264
http:\\www.vistawall.com

CIRCLE 69 ON INQUIRY CARD

THE VISTAWALL GROUP
BUTLER MANUFACTURING COMPANY

VISTAWALL ARCHITECTURAL PRODUCTS
MODULINE WINDOW SYSTEMS
NATURALITE SKYLIGHT SYSTEMS
SKYWALL TRANSLUCENT SYSTEMS



Pennsylvania Station Redevelopment Project
New York City
Architect: *Skidmore, Owings & Merrill, New York*

Penn Station's revamping will restore a certain grandeur missing since the 1963 demolition of the original Penn Station. The new station will be created via the reuse of a McKim, Mead & White-designed post office building one block west.

"THIS PROJECT RECOGNIZES THE NEED FOR CIVIC ORDER, PUBLIC SPACES, AND CONNECTION TO THE ENVIRONMENT."

Shanghai Waterfront Redevelopment Master Plan
Shanghai, China
Architect: *Skidmore, Owings & Merrill, San Francisco*

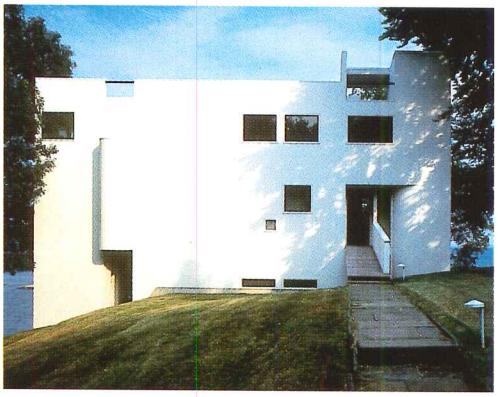
To accommodate rapid growth, the city is transforming the Port of Shanghai from a shipping channel into a place for business, tourism, housing, and recreation.

The Simplicity of SMITH HOUSE Stays Fresh Through the Decades

When Smith House by Richard Meier, FAIA, was featured in RECORD HOUSES in 1968, the magazine declared that the "forceful, direct expression of the plan organization and of the zoning of activities gives this house a freshly handsome, totally unstereotyped character."

What was strikingly modern then is strikingly modern today. This year's AIA honors jury found the house to have retained its clarity and beauty through the ensuing years and bestowed its 25 Year Award on Meier's design, calling it "an artistic achievement of singular power, which contributed to a significant stream of architectural design."

Smith House nestles on a coastal site in Darien, Conn., where Meier created a structure that hinges on a separation between public and private areas. While not large by today's standards, the crisp, white exterior, extensive glass, and spatial relationships make it appear larger. Its influence is undeniable, visible on Long Island Sound and well beyond.



The opaque, private side of the house faces the woods and the road; the public spaces, enclosed in glass, overlook the water.

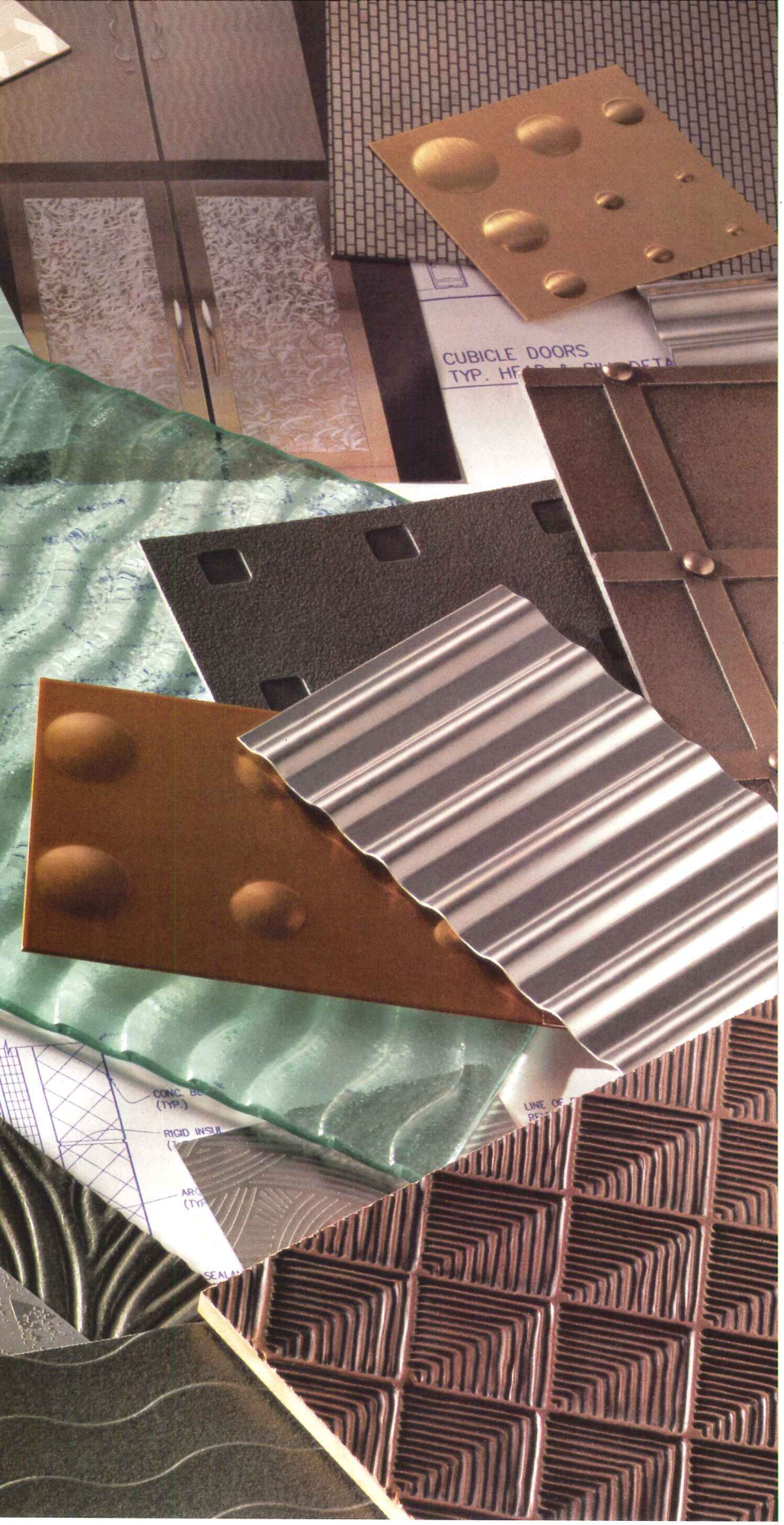
Forms+Surfaces

Six diverse manufacturing and design resources.
Unlimited possibilities.

➤ DESIGNFORM+
tel 877.525.5566
fax 805.684.7757

➤ SITEFORM+
tel 877.929.0011
fax 805.684.7757

➤ LIGHTFORM+
tel 877.828.0099
fax 805.684.7757



We're living in a materials world.

And at Surfaces+, we search the world over to bring you an incredible palette of architectural surfacing materials.

As a Forms + Surfaces company, we're part of a unique global resource development network. And, part of a whole family of companies offering a breathtaking range of complementary products from the world's most talented designers and artisans.

We invite you to explore our world. Discover how our specialized materials and custom capabilities can close the distance between your budget and your dreams.

We offer all the options you see here, and more. For doors, walls, columns, elevator cabs, architectural accents, an expressive collection of materials, textures, patterns and finishes.

Best of all, you won't have to go to the ends of the earth to get them. Just call 877.626.7788 or visit us at www.forms-surfaces.com.

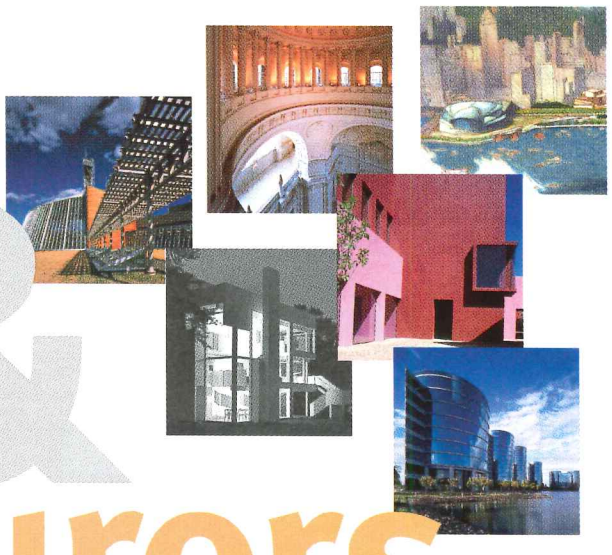
Surfaces+
A FORMS+SURFACES® COMPANY

➤ SURFACES+
tel 877.626.7788
fax 805.684.8620

➤ HARDWARE+
tel 877.323.3344
fax 805.684.8620

➤ CORNELIUS+
tel 800.553.7722
fax 412.781.7840

Winners & Jurors



Architecture
(page 94)

Kaufmann House Restoration, Marmol and Radziner Architects; *Neugebauer House* and *The Getty Center,* Richard Meier & Partners; *Olympia Fields Park and Community Center* and *Women's Memorial and Education Center,* Weiss/Manfredi Architects; *Massachusetts Museum of Contemporary Art,* Bruner/Cott & Associates; *Methow Valley Cabin,* James Cutler Architects; *The Hill County Jacal,* Lake/Flato Architects; *Le Fresnoy National Studio for Contemporary Arts,* Bernard Tschumi Architects; *U.S. Port of Entry/Point Roberts,* The Miller/Hull Partnership; *Mashantucket Pequot Museum and Research Center,* Polshek Partnership Architects; *Desert housing for low-income seniors,* Studio E Architects; *Center Street Park and Ride,* Herbert Lewis Kruse Blunck Architecture; *Grand Central Terminal,* Beyer Blinder Belle Architects & Planners LLP; *Kuala Lumpur City Centre, Phase I,* Cesar Pelli & Associates

Interiors *(page 110)*

San Francisco City Hall Improvement Project, Heller-Manus Architects with Komorous-Towey Architects/Finger & Moy Architects; *SHR Perceptual Management workspace,* Morphosis Architects; *Helmut Lang retail boutique,* Gluckman Mayner Architects; *Long Meadow Ranch Winery,* Turnbull Griffin Haesloop; *Farnsworth House,* Lohan Associates; *Seiji Ozawa Hall at Tanglewood,* William Rawn Associates, Architects; *St. Jean Vianney Catholic Church Sanctuary,* Trahan Architects APAC; *Iwataya Passage,* WalkerGroup/CNI; *Colleen B. Rosenblat Jewelry Showroom and Office,* Gabellini Associates; *Fifth Avenue duplex* and *ocean liner dining room and lounge,* Shelton, Mindel & Associates Architects; *The offices of Greenwell Goetz Architects,* Greenwell Goetz Architects; *Ackerman McQueen Advertising executive offices and video conferencing,* Elliott + Associates Architects

Regional and Urban Design
(page 124)

Windsor Town Centre, Merrill and Pastor Architects; *Harmonie Park/Madison Avenue Development Project,* Schervish Vogel Consulting Architects; *The Village of Park DuValle,* Urban Design Associates, with LaQuatra Bonci & Associates Landscape Architecture, Stull & Lee, William Rawn Associates Architects, Tucker & Booker, and Sabak, Wilson & Lingo; *Hong Kong Central waterfront development plan* and *Shanghai Waterfront redevelopment masterplan,* Skidmore, Owings & Merrill LLP, San Francisco; *Pennsylvania Station Redevelopment Project,* Skidmore, Owings & Merrill LLP, New York City; *Pennsylvania Convention Center,* Thompson, Ventulett, Stainback & Associates, with Vitetta and Kelly/Maiello; *Eastward Ho: A Regional Vision for Southeast Florida,* Daniel Williams, FAIA; *Mid-Embarcadero Open Space/Ferry Terminal,* ROMA Design Group; *Bahcesehir, Turkey,* Torti Gallas and Partners-CHK, with Oner Ozyar Inas A.S.

25-Year Award *(page 134)*

Smith House, Richard Meier, FAIA

Gold Medal *(page 145)*

Ricardo Legorreta, HON. FAIA

Firm Award *(page 166)*

Gensler

Architecture/25-Year Award

Robert Kliment, FAIA (chair), New York; Thomas Bosworth, FAIA, Seattle; Andrea Clark Brown, AIA, Naples, Fla.; Raymond H. Dehn, ASSOC. AIA, Minneapolis; Daniel Gregory, *Sunset Magazine*, Menlo Park, Calif.; Gerald Horn, FAIA, Chicago; Tracey Hunte, Washington, D.C.; M. David Lee, FAIA, Boston; Elizabeth Corbin Murphy, AIA, Medina, Ohio

Interiors

Neil Frankel, AIA (chair), Chicago; Richard Pollack, AIA, San Francisco; Ronnette Riley, FAIA, New York; Susan Szenasy, *Metropolis Magazine*, New York; Jane Weinzapfel, FAIA, Boston

Regional and Urban Design

Douglas S. Kelbaugh, FAIA (chair), Ann Arbor, Mich.; Lance Brown, AIA, New York; Elizabeth Plater-Zyberk, FAIA, Miami; Mayor M. Susan Savage, Tulsa; Daniel Solomon, FAIA, San Francisco

Firm Award/Gold Medal

AIA Board of Directors: Ronald L. Skaggs, FAIA; John D. Anderson, FAIA; David S. Collins, FAIA; Harry Rutledge, AIA, RIBA; Gordon H. Chong, FAIA; J. Richard Kremer, AIA; Linda Searl, FAIA; Melissa Mileff; Roy L. Abernathy, ASSOC. AIA; Timothy D. Kent; Stephan Castellanos, FAIA; Donald M. Comstock, AIA; Robert L. Newsom, FAIA; Steven Winkel, FAIA; Timothy G. Cahill, AIA; Katherine L. Schwennsen, AIA; Larry M. Schneider, AIA; Angel C. Saqui, FAIA; Lugean L. Chilcote, FAIA; David L. Wooley, AIA; Holly K. Gerberding, AIA; Lawrence R. Livergood, AIA; Eugene Hopkins, FAIA; Harold L. Adams, FAIA, RIBA, JIA; John F. Corkill, Jr., AIA; Derek Bradford, AIA; John P. Franzen, AIA; James Gatsch, AIA; John Reid Benson, AIA; Barbara A. Nadel, AIA; Edward Kodet Jr., FAIA; Ward Whitwam, AIA; Bruce E. Blackmer, AIA; Kenneth Maynard, FAIA; Thomas G. Fernandez, AIA; Douglas L. Steidl, FAIA; Michael L. Prifti, AIA; Jerry E. Abramson; Richard Farson; Ben R. Darmer, FAIA; Thompson E. Penney, FAIA; David Messersmith, FAIA; Bill D. Smith, FAIA; Richard L. Ford, Jr., AIA; Wayne D. Silberschlag, AIA; Marvin J. Sparn, FAIA

STANDARD VERSIONS

Arcus Overhead
Typically suspended from ceilings; may also be mounted from floors or walls. Has information panels one or both sides.

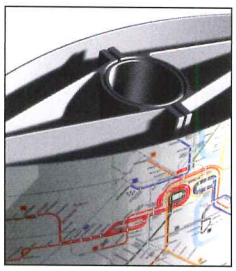
Arcus Mast
Pole-mounted modules may be fixed in any orientation. Ideal for situations where one or more types of information needs to be conveyed.

Arcus Totem
The quintessential version of the Arcus system. Mounted vertically, with information panels both sides.

Arcus Electronic
A highly specialized version of the Arcus Totem designed to house electronic displays, clocks, interactive media, or other devices.

Arcus Plaque
The smallest version of Arcus. Typically used as identification on doors or adjacent to doorways.

Arcus Wall
In conjunction with Arcus Plaque, part of a comprehensive offering for vertical surface applications.



Our new information system is a born leader.

Sure to attract a following, Arcus™ is a fully integrated information system with an amazing range of functionality and application. It's a system ideally suited to interior and exterior environments—transportation centers, streetscapes, educational and corporate campuses, theme parks, malls, stadiums and health care facilities—where people need to get information quickly.

Arcus is perfect for directional and schedule information, as well as advertising, lighting and multi-media displays. The system's patented modular design, plus numerous finish and graphic options, allows elements to be sized and combined in countless configurations. The result: custom versatility at a moderate price.

Versatile. Efficient. Refined. From small door plaques to towering totems, Arcus stands ready to lead the way through today's fast-paced world.

Cornelius+
A FORMS+SURFACES® COMPANY

tel 800.553.7722 fax 412.781.7840

www.forms-surfaces.com

DesignForm+, SiteForm+, LightForm+, Surfaces+, Hardware+ and Cornelius+ are trademarks of Forms and Surfaces Company, LLC

LIMITED *FLOORING*

CHOICES

CAN MAKE YOUR DESIGN

FALL FLAT

ON ITS FACE.

How can you take your design to the next step if you're confined to one company's limited choices? To see a concept through to completion requires a contractor who isn't restricted by manufacturer alliances and who has the selection and experience to fulfill your design. That combination perfectly describes your local, independent StarNet flooring contractor. Independent means an unrestricted selection of products. Local means a single contractor who's on site and personally committed to meeting your needs and deadlines. So if you want to rise to the occasion without stumbling, we'll be there for you every step of the way. To reach your local StarNet member call 1-800-787-6381.

STARNET®

INDEPENDENT FLOORING COOPERATIVE

www.starnetflooring.com

1-800-787-6381

Alabama

Terry Fry Flooring
Birmingham, (205) 870-4334

Arizona

Sun Country Floors, Inc.
Mesa, (480) 497-5011

California

B.T. Mancini Co., Inc.
Milpitas, (408) 942-7900
Sacramento, (916) 381-3660
Floor Center
Salinas, (831) 424-2916
San Luis Obispo, (805) 544-0324
Floorcovering Consultants Grp.
Culver City, (310) 559-2588
Oceanside, (760) 758-4188
Harry L. Murphy, Inc.
San Jose, (408) 955-1100
Hoem-Schurba & Associates
S. San Francisco, (650) 871-5194
Howard's Rug Co. of San Diego
San Diego, (858) 558-3939
Majestic Floors, Inc.
Concord, (925) 825-0771
Universal Flooring Systems, Inc.
Huntington Beach, (714) 373-1136
Wallach's Commercial Flooring
Irvine, (949) 859-1009

Colorado

Evans & Company, Inc.
Denver, (303) 573-4928

Connecticut

BKM Floorcovering
East Hartford, (860) 528-9981
Milford, (203) 874-7754
Commercial Flooring Concepts, Inc.
Windsor, (860) 683-0673
R.D. Weis & Companies.
S. Windsor, (860)528-9637

Delaware

Pala Tile & Carpet Contractors
Elsmere, (302) 652-4500

Florida

Dixie Contract Carpet, Inc.
Jacksonville, (904) 296-0023
Jones Floor Covering, Inc.
Pensacola, (850) 476-1995
Spraggins Contract Interiors
Orlando, (407) 295-4150

Georgia

Bonitz Flooring Group, Inc.
Atlanta, (770) 952-4093
Southeastern Comm. Flrg., Inc.
Woodstock, (770) 591-9980

Hawaii

Island Flooring Co., Inc.
Honolulu, (808) 847-6577

Idaho

Wall 2 Wall Commercial Flrg.
Boise, (208) 376-0136
Idaho Falls, (208) 523-5490
Sun Valley, (208) 726-0791
Pocatello, (208) 232-4226

Illinois

Commercial Carpet Consultants
Des Plaines, (847) 298-9570
Mt. Prospect, (847) 640-8060
Mr. David's Carpet Service, Ltd.
Carol Stream, (630) 260-9400

Indiana

Certified Floorcovering Svs.
Indianapolis, (317) 872-7926
Interior Finishes, Inc.
Osceola, (219) 674-9975
Strahm Group, Inc.
Fort Wayne, (219) 489-2537

Iowa

Commercial Flooring Company
Dubuque, (319) 582-4976

Kansas

Artistic Floorcovering, Inc.
Lenexa, (913) 317-8623
CAP Carpet, Inc.
Topeka, (785) 273-1402
Wichita, (316) 262-3491
Interior Surface Company, Inc.
Olathe, (913) 397-8100

Louisiana

B&J Floor Service, Inc.
Shreveport, (318) 671-1570
Craft-Croswell Contract
Harahan, (504) 734-1519
Royerre Commercial Carpets
Metairie, (504) 833-6331

Maine

Paul G. White Tile Co., Inc.
Portland, (207) 797-4657

Maryland

Apartment & Business Flrg. Sys.
Baltimore, (410) 485-6790
Carpet Fair, Inc.
Baltimore, (410) 265-6633
CB Flooring
Columbia, (410) 381-5400
Frederick, (301) 662-6168
Suburban Floorcoverings
Landover, (301) 773-1600

Massachusetts

Allegheny Contract Flooring, Inc.
Woburn, (781) 935-1077
Business Interiors Flrcvg., Inc.
Woburn, (781) 938-9994
Mousseau Contract Flooring
So. Attleboro, (508) 761-8870
R.D. Weis & Co., Inc.
Allston, (617) 787-1009

Michigan

Central Tile & Terrazzo Co., Inc.
Kalamazoo, (616) 375-1660
Floor Craft Floor Covering, Inc.
Clinton Township, (810) 468-9900

Minnesota

Multiple Concepts Interiors
Brooklyn Park, (612) 537-5006
Waite Park, (320) 253-5078
St. Paul Linoleum & Carpet Co.
Eagan, (651) 686-7770

Mississippi

Craft-Croswell Contract
Hattiesburg, (601) 296-1827
Ridgeland, (601) 856-8861

Missouri

William J. Zickel Co., Inc.
Fenton, (314) 343-8663
North Kansas City, (816) 471-5100
Springfield, (417) 831-3521

Montana

Pierce Flooring & Design Ctr.
Billings, (406) 652-4666
Bozeman, (406) 587-5428
Butte, (406) 494-3313
Great Falls, (406) 727-3832
Missoula, (406) 543-8224

Nebraska

Commercial Flooring Systems, Inc.
Omaha, (402) 592-4383

Nevada

B.T. Mancini Co., Inc.
Sparks, (775) 359-3007

New Hampshire

A&E Flooring, Inc.
Hookset, (603) 625-1266
Merrimac Tile Co., Inc
Derry, (603) 432-2544
Paul G. White Tile Co., Inc.
New Market, (603) 659-3233

New Jersey

Flooring Technologies, Inc.
Whippany, (973) 386-1600
The Gillespie Group, Inc.
North Brunswick, (732) 940-7777
M.E. Sabosik Associates, Inc.
Pt. Pleasant, (732) 892-2800
Metropolitan Contract Carpets
Cherry Hill, (856) 795-1177

New Mexico

Business Environments
Albuquerque, (505) 888-4400

New York

Associated/ACC International Ltd.
New York City, (212) 633-0250
Commercial Floors Beautiful
White Plains, (914) 949-1400
Fraser/Gold Carpet Corp.
New York City, (212) 751-3455
Lane's Floor Coverings & Interiors
New York City, (212) 532-5200
New York Carpet Corp.
New York City, (212) 736-1132
R.D. Weis Companies
Port Chester, (914) 937-9337
Victor (Rochester), (716) 924-0320
The Sposato Companies
Liverpool, (315) 422-1489

North Carolina

Bonitz Flooring Group, Inc.
Charlotte, (704) 598-0094
Greensboro, (336) 996-9900
Raleigh, (919) 380-0084
Burton Floorcovering, Inc.
Pineville, (704) 583-0005
E.E. Wilson Floor Covering, Inc.
Lexington, (336) 357-5555

Ohio

OCP Contractors, Inc.
Holland, (419) 865-7168

Oregon

Fashion Floors
Medford, (541) 779-0996
Rubenstein's Contract Carpet
Eugene, (541) 484-1101
Portland, (503) 224-1007

Pennsylvania

CTS Flooring
Limerick, (610) 489-6270
Facility Services Group, Inc.
Conshohocken, (610) 940-4370
Owen M. Bastian, Inc.
Allentown, (610) 798-9910
Trexlertown, (610) 798-9910
Sliwinski Flrcvg Group, Inc.
Huntingdon Valley, (215) 364-9661

Rhode Island

Ruggieri Flooring, Inc.
Cranston, (401) 942-1700

South Carolina

Bonitz Flooring Group, Inc.
Charleston, (843) 556-2840
Columbia, (803) 799-0181
Greenville, (864) 288-3771
N. Augusta, (803) 279-6411

Texas

Corporate Care, Inc.
Houston, (713) 692-6300
Flooring Associates
Fort Worth, (817) 332-6977
Intertech Flooring
Austin, (512) 385-4574
San Antonio, (210) 650-9670
RWA Flooring Solutions
Bedford, (817) 858-6634
San Antonio Floor Finisher's, Inc.
San Antonio, (210) 341-7101
Texan Floor Service, Ltd.
Dallas, (214) 573-6363
Fort Worth, (817) 923-1759
Houston, (713) 956-9966
Vector Concepts, Inc.
Irving, (972) 399-1303
Fort Worth, (817) 595-7439

Utah

Wall 2 Wall Commercial Flrg.
Ogden, (801) 621-2733
Salt Lake City, (801) 288-2794

Virginia

Commercial Carpets of America
Alexandria, (703) 370-0000
Prestige Floors, Inc.
Virginia Beach, (757) 468-5600

Washington

Evergreen Commercial Flooring
Bellevue, (425) 883-8680
Rubenstein's Contract Carpet
Olympia, (360) 753-9156
Seattle, (206) 762-5610

Wisconsin

Sergenian's Floor Coverings
Beaver Dam, (920) 887-7611
Madison, (608) 273-6300

INDEPENDENT FLOORING COOPERATIVE

www.starnetflooring.com

1-800-787-6381

CIRCLE 70 ON INQUIRY CARD

Oh, the Design

Merrill Lynch Facility
Englewood, Colo.
Thompson, Ventulett, Stainback & Associates

Precast concrete applications in Commercial, Industrial, Housing and Specialized Structures are amazing! In 50 years, precast, prestressed concrete has become a primary building component offering extraordinary structural and architectural options. Architects now have more than 240 certified precast plants to help create tomorrow's reality from today's dreams.

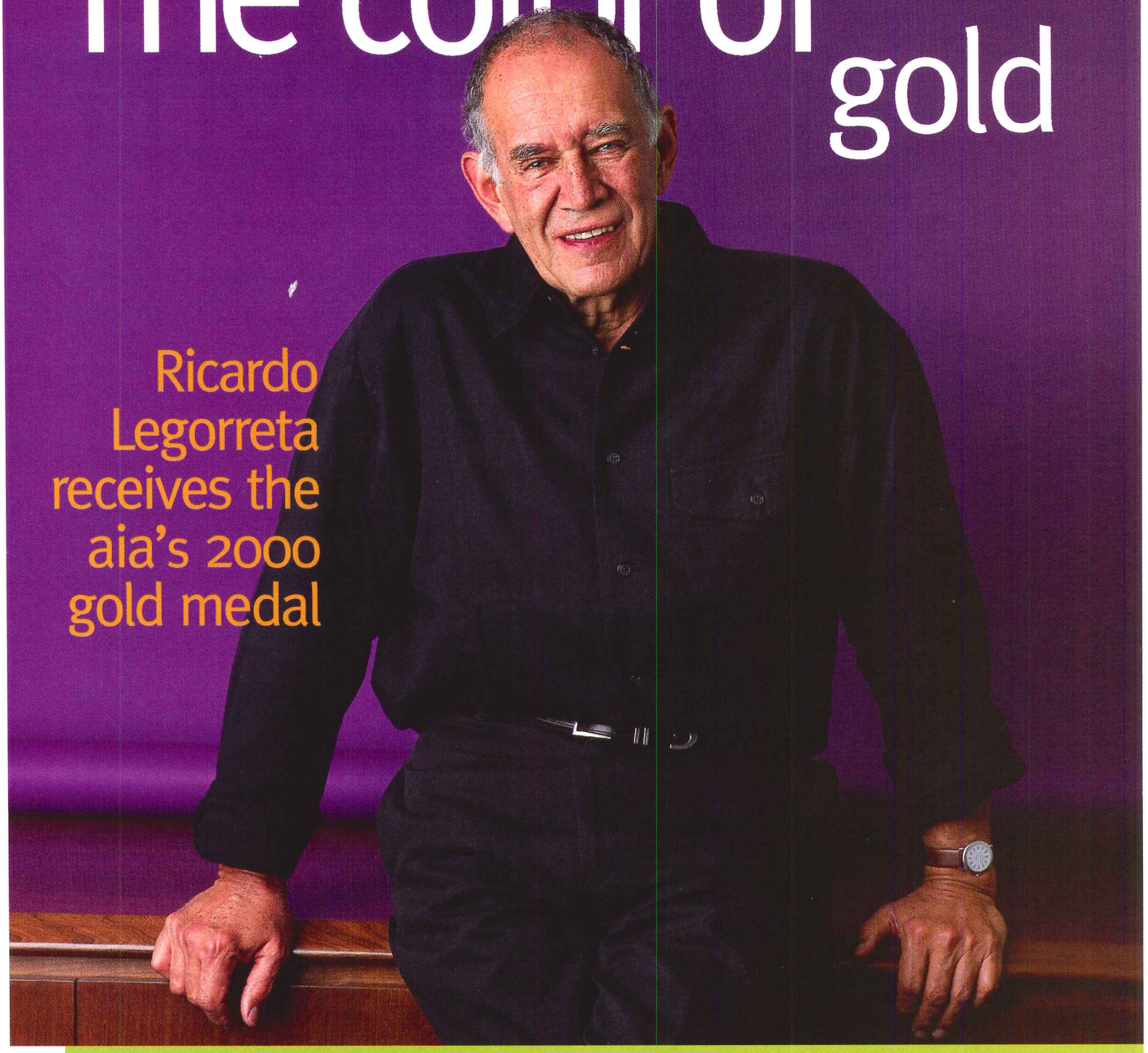
Stay current with today's (and tomorrow's) precast, prestressed trends, projects and options. Register toll-free or on the web to receive regular precast concrete case studies and project and product updates. Also on our website you'll find useful information about our AIA/CES Registered Provider box lunch and other accredited programs. To locate our PCI certified producers you'll also find a state-by-state locator on the web.

Quantum Peripherals of
Colorado, Inc.
Louisville, Colo.
Oz Architecture

1-800-947-8800 · www.pci.org

The color of gold

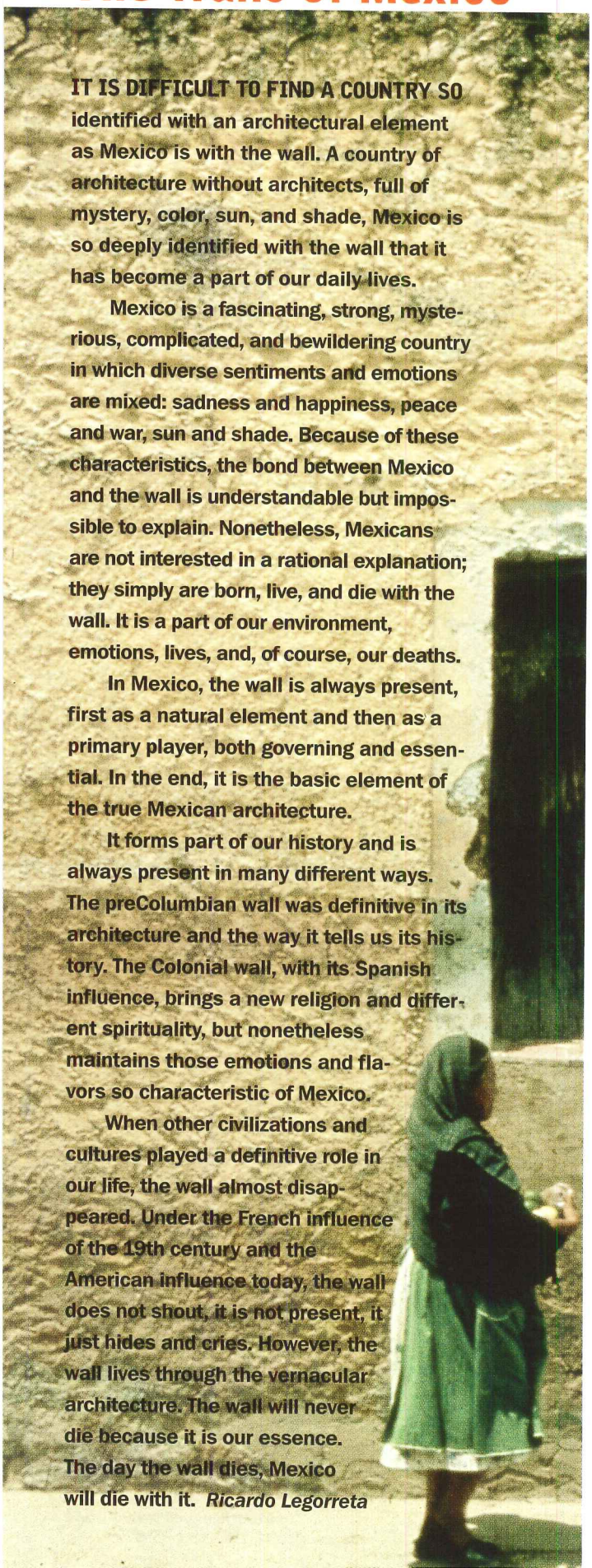
Ricardo Legorreta receives the aia's 2000 gold medal



PHOTOGRAPHY: © ANDRÉ SOUROUJON

The 56th winner of the AIA's highest honor, Ricardo Legorreta, Hon. FAIA, has created a body of work that is rooted in his country's timeless architecture but is increasingly international in scope. Like a warm southerly breeze, his work has moved gracefully from his native Mexico to Texas and California. Now he is building in more distant climes, such as Chicago, Hawaii, Spain, and France. The first Mexican architect to receive the Gold Medal, Legorreta is a trailblazer who understands the need to explore new ground while acknowledging his debts to the past. RECORD*'s coverage of this year's gold medalist begins with his short paean to an ancient influence on his work and then moves to an exclusive interview. It continues with a portfolio of three recent projects by Legorreta and ends with an analysis of his architecture by contributing editor David Dillon. Colorful, elegant, and often surprising, Legorreta and his work seem to travel well.* Clifford A. Pearson

The Walls of Mexico



IT IS DIFFICULT TO FIND A COUNTRY SO identified with an architectural element as Mexico is with the wall. A country of architecture without architects, full of mystery, color, sun, and shade, Mexico is so deeply identified with the wall that it has become a part of our daily lives.

Mexico is a fascinating, strong, mysterious, complicated, and bewildering country in which diverse sentiments and emotions are mixed: sadness and happiness, peace and war, sun and shade. Because of these characteristics, the bond between Mexico and the wall is understandable but impossible to explain. Nonetheless, Mexicans are not interested in a rational explanation; they simply are born, live, and die with the wall. It is a part of our environment, emotions, lives, and, of course, our deaths.

In Mexico, the wall is always present, first as a natural element and then as a primary player, both governing and essential. In the end, it is the basic element of the true Mexican architecture.

It forms part of our history and is always present in many different ways. The preColumbian wall was definitive in its architecture and the way it tells us its history. The Colonial wall, with its Spanish influence, brings a new religion and different spirituality, but nonetheless maintains those emotions and flavors so characteristic of Mexico.

When other civilizations and cultures played a definitive role in our life, the wall almost disappeared. Under the French influence of the 19th century and the American influence today, the wall does not shout, it is not present, it just hides and cries. However, the wall lives through the vernacular architecture. The wall will never die because it is our essence. The day the wall dies, Mexico will die with it. ***Ricardo Legorreta***

...on the Record

Earlier this year, Ricardo Legorreta visited with editor-in-chief Robert Ivy and senior editor Clifford Pearson at RECORD*'s New York offices. What follows is part of that conversation:*

AR: *What does winning the Gold Medal mean to you?*
RL: It's a very special thing. On the one hand, I am very proud and understand, of course, that it means a responsibility too. But it was also a tremendous surprise. I never expected it. I was in Washington about two months before the announcement and was at the AIA headquarters for a jury. I passed the wall with all the winners' names engraved on it and never thought mine would be added to it. I was very happy, not just for me, but for Mexico. It means a lot for Mexican architects. I think this demonstrates that the U.S. is open.

AR: *Do you think winning the Gold Medal will have an impact on how clients deal with you?*
RL: I think it will, not just with clients but with the public. We have a saying in Mexico, "No one is a prophet in his own land." So the medal helps with that. I don't mean that now everybody will let me just do whatever I want. No, I'm talking about a positive attitude . . . And I think that this recognition is helpful, really, for that. But you have to be careful. These recognitions are all very beautiful, but they are not the objective.

AR: *You've had an unusual array of clients—from universities and large corporations to wealthy individuals and public institutions. How have you been able to work with all these clients and make memorable architecture?*
RL: The first thing I do is to really get the clients involved in the project. Truly involved. Not the way we sometimes say, "Yes, we got them involved. We got the community involved." And then do whatever we want. No, I always develop a relationship with the client. Very often, especially on homes, the clients end up as personal friends. Even with institutional clients, such as Chiron [Corporation in Emeryville, Calif.], I ended up very good

WWW *For a complete transcript go to:* **www.architecturalrecord.com**

Lego

PHOTOGRAPHY: © ANDRÉ SOUROUJON (OPPOSITE PAGE:

friends with the two top people. Very often I am told or I have the feeling that I am a little weak with clients, if you want to call it that—that I give them too much time, too much of myself. Some clients have told me after we finished the building, "My God, you're really patient." But I think that is the way to do it. It takes a tremendous amount of time. Maybe it comes from the fact that once I decide to do something, I want to do the best and I don't want to have any excuses.

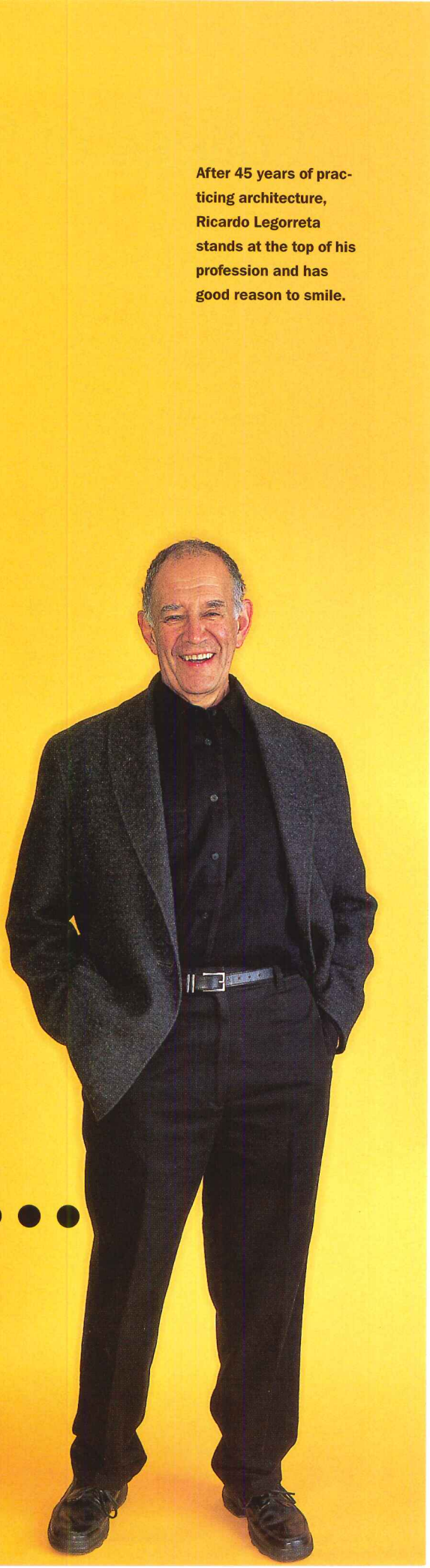
The advantage of having so many different kinds of clients is that you learn. The most difficult situations are when you are selected through a competition or through an interview, and then the top level [for the client] disappears. And you must work with another level further down [the corporate ladder] and that level doesn't trust you or they resent you because they feel you were imposed on them. They think you see yourself as the king of the world. These jobs take a lot of effort because you must convert these people who don't like you. You can't just say, "I only deal with the president of the company." I don't like that. In the end, these are the people who are the users of the building, not the president of the company. And after the building is finished, these are the people who can maintain the building and praise it or destroy the building.

AR: *You have worked on several projects where you've collaborated with other architects—such as the National Center for the Arts in Mexico City [March 1996, page 78] and developments for the Reichman family in Mexico City that were never built. How did these collaborations work out?*

rreta speaks...

RL: I think we have to really make an effort to work as a team. Why? Because the future is to create good cities. And one of the ways—I don't say the only way—but one of the ways to do this is to present a team to a mayor, a governor, even a president and show how you can solve a problem. You cannot come and say, "I, Ricardo Legorreta, will solve the problems of Mexico." So we have to learn to work together. What is the only obstacle to working together? It's the egos of the architects. We have to push those aside.

AR: *Have you ever said no to a client?*
RL: Yes. I think we have to start to be selective, to see if we can get along with a particular client, to see if the chemistry *(continued on page 160)*



After 45 years of practicing architecture, Ricardo Legorreta stands at the top of his profession and has good reason to smile.

College of Santa Fe Visual Arts Center and Santa Fe Art Institute

A joint effort by two separate institutions, the College of Santa Fe and the Santa Fe Art Institute, this 52,000-square-foot project resembles a Southwestern village or pueblo built around a series of courtyards. The result is a complex with a common design vocabulary that allows each of the major components enough variety to preserve its own identity.

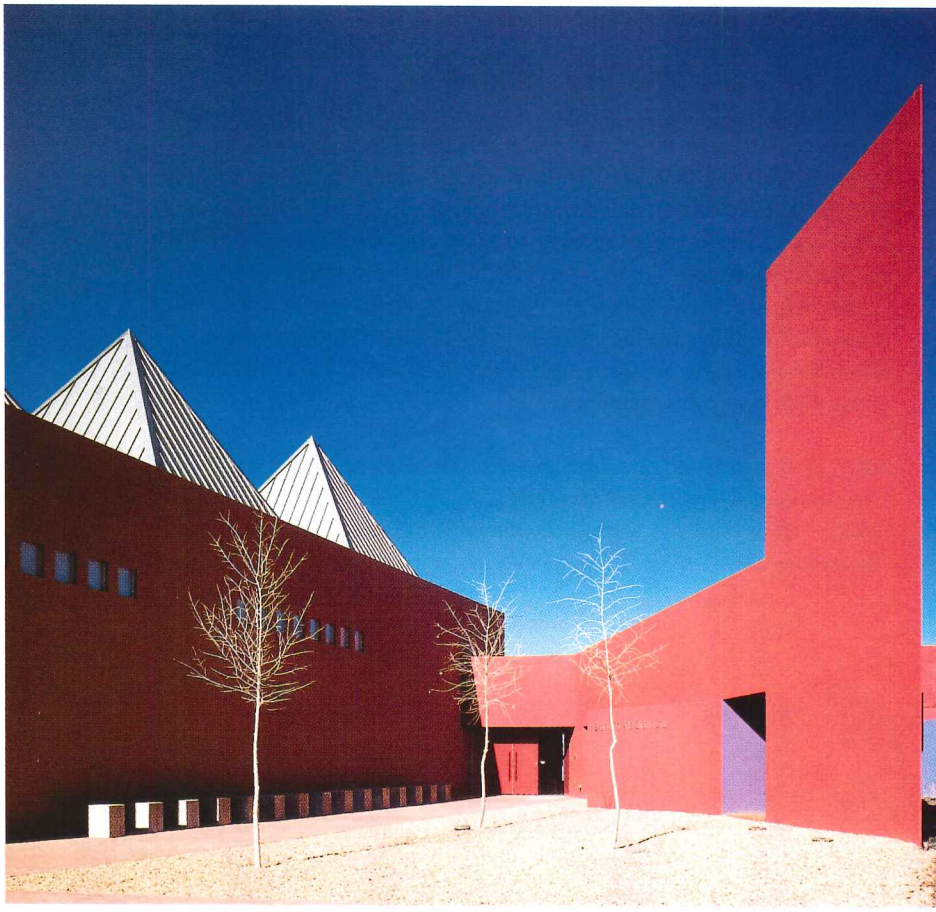
Although it is located on the college's sprawling campus outside the limits of the city's historic core, the new arts complex echoes local building traditions with its low-scale structures and earth-toned perimeter walls. Inside the courtyards and buildings, colors not indigenous to the area—such as fuchsia, purple, and lavender—assert themselves and help orient visitors.

There is a courtyard for each of the major components: the Art History Center and the Marion Center for the Photographic Arts (both part of the college) and the independent Art Institute (which provides living and studio space to a dozen participants to study with acclaimed visiting artists such as John Baldessari, Ross Bleckner, and Helen Frankenthaler). In addition, a studio and office wing is attached to the art history building and a 100-seat lecture hall is attached to the Marion Center by way of a portico.

The Art History Center includes offices, study spaces, and studios wrapping around a courtyard with a two-story library that is a rectangle rotated in plan.

North of the art history compound is the Marion Center, which offers a rare-book collection, a daylit gallery, and sophisticated darkrooms wrapping around a 26-foot-tall atrium topped by a

(continued on page 150)

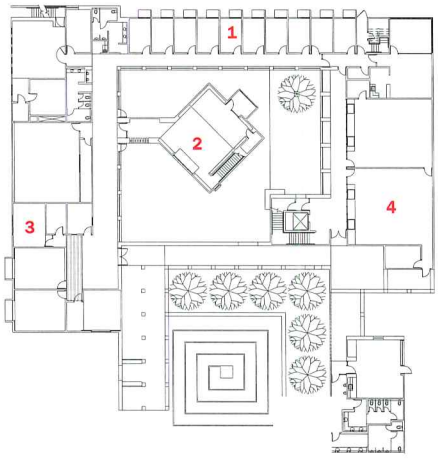


A three-sided tower marks the entry to the Art Institute (opposite top), while the art history courtyard (above) is entered through an arcade (opposite bottom). A lecture hall (right) serves the entire college.

curving light monitor.

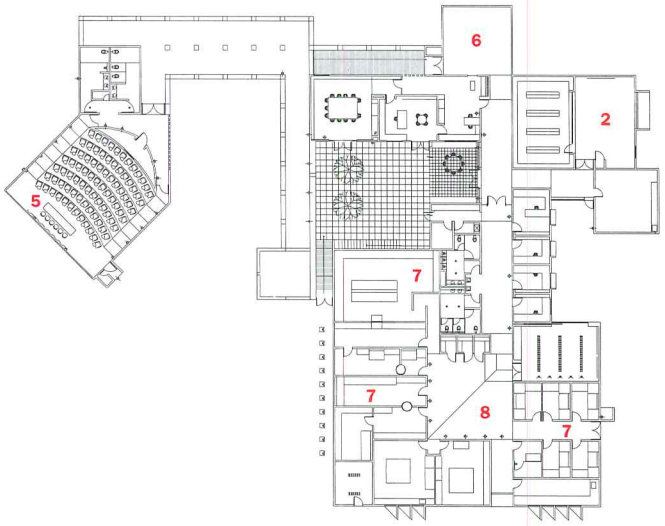
The Santa Fe Art Institute, which lies east of the Marion Center, is a 15,000-square-foot compound with dormitories for the students, skylit studios, library, conference room, and offices. At its center is a purplish-blue courtyard where people can enjoy an outdoor meal or put up a temporary exhibit. The art institute also has the project's most iconic piece of architecture: a three-sided entry tower.

As he likes to do with projects outside his own country, Legorreta skillfully blends Mexican design elements with those indigenous to the place where he is building. ■

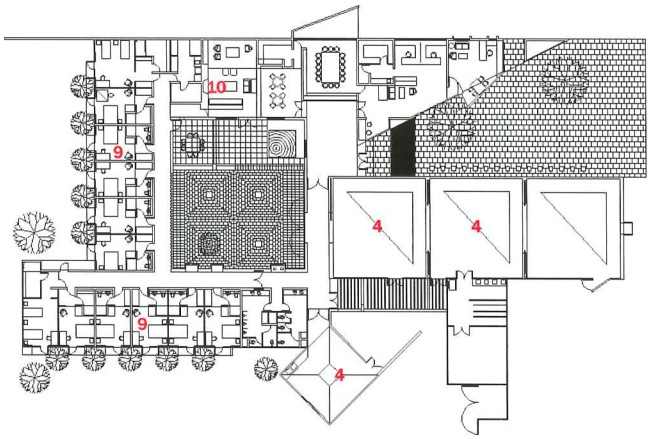


ART HISTORY QUAD, MAIN FLOOR PLAN

1. *Office*
2. *Library*
3. *Administration*
4. *Studio*
5. *Lecture hall*
6. *Gallery*
7. *Darkroom*
8. *Atrium*
9. *Dormitory*
10. *Living*

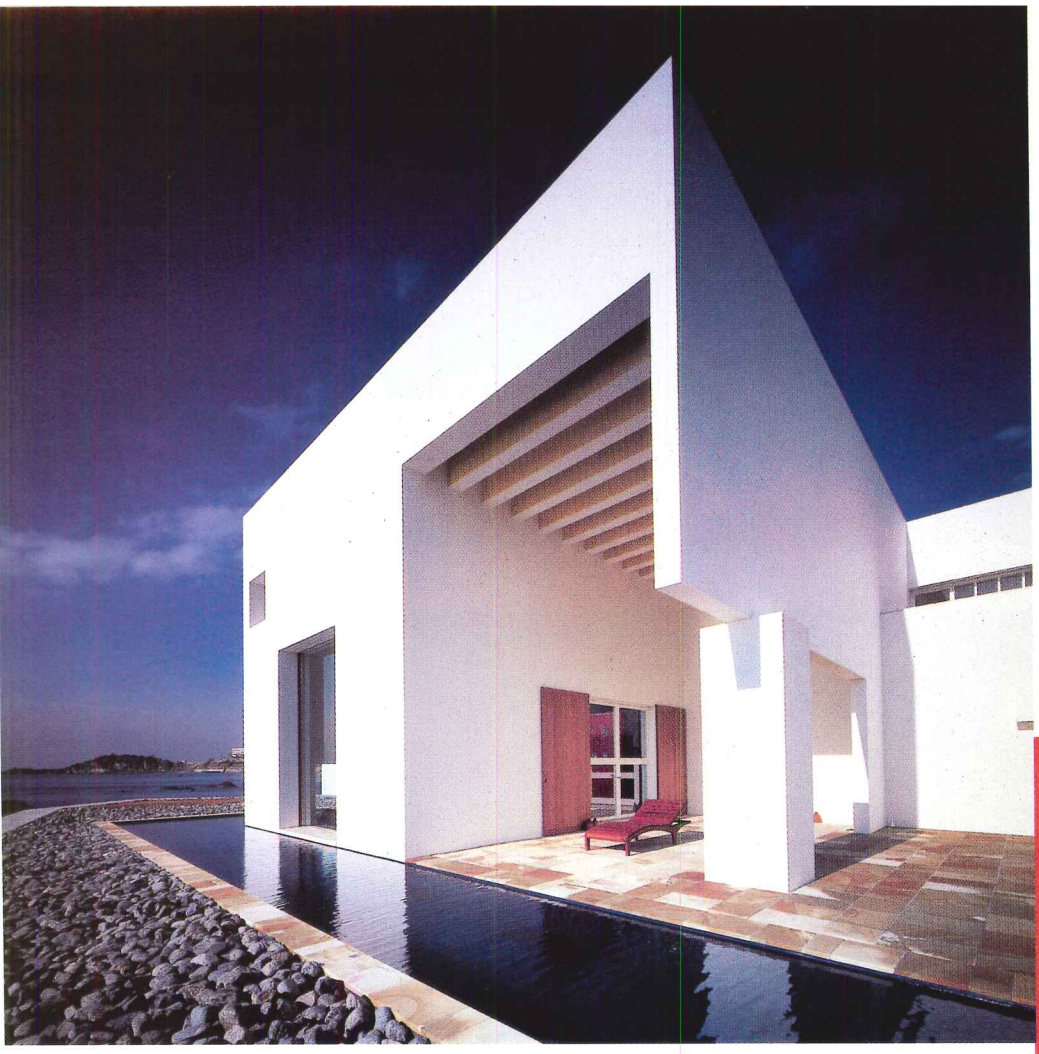


MARION CENTER, MAIN FLOOR PLAN



ART INSTITUTE, MAIN FLOOR PLAN

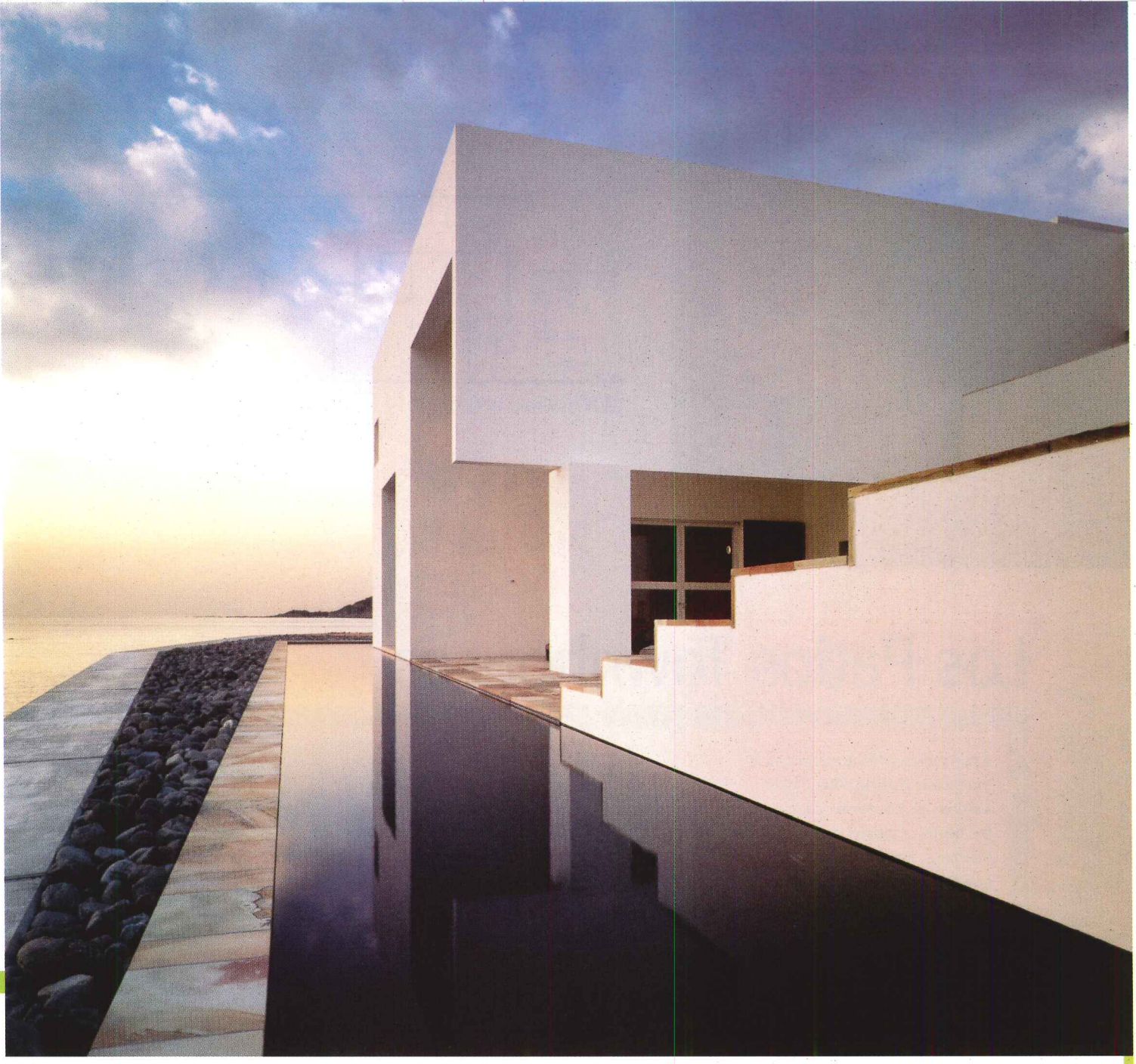
A view of the complex (opposite top) shows the Marion Center to the left and the institute to the right. Each of the projects' components are distinct: art history (above), institute (top) and Marion Center (right).

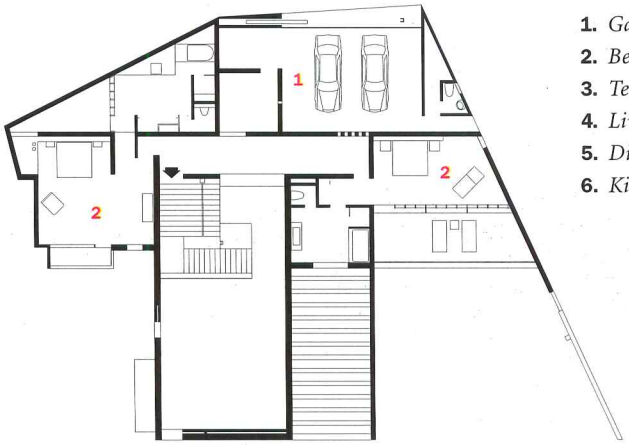


The main entrance is tucked into a tower on the upper level (above) to create a sense of mystery. The lower level (left), on the other hand, orients itself to the dramatic views.

A seaside house in Japan

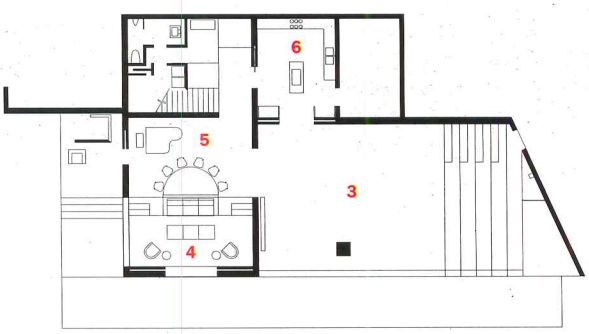
Overlooking the sea south of Tokyo, this 4,800-square-foot house integrates the design traditions of two distant countries. Commissioned by a Japanese man who teaches music and admires Mexican architecture, the house offers a discreet white facade to the street, while its private side hugs the sloping site. Entered from an upper level with its parking and bedrooms, the house saves its biggest impact for the lower floor where a terrace and a covered outdoor room open to the powerful water views. Legorreta surrounded the house with a narrow swimming pool. Although the exteriors are all white, strong colors make a few appearances on the inside. The house, which was designed in collaboration with Kajima Design and built by Kajima Corporation, features stone floors, woodwork, and interior furnishings from Mexico. "I think of it as being very Japanese," says Legorreta. "But the client always calls it his 'Mexican' house." ■





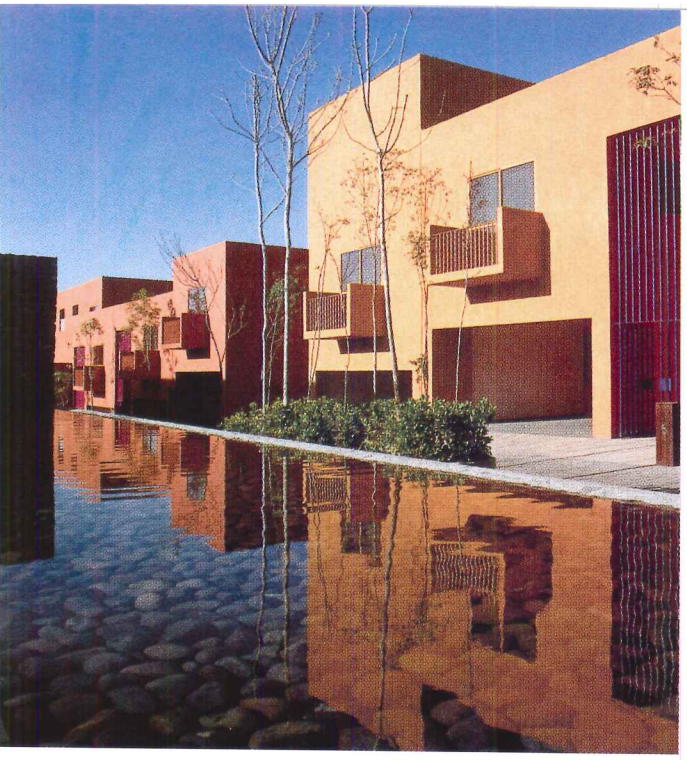
UPPER LEVEL

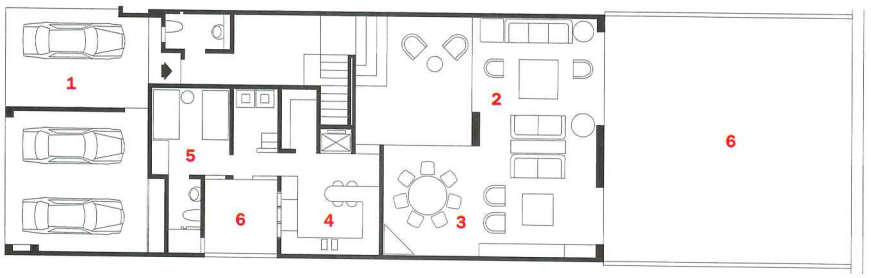
1. *Garage*
2. *Bedroom*
3. *Terrace*
4. *Living*
5. *Dining*
6. *Kitchen*



0 20 FT.
6 M.

MAIN LEVEL





LOWER FLOOR PLAN

0 10 FT.
3 M.

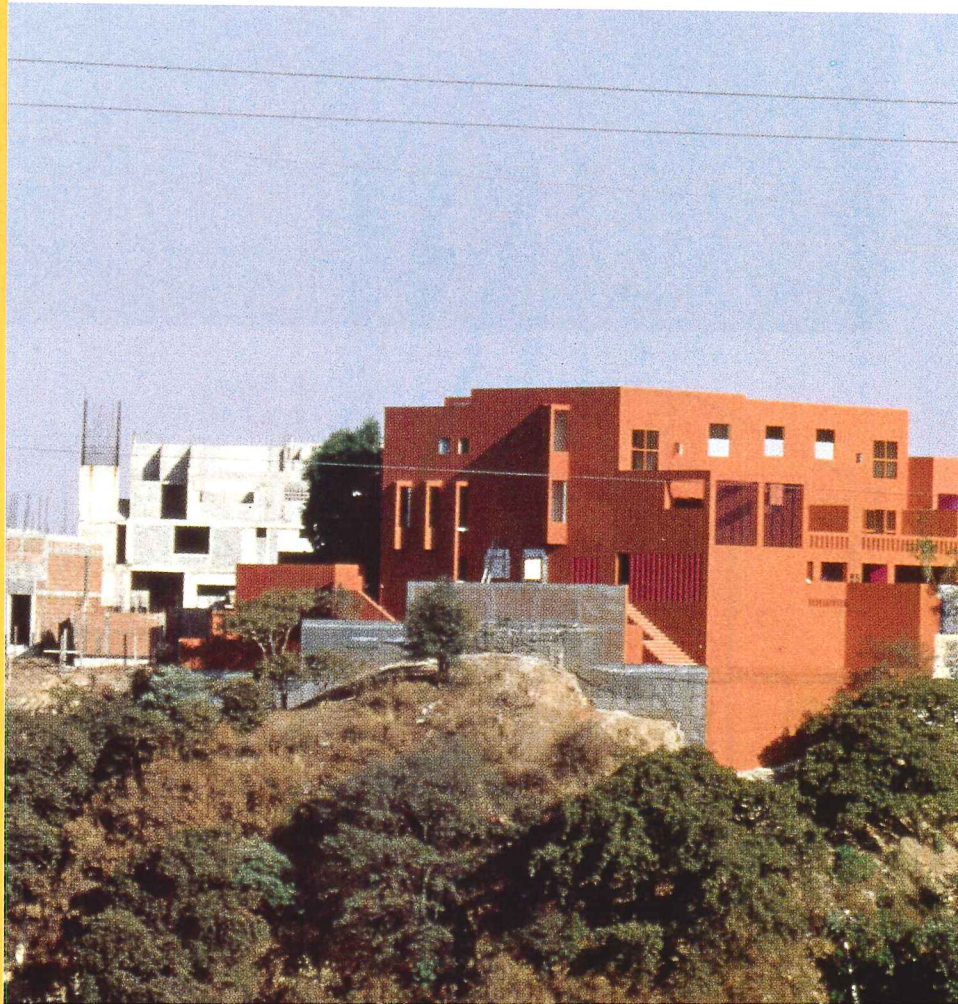
1. *Parking*
2. *Living*
3. *Dining*
4. *Kitchen*
5. *Bed*
6. *Patio*

Los Patios Townhouses

A community of 19 townhouses in the rapidly growing outer ring of Mexico City, Los Patios addresses the needs of today's middle class Mexicans. Escalating land prices, busier lifestyles, and security concerns have made attached houses on small lots more attractive to many middle-income families.

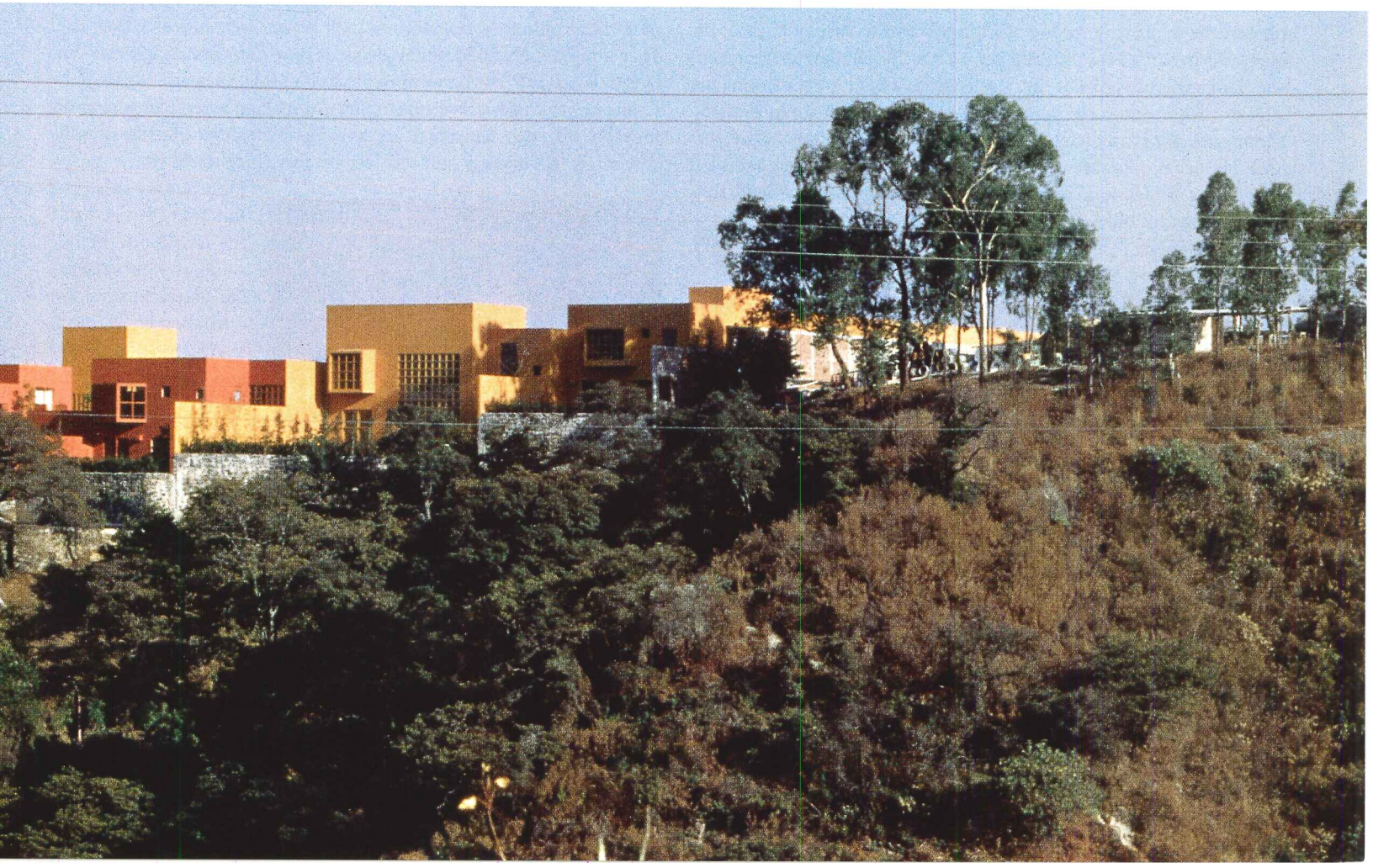
Working for a private developer, Legorreta Arquitectos designed a residential complex where each unit gets its own backyard patio, in addition to a central common garden with a fountain. By carefully siting the townhouses and surrounding patios with high walls, the architects were able to ensure privacy while creating a sense of community.

Each housing unit has covered parking out front, a patio in the back, and a two-story interior space around which the living and dining areas are focused. As he does with his large single-family houses, Legorreta uses strong colors, spatial procession, and carefully manipulated daylight to animate these townhouses. ■



PHOTOGRAPHY: © LOURDES LEGORRETA

The project is in a fast-growing suburb of Mexico City (below). Townhouses face a common garden (above and opposite). Light from above makes the units feel more spacious (right).



VIEWPOINT Using ancient and modern tools, Legorreta has created a powerful architecture of suggestion

By David Dillon

Modern architects want too much clarity in a building," insists Ricardo Legorreta. "They miss the pleasures of mystery and intrigue." Legorreta's buildings actually provide all three: elemental forms displayed in brilliant light; plans that unfold with the unpredictability of an old hacienda; surprising, occasionally quirky details that evoke ancient cultures and traditions in a modern setting. For all its crisp angularity, his work is suffused with intimation and innuendo, with things not seen or barely understood. And this is as true of his hotels and civic projects as of his houses and churches. His is more an architecture of suggestion than blunt declaration.

Legorreta's Visual Arts Center and Art Institute at the College of Santa Fe, New Mexico, for example, is a village of five small buildings—containing studios, galleries, dormitories, a lecture hall and a library—enclosed by enchilada-red walls and topped by an iconic triangular tower. The village has been Legorreta's starting point and organizing principle from the beginning. His buildings are seldom stiff and monolithic; they break and bend and bunch up around courtyards and gardens to create a feeling of intimacy and seclusion. Each of the courtyards in Santa Fe is different yet, as in a cloister, they speak a common language of solitude and reflection. Linked by colonnades, galleries, grilles, and screens, they induce slow, meditative movement. Offering the shortest distance between two points is not Legorreta's game. He delights in circumnavigation and rewards it with frequent surprises—a hidden staircase, a curving wall, niches filled with ethereal light, a glimpse of blue sky through a yellow ramada.

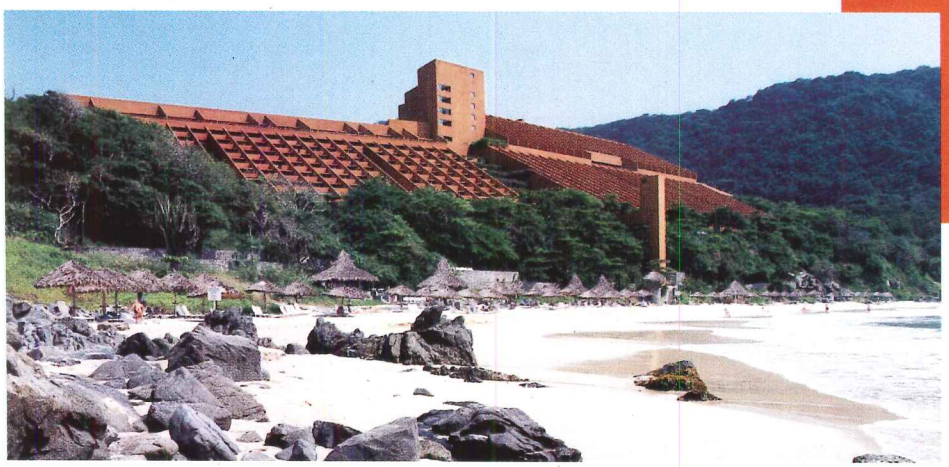
The Santa Fe arts center encapsulates Legorreta's aesthetic: walls, water, color, courtyards, and an underlying serenity regardless of scale. He has not reinvented himself every decade, adopting new forms and new materials. He is a refiner rather than a revolutionary, using the past as a guide to the future, minus the Olde Mexico sentimentality. Consequently, his houses and hotels are more impressive than his high-rises, where the jump in scale undercuts his strengths. And his occasional attempts at new building types, such as his proposal for a new sports arena in Dallas, have been clumsy. He works best close to the ground.

Contributing editor David Dillon is the architecture critic of the Dallas Morning News *and the author of* The Architecture of O'Neil Ford: Celebrating Place, *published by the University of Texas Press in 1999.*

Walls as silent collaborators

Legorreta and his mentor, Luis Barragán, reclaimed the wall for modern Mexican architecture. Instead of curtains of glass attached to slender columns, they celebrated mass and density. Transparency gave way to enclosure and the column often became purely decorative or symbolic, something to set in a reflecting pool or beside a walkway as a reminder of what is not there.

Legorreta's walls express continuity with Mexico's pre-colonial past, the world of the pueblo, and with the earth from which they rise. They impose a sense of order by giving discrete elements a single face, and by drawing a clear line between inside and outside, open and closed, public and private. They also create mystery by making us wonder what is on the other side, then denying us an easy answer. In an architecture of walls a window becomes a gift, its importance magnified by its rarity. Legorreta is a master of the framed view and the forced perspective, some of which resemble abstract paintings, others secrets. The wall, along with the screen and the grille, are his silent collaborators.

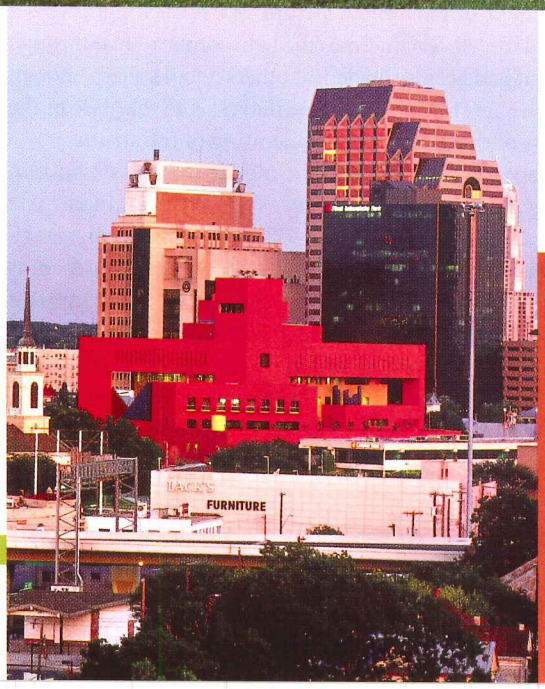


Like many of Legorreta's buildings, the Camino Real Hotel in Ixtapa celebrates water in all its moods and attitudes. The hotel, on the Yucatan Peninsula, was completed in 1981.

Water: another plane for the architect to design

Legorreta's buildings celebrate water in all of its moods and attitudes, from riotous to reticent. At the Camino Real Hotel in Ixtapa it is appropriately festive—cascading over steps, rushing from aqueducts, and jetting across swimming pools. In many of his houses, such as the Montalban house in Hollywood and the one he designed in Japan, water becomes another plane, mirroring the sky and extending the lines of floors and *(continued on page 158)*

PHOTOGRAPHY: © LOURDES LEGORRETA, EXCEPT AS NOTED.



Clockwise from top: the Solana complex in Dallas; the Tech Museum in San Jose, California; and the San Antonio Main Library.

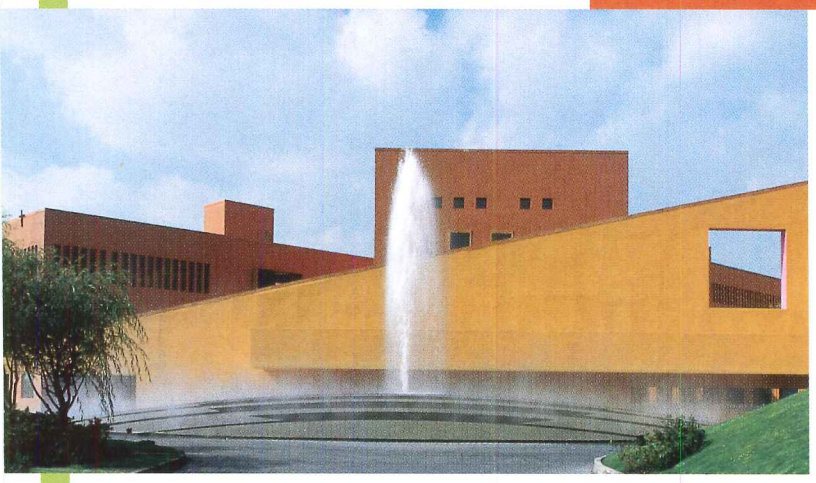
AN ARCHITECTURE OF SUGGESTION *continued from page 156*

walls until they liquefy. In some places water is mostly sound, as in a Moorish garden, in others it becomes a mirror for walls and sky. In the Santa Fe arts center water appears not only in courtyard pools and fountains but outside the walls in the form of a shallow acequia or irrigation channel that links the buildings symbolically to the region's ancient agrarian culture.

Color: rooted in the vernacular

Color is Legorreta's instrument for making modern architecture sing. He drenches his buildings in it, as though it were a building material. "It is not a complement," he insists. "It is a fundamental element." Color dramatizes form, turns walls into paintings and stirs emotions. "Without it the world would not exist," he maintains.

Legorreta's colors can seem hallucinatory and apparitional—fuchsia, magenta, cobalt blue, cadmium yellow—yet have their sources in the vernacular buildings of Mexico, the brilliant clothing of the native Indians, the murals of Rivera and Orozco, the dirt beneath his feet. When homeowners around Solana, IBM's regional headquarters near Dallas, threatened to sue him over his purple walls and yellow pylons, he persuaded them that he was merely copying bluebonnets, firewheels, and other local wildflowers.



Legorreta is a scholar of color, collecting rocks and soil to discover the tones and textures of a place, bringing them back to his studio as reminders of where he has been. He meditates on color and his use of it is more intuitive and emotional than rational: "I do not say I will make a wall and paint it red. I say I will make something red and it may be a wall."

Courtyards and gardens

At the center of Ricardo Legorreta's buildings—even his sprawling factories and corporate compounds—is a reassuring stillness generated by courtyards and gardens. Their inspiration is as old as the pueblo and the colonial hacienda, and as modern as the work of Barragán, who preferred to call himself a landscape architect and made the most eloquent case for the superiority of pleasure to convenience. "The construction and enjoyment of a garden accustoms people to beauty," wrote Barragán, "to its instinctive use, even to its pursuit." Legorreta's views are somewhat less poetic and more pragmatic, yet entirely consistent. "In modern life we are exposed continuously to stress," he said a few years ago.

The importance of walls and courtyards in Legorreta's work is evident in his offices for Televisa in Mexico City (above) and the Camino Real Hotel in Mexico City (below).

"To arrive at a place and find peace is extremely rewarding. If I work 12 or 14 hours a day, then a moment of peace becomes the most creative moment of the day. Those moments are an essential part of my life. You cannot separate architecture from happiness."

Telling stories with space

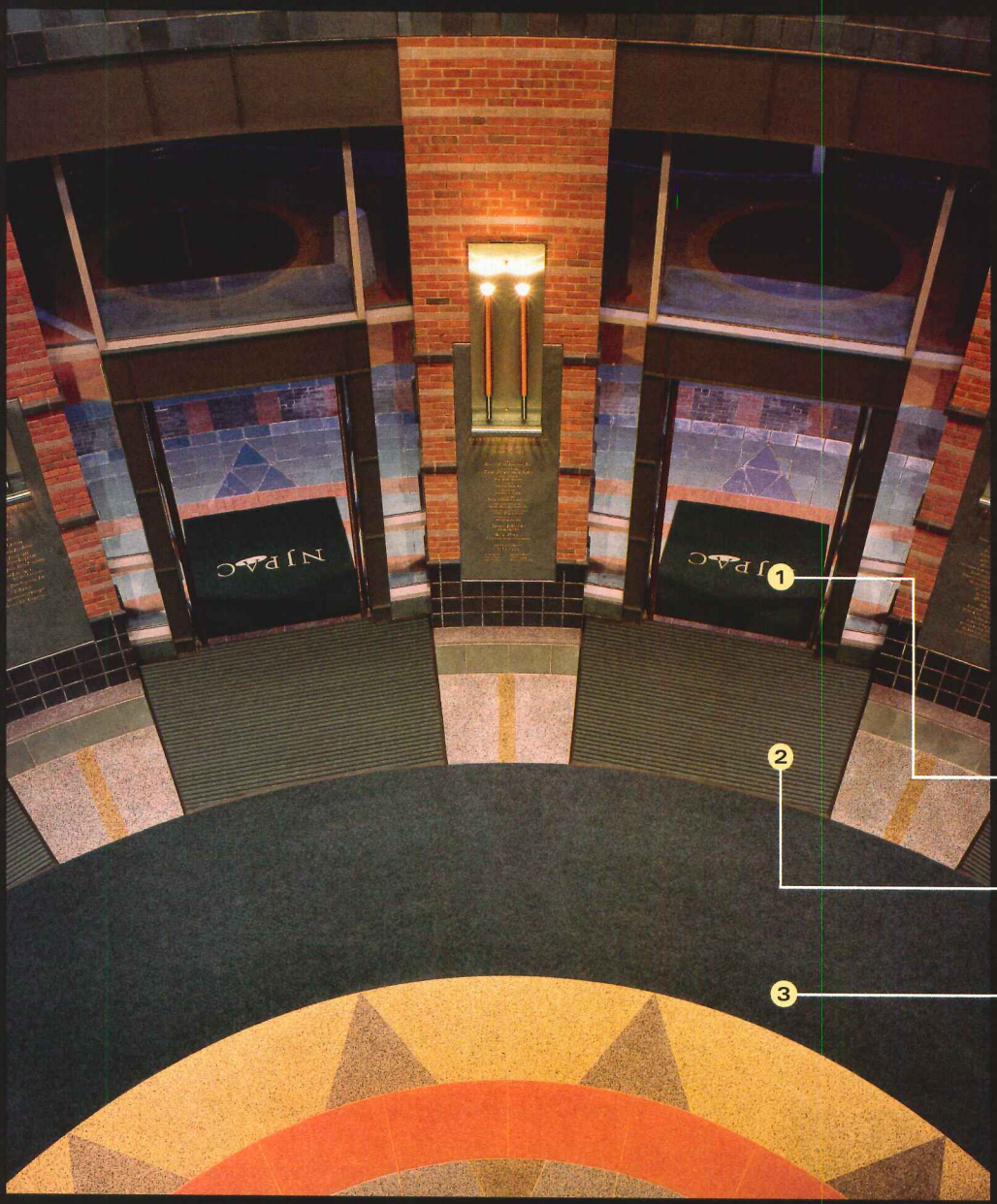
Legorreta's gardens and courtyards are private, introspective spaces in which to relax and catch one's breath, places of renewal created by water, color, and light—still but not static, discrete yet not disconnected. From one it is usually possible to look through screens and grilles to a second and a third, a thread of outdoor rooms. He is a master of continuous, flowing space that draws us into and through his buildings, like a good story. We want to know what happens next, and how it all turns out.

Sometimes the story is long and complex, like Solana's, which begins in a series of landscaped outdoor rooms at the freeway intersection—evocations of an earlier agricultural landscape—then meanders through a blue vaulted lobby, a kind of secular chapel, and finally to offices and meeting rooms surrounded by gardens with lush vegetation and shallow pools, like a corporate Alhambra.

The story can also be short and punchy, as in the San Antonio Central Library. The main entrance is a simple break in the street wall, which opens into a forecourt with a lively fountain, which then leads to a blue foyer and finally a bright yellow atrium, six stories high, with a diaphanous scrim on top. At certain times the light seems to float through the space, as though it had been sprinkled; at others it looks sharp enough to carve with. Within a few hundred feet one moves from the glare of the street to the coolness of the foyer to the exhilaration of the atrium.

Ricardo Legorreta's debts to classic modernism are obvious in his crisp geometry, spare detailing, and asymmetrical plans. He learned to practice architecture from Jose Villagran, a modernist and a rationalist, but ultimately found Villagran's work too rigid and emotionless to sustain him. Color, water, and the artful integration of building and landscape became his way out of the rationalist box. He remains something of an anomaly among contemporary architects, with admirers but few disciples. Antoine Predock may be his most kindred spirit. Even though his work has traveled well—to Los Angeles, Bilbao, Japan—it remains rooted in Mexico. His style, if we can use such a term, is a highly personal synthesis of pyramids and pueblos, the houses of peasants and the palaces of princes, all abstracted into something that is as much attitude as look. ■

Introducing the first high performance, fully integrated Entrance Flooring System.



Research suggests that entrance flooring should span 18 feet to effectively stop dirt and water from entering your building. However, most buildings' entrance mats are inadequate so maintenance people must compensate with ugly "throw-down" mats.

C/S designed an attractive, integrated system that provides full protection against tracked-in dirt and water.

Zone 1: Scrapes off severe dirt/water before it enters.

Zone 2: Traps and hides secondary dirt in its grid.

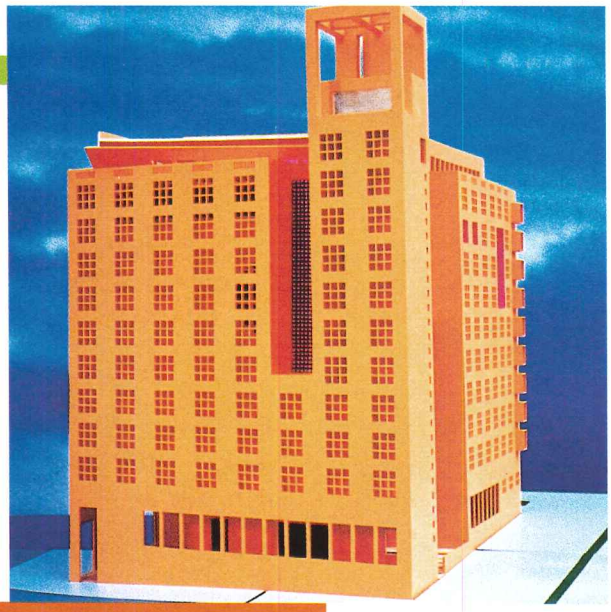
Zone 3: Collects any dirt/water missed in Zones 1 & 2.

New C/S Entrance Flooring Systems

See us at Booth #1908 AIA Convention

1•888•621•3344 • www.c-sgroup.com

CIRCLE 73 ON INQUIRY CARD



Projects on the boards: hotel in Bilbao (top), to be completed at the end of 2001; Commons Building at the Mission Bay campus of UC San Francisco (middle); and EGADE Graduate Business School in Monterrey, Mexico (bottom).

LEGORRETA INTERVIEW *(continued from page 147)*
is there. Because you can get the best client, the best architect. But if you don't get along, it's not going to work. I think it's honest to say no or to recommend some other architect, to tell them, "Look, you're better off with somebody else."

AR: *Your work is specific; it comes out of this wonderful architecture of Mexico. But now you are doing projects all over the world—France, Spain, the United States, Japan. How does your work transfer to other locales?*
RL: First, people look for what you do. They ask for what you've already done. But you cannot transplant [designs from one place to another]. Also, you want to respect the culture of the place where you are working. So you have to be very, very careful and be very open-minded. Until recently we worked mostly in the south and west, where the culture and climate is similar [to that of Mexico]. Now we're doing some dormitories for the University of Chicago. There the culture, the life, is completely different. The sizes of windows, how much light you're going to get, all those kinds of things are different. For example, I never thought before how any of our buildings would do with the snow. And the moment you consider snow, then you start to realize it's not only insulation and all those other technical aspects that are different. It's the philosophical aspect—what you feel when you enter a building when it's freezing outside. In Mexico we integrate the inside and the outside. In Chicago, that would not work.

So it is a tremendous challenge and it takes the courage to do things right. For example, in Chicago when we presented our scheme, the school, the teachers, the students, and the donors asked, "Where's the color?" They were asking for color. And I said, "Look, I don't think we should have a purple building in Chicago. But let's see how we can bring it in." So we started to bring in color on the inside.

There is a give-and-take in all of this. It is very difficult because you still have to be yourself. I cannot say, "Now, Ricardo Legorreta is going to be one Ricardo Legorreta in Mexico and another one in Chicago." It's not possible.

AR: *With the advent of computers, new ways of building and massive changes, how do you see your own work evolving? Are you using any new materials, for instance, or construction systems?*
RL: Yes. But I don't think we're using enough. I am ready to use more. Maybe not in Mexico, where labor is very cheap and where a traditional way of living makes it difficult to impose high tech at this moment. That doesn't mean we shouldn't consider it, only that you have more problems with it in Mexico. We're beginning to do more in terms of new materials, new construction techniques, high-tech engineering. But in architecture, I'm finding that that doesn't change rapidly. It's an evolution. I'm willing to change, very much so. But to change in the sense of an evolution. And in the sense of changing not for the sake of change, but because we are entering another age, a new way.

AR: *You've accomplished so much in your career, what is left?*
RL: Well, first, I still have to accomplish excellence. The good thing about architecture is that you see your mistakes easily. I would like to do more low-income housing. I did one project in the 1970s, but that was a long time ago. The other thing I would like to accomplish is not about buildings, but is to help create a strata or group of architects in Mexico who really are good and serious. It happened in the United States in the '40s and '50s. I'm not talking about style, I'm talking about people who really want to do good architecture. ■

Flat Panel Monitor Sold as an Upgrade.

Sit back. Close your eyes. Feel what it's like to travel at speeds previously unknown to humans. With the option of dual Intel® Pentium® III processors up to 866MHz, rendering time can melt into a phantasmic blur. And when running CAD/CAM apps with advanced graphics cards like the New 64MB 4X AGP GLoria II Pro, your models can be displayed with frightening precision. The final result? Your clients stare at you in awe and whisper "super genius."

DELL™ WORKSTATIONS:

DELL™ PRECISION™ 220

- Intel® Pentium® III Processor at 533MHz (up to 866MHz)
- Dual Processor Capable
- 64MB ECC RDRAM (up to 512MB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K Ultra3 SCSI)
- 17" (16.0" vis) M781 Monitor (up to FP)
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- MS® Windows NT® Workstation 4.0
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$1869 E-VALUE CODE 89790-490518

BUSINESS LEASE: $63/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT

DELL™ PRECISION™ 420

- Intel® Pentium® III Processor at 600MHz (up to 866MHz)
- Dual Processor/RAID Capable
- 128MB ECC RDRAM (up to 1GB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K Ultra3 SCSI)
- 17" (16.0" vis) M781 Monitor (up to FP)
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- MS® Windows NT® Workstation 4.0
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$2459 E-VALUE CODE 89790-490524

BUSINESS LEASE: $82/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT

DELL™ PRECISION™ 620

NEW Ultimate Performance Workstation

- Intel® Pentium® III Xeon™ Processor at 733MHz (up to 866MHz)
- Dual Processor/RAID Capable
- 128MB ECC RDRAM (up to 2GB)
- 9GB[5] (10K) Ultra3 SCSI HD (up to 36GB[5] 10K)
- 17" (16.0" vis) M781 Monitor (up to FP)
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- MS® Windows NT® Workstation 4.0
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$3549 E-VALUE CODE 89790-490535

BUSINESS LEASE: $119/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT

SYSTEM OPTIONS

Graphics Cards:

- NEW 32MB 4X AGP Synergy Force
- NEW 64MB 4X AGP GLoria II Pro (420 & 620 only)
- NEW Intense 3D Wildcat 4110 Pro (420 & 620 only)
- NEW IEEE 1394 Adapter Card

Monitors:

- 17" (16.0" vis) P780 FD Trinitron® Monitor
- 19" (17.9" vis) P991 FD Trinitron® Monitor
- 21" (19.8" vis) P1110 FD Trinitron® Monitor
- 19" (17.9" vis) M990 Monitor
- 15" (15.0" vis) FP1501 Flat Panel Monitor

Operating Systems:

- Microsoft® Windows® 2000 Professional
- Red Hat® Linux™ (420 & 620 only)

DELL.COM™

GET EXACTLY WHAT YOUR BUSINESS IS LOOKING FOR. **800.766.0279** WWW.DELL.COM

E-VALUE™

USE THE POWER OF THE E-VALUE CODE. Match our latest technology with our latest prices. Enter the E-VALUE code online or give it to your sales rep over the phone. www.dell.com/evalue

Call: M-F 7a-9p | Sat 10a-6p | Sun 12p-5p CT | Canada[1]: 800-839-0148 | Mexico[1]: 01-800-021-4531 | GSA Contract #GS-35F-4076D

Prices, specifications, and availability may change without notice. Taxes and shipping charges extra, and vary. Cannot be combined with other offers or discounts. U.S. only. [2]For a copy of Guarantees or Limited Warranties, write Dell USA L.P., Attn: Warranties, One Dell Way, Round Rock, Texas 78682. [3]Service may be provided by third party. Availability varies. Technician will be dispatched, if necessary, following phone-based troubleshooting. [5]For hard drives, GB means 1 billion bytes; accessible capacity varies with operating environment. [11]Business leasing arranged by Dell Financial Service L.P., an independent entity, to qualified customers. Lease payments based on a 36-month 10% purchase option lease and do not include taxes, fees and shipping charges. Subject to credit approval and availability. Lease terms and pricing subject to change without notice. Intel, the Intel Inside logo, and Pentium are registered trademarks and Intel SpeedStep, Pentium III Xeon, and Celeron are trademarks of Intel Corporation. MS, Microsoft, BackOffice, IntelliMouse, Windows NT, and Windows are registered trademarks of Microsoft Corporation. 3Com is a registered trademark and Fast EtherLink is a trademark of 3Com Corporation. HP and DeskJet are registered trademarks and OpenView is a trademark of Hewlett-Packard Corporation. Trinitron is a registered trademark of Sony Corporation. ©2000 Dell Computer Corporation. All rights reserved.

PAC-CLAD®
Petersen Aluminum

1005 Tonne Road • Elk Grove Village, IL 60007
1-800-PAC-CLAD or 1-847-228-7150
Fax: 1-800-722-7150 or 1-847-956-7968

Other Plant Locations:
Annapolis Junction, MD: 1-800-344-1400
Tyler, TX: 1-800-441-8661
NEW Kennesaw, GA: 1-800-272-4482

http://www.pac-clad.com

INTELLIGENT CHOICE

PAC-CLAD® Metal Roofing

PAC-CLAD Metal Roofing Panels are a smart choice for your next project. Combining structural integrity with aesthetics, our roofing panels are also backed with a 20 year non-prorated warranty.

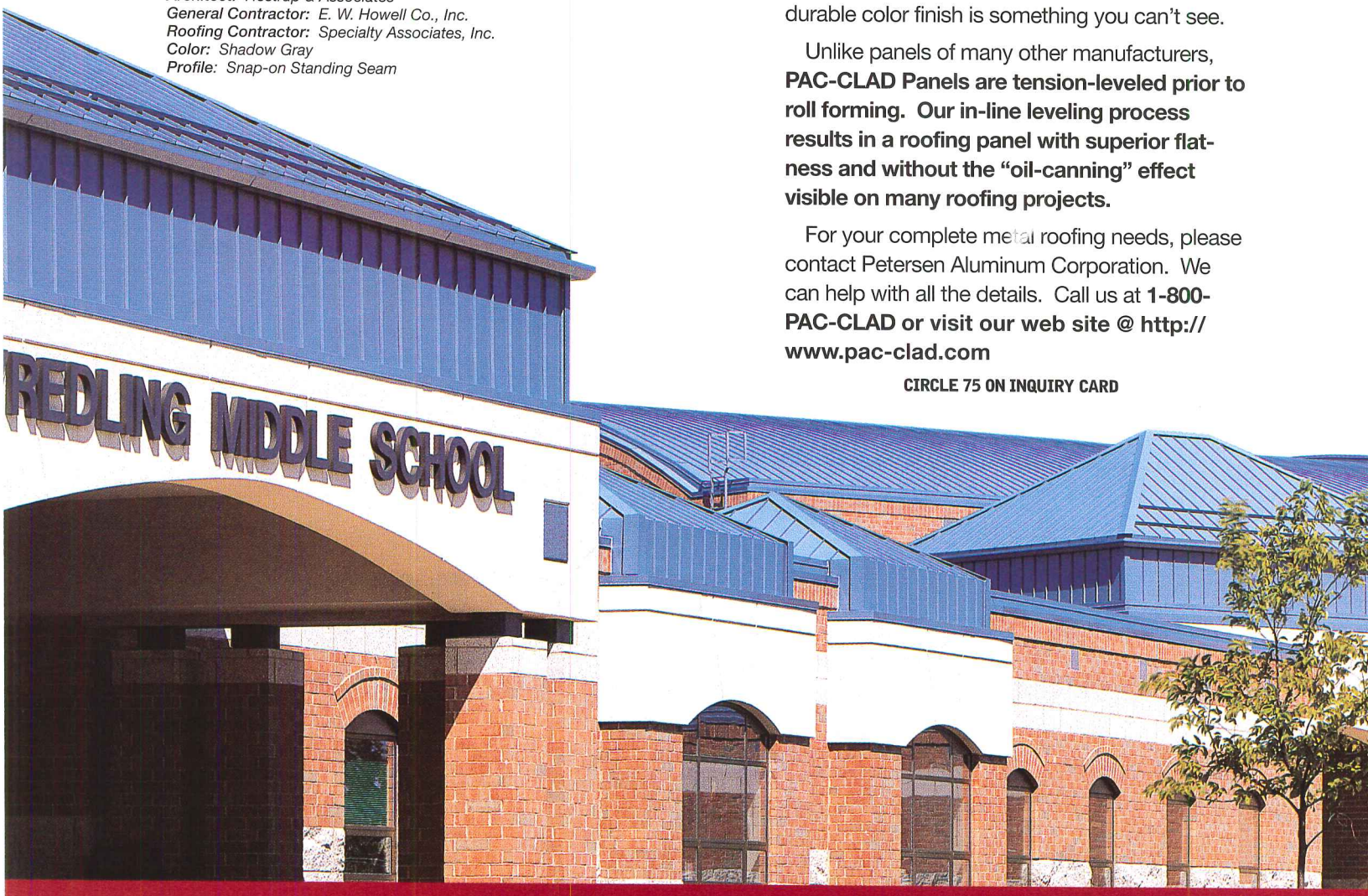
PAC-CLAD Panels are available from stock in 30 standard Kynar® colors. And beneath that durable color finish is something you can't see.

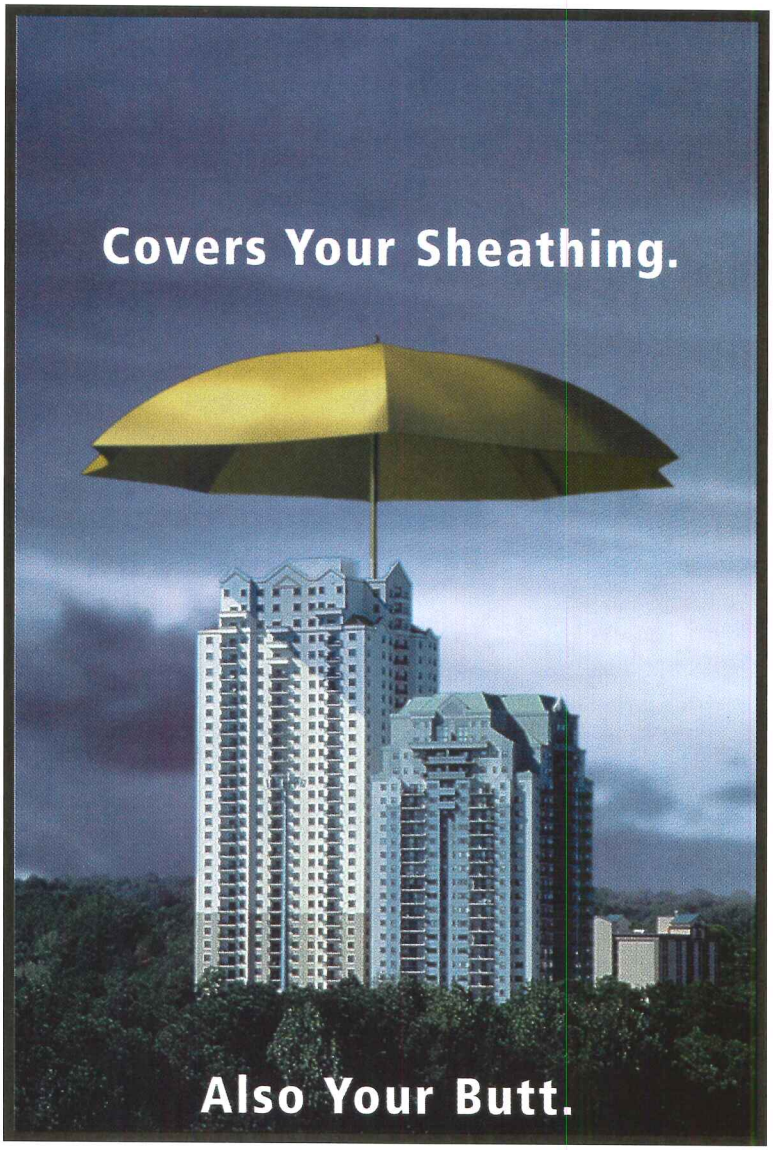
Unlike panels of many other manufacturers, **PAC-CLAD Panels are tension-leveled prior to roll forming. Our in-line leveling process results in a roofing panel with superior flatness and without the "oil-canning" effect visible on many roofing projects.**

For your complete metal roofing needs, please contact Petersen Aluminum Corporation. We can help with all the details. Call us at **1-800-PAC-CLAD or visit our web site @ http://www.pac-clad.com**

CIRCLE 75 ON INQUIRY CARD

Wredling Middle School
St. Charles, IL
Owner: *St. Charles School District*
Architect: *Hestrup & Associates*
General Contractor: *E. W. Howell Co., Inc.*
Roofing Contractor: *Specialty Associates, Inc.*
Color: *Shadow Gray*
Profile: *Snap-on Standing Seam*





Introducing Gold Guard. A barrier against moisture, not design.

Despite misconceptions, EIFS provides a better moisture barrier than other claddings. Now we've taken it even further. Introducing Sto Gold Guard — a moisture protection system that resists water penetration more than 5 times longer than leading brand house wraps and 28 times longer than conventional building paper. Gold Guard has two easily-applied steps (all you need is a trowel and a roller). And when combined with EIFS, you get seamless moisture protection for years. Now you can create memorable, lasting designs with EIFS without having to watch your...um...back. Start today by visiting our Web site at **www.stocorp.com** or calling **1-800-221-2397**.

sto®

100% Acrylic Polymers

CIRCLE 76 ON INQUIRY CARD

FIRM

GENSLER named Firm of the Year for being a successful model of architectural practice

"We **believe** any business person ought to worry about the client, listen to the client, and solve the client's problem," says Gensler CEO and founder, M. Arthur Gensler, Jr.

By Elizabeth Harrison Kubany

Seated, left to right: *David Gensler, managing director, London; Diane Hoskins, AIA, managing principal, Washington, D.C.; Robin Klehr Avia, managing principal, New York; Daniel Winey, AIA, managing principal, San Francisco.* **Standing, left to right:** *James Furr, FAIA, managing principal, Houston; Edward Friedrichs, FAIA, president; Joseph Brancato, AIA, managing principal, New York; Andrew Cohen, AIA, managing principal, Santa Monica; M. Arthur Gensler, Jr., FAIA, chairman and chief executive officer; Antony Harbour, managing director, London; member of board of directors Margo Grant Walsh, vice chairman and managing principal, New York; Walter Hunt, AIA, managing principal, New York.*

The year was 1972, and M. Arthur Gensler, Jr., founder, chairman, and CEO of the Gensler firm, was vacationing in southern California. That year, Don Fisher had opened the first Gap store and, seven years earlier, Gensler had established his architectural practice. Approaching Art on the beach, Don said, "I hear you're an architect. I have one store and want to open a second. I need a draftsman. Can I borrow one?" Art wasn't in the business of lending out his people and couldn't see how he'd make money that way, but he agreed. Two weeks later, when Don called Art to borrow a manager, Art lent him one. After about three months, Don told Art, "I give up. You do the store." Gensler has now done more than 1,500 Gap stores and billed Don every month for 28 years. Good luck? In part. But a lesser businessman might have been intimidated by the idea of giving up his employees. As Gensler says, "We've been client responsive since the beginning."

The customer is always right

As a firm, Gensler has elevated customer care to a religion: "We believe any businessperson ought to worry about the client, listen to the client, and solve the client's problem," says Art Gensler. "We have always taken the attitude that we do our best work for our best clients." The firm's rel-

Gap
San Francisco, CA, 1999

THE AWARD

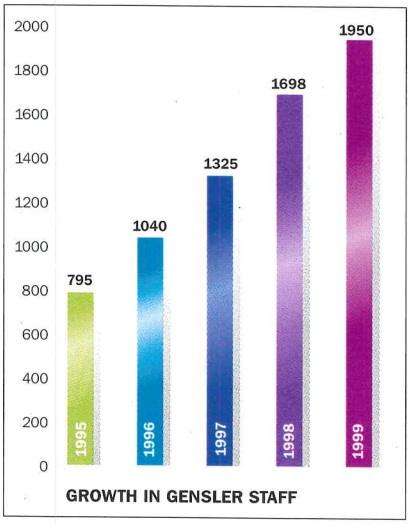
The American Institute of Architects views its annual Firm Award as the highest honor it can bestow on a practice producing consistently distinguished architecture. Yet the roster of past winners includes firms known—and not known—for design impact. By contrast, the Gold Medal, the AIA's highest distinction for an individual, perennially recognizes architects for a singular vision: Thomas Jefferson, R. Buckminster Fuller, and Frank Gehry are among the 57 winners. The Gold Medal, unlike the Firm Award, has rarely been called into question.

Nonetheless, in 1996 and 1997, the AIA convened a task force to reexamine *all* its awards and elevate the Firm Award's status. According to Barton Phelps, FAIA, a review committee member, the group agreed that the Gold Medal should continue to honor "individuals having a profound impact on world culture, through built work, writing, or teaching." The Firm Award, they decided, should recognize "spectacular group operations, where an enduring, unified, and efficient social mechanism enhanced productivity."

If these be the criteria, then it makes sense for Gensler, a firm that stands out in the architectural profession for skillful management, smart business tactics, and a singular corporate culture, to receive the Firm Award—and this year it finally won it. E.H.K.

Retail

By happenstance, Art Gensler landed the commission for the second Gap store in 1972. Since then, his firm has designed more than 1,500 projects for The Gap, along with numerous other projects for some of the nation's largest retailers.



GROWTH IN GENSLER STAFF

In 1998 Gensler worked on more than 3,800 projects for more than 960 clients worldwide.

atively humble beginnings, doing tenant development work, grounded its responsiveness to end users' needs. As the founder sees it, in the early days, "We were hired to provide a service, not to design something gorgeous."

Today the firm culture still reflects this attitude. As Art Gensler says, "We have purposely not developed a signature style," trying instead to find the right direction for each project. Ed Friedrichs, the firm's president, concurs: "We are highly adaptive in our design work to best suit client issues. We try to understand how a client's organization works because we truly believe that design enhances their performance."

Concern for building users prompted Art Gensler to launch a practice focused on interiors—a strategy that immediately separated it from the rest of the profession. "When I started my first office, no architecture firm cared about interiors—there was not even a fee structure for them." Gensler expanded and made more professional the practice of interior architecture. His company began high-level collaborations, doing the interiors for buildings by top firms, such as Kohn Pedersen Fox, Cesar Pelli, SOM, Pei Cobb Freed, and Philip Johnson. "We never tried to change the architecture," says Art Gensler, "just to make the buildings better for the end user."

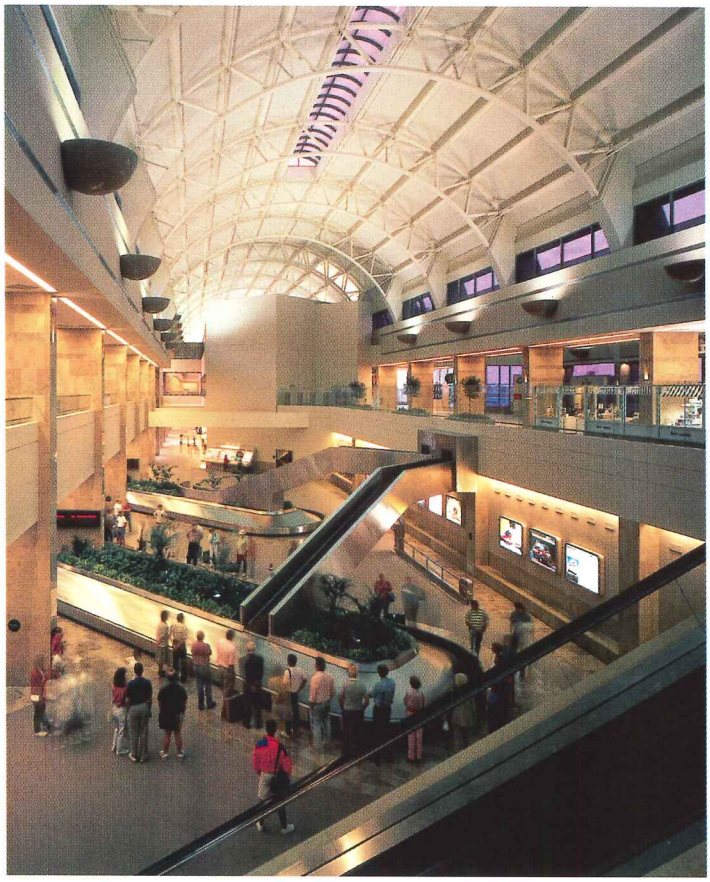
This approach has made good business sense. According to Margo Grant Walsh, the firm's vice chair and managing principal of its New York office, at least five of Gensler's 17 offices—New York, Houston,

SF MOMA/Bookstore
San Francisco, Calif., 1994

The North Face
Chicago, 1996

Airports

Since its first airport project in 1978, Gensler has completed almost 90 others.



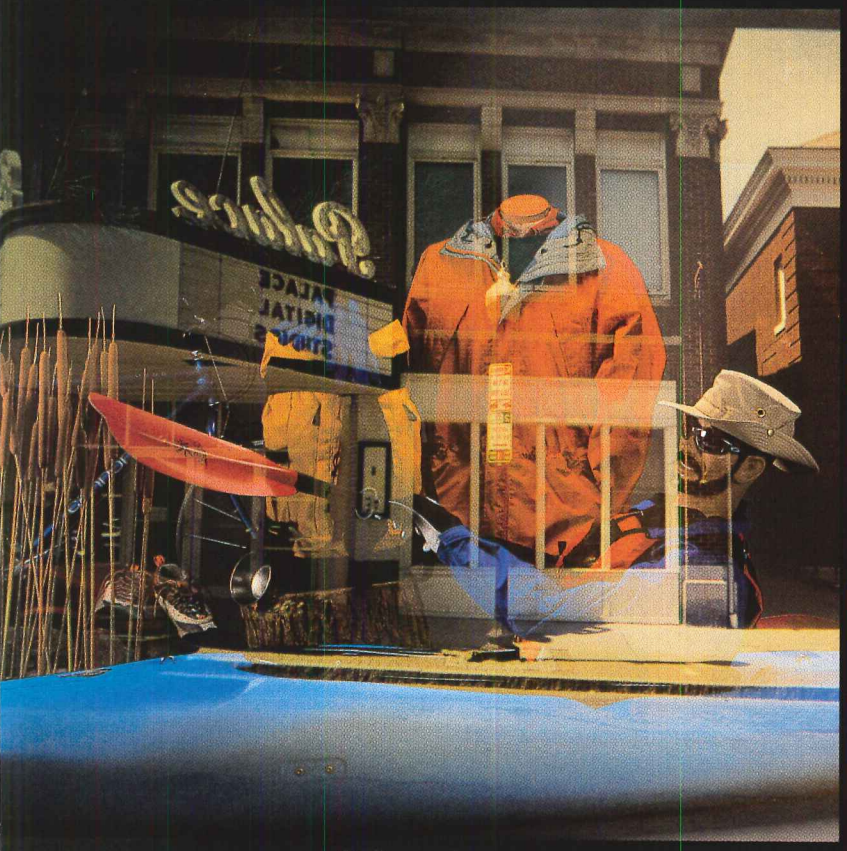
John Wayne Airport
Orange County, Calif, 1990
For a list of collaborating architectural firms, please visit our Web site at: www.architecturalrecord.com

Austin-Bergstrom International Airport
Austin, Tex., 1999
For a list of collaborating architectural firms, please visit our Web site at: www.architecturalrecord.com

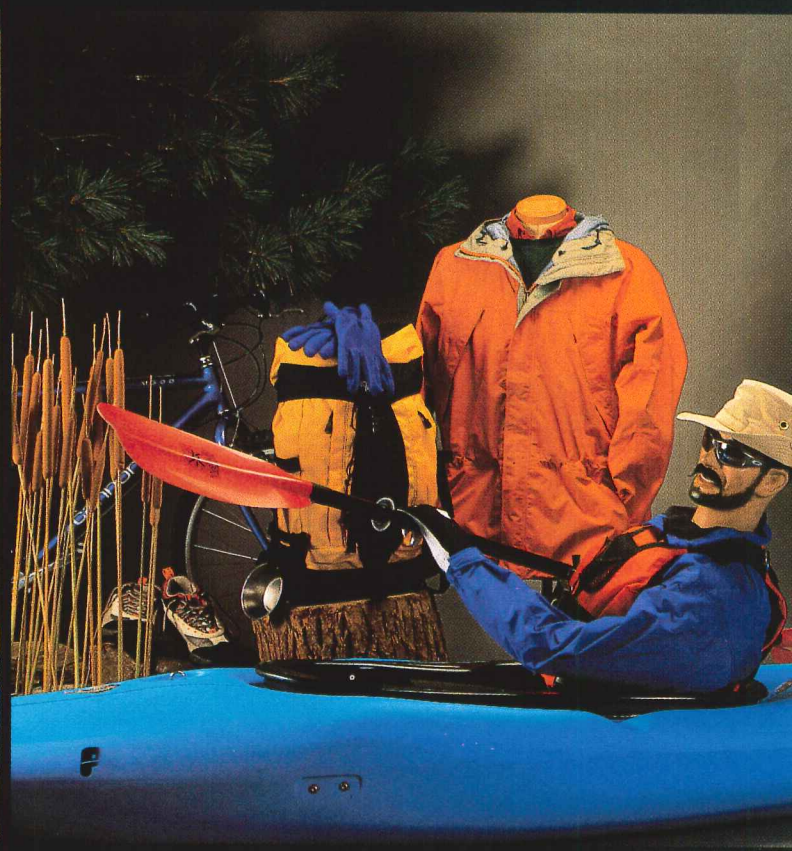
In 1999 Gensler's gross construction dollar volume was $2.5 billion.

Austin-Bergstrom International Airport

There Are Windows And There Are Mirrors. We Don't Get Them Confused.



Ordinary glass



AMIRAN anti-reflective glass

AMIRAN® anti-reflective glass is so clear, it's like it's not even there. Mirrors are great for seeing yourself. They're not so great for seeing what's on sale. Or what's inside a zoo, museum, restaurant – anyplace where visibility counts. That's when you need Amiran anti-reflective glass. For years it's been virtually eliminating glare to as little as 1%. There are other advantages, too. Amiran saves money. It lets more light pass through than regular glass, so lighting fixture and energy costs are lower. And only Amiran has a 15-year track record for reliability. Amiran anti-reflective glass is available in tempered, laminated and insulated glass panels for delivery anywhere in the U.S. Because if you want a window, we think you should get a window. Let us put some Amiran in your hands so you can see the dramatic difference for yourself. Call 914-378-3839 or write Schott Corporation at 3 Odell Plaza, Yonkers, NY 10701 for samples. For more details, visit www.schottglass.com/amiran.htm.

SCHOTT
glass made of ideas

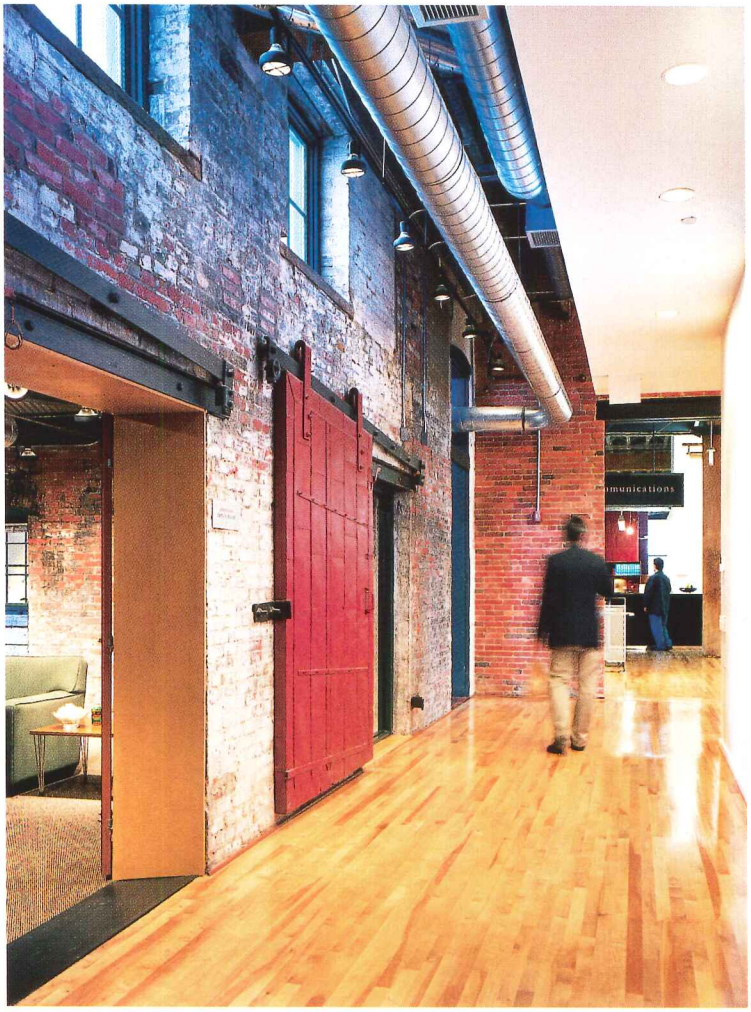
© 1999 Schott Corporation. ® Amiran is a registered trademark of Schott Glas, Mainz, Germany.

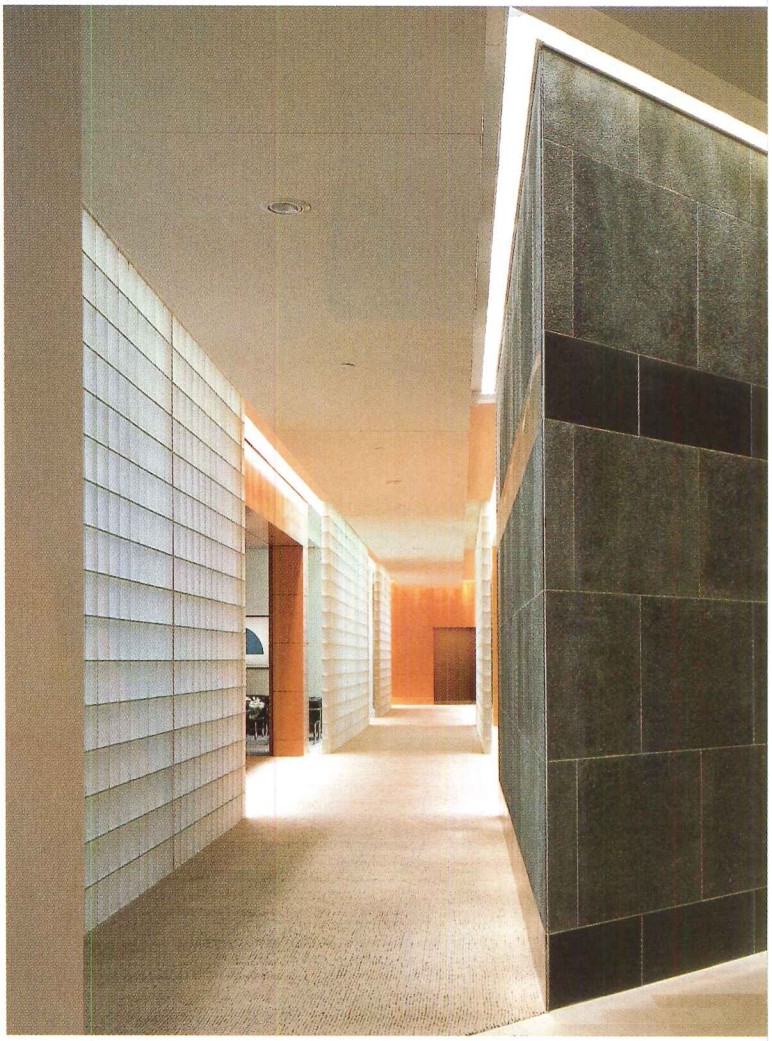
CIRCLE 77 ON INQUIRY CARD

Workplace

Corporate work—ranging from interior fit-outs to new campuses for law firms, financial institutions, high-tech companies, or media/advertising agencies—has long been Gensler's lifeblood. Since 1965, the firm has designed almost 200 million square feet of office space around the world.

Eisner Communications
Baltimore, 1999

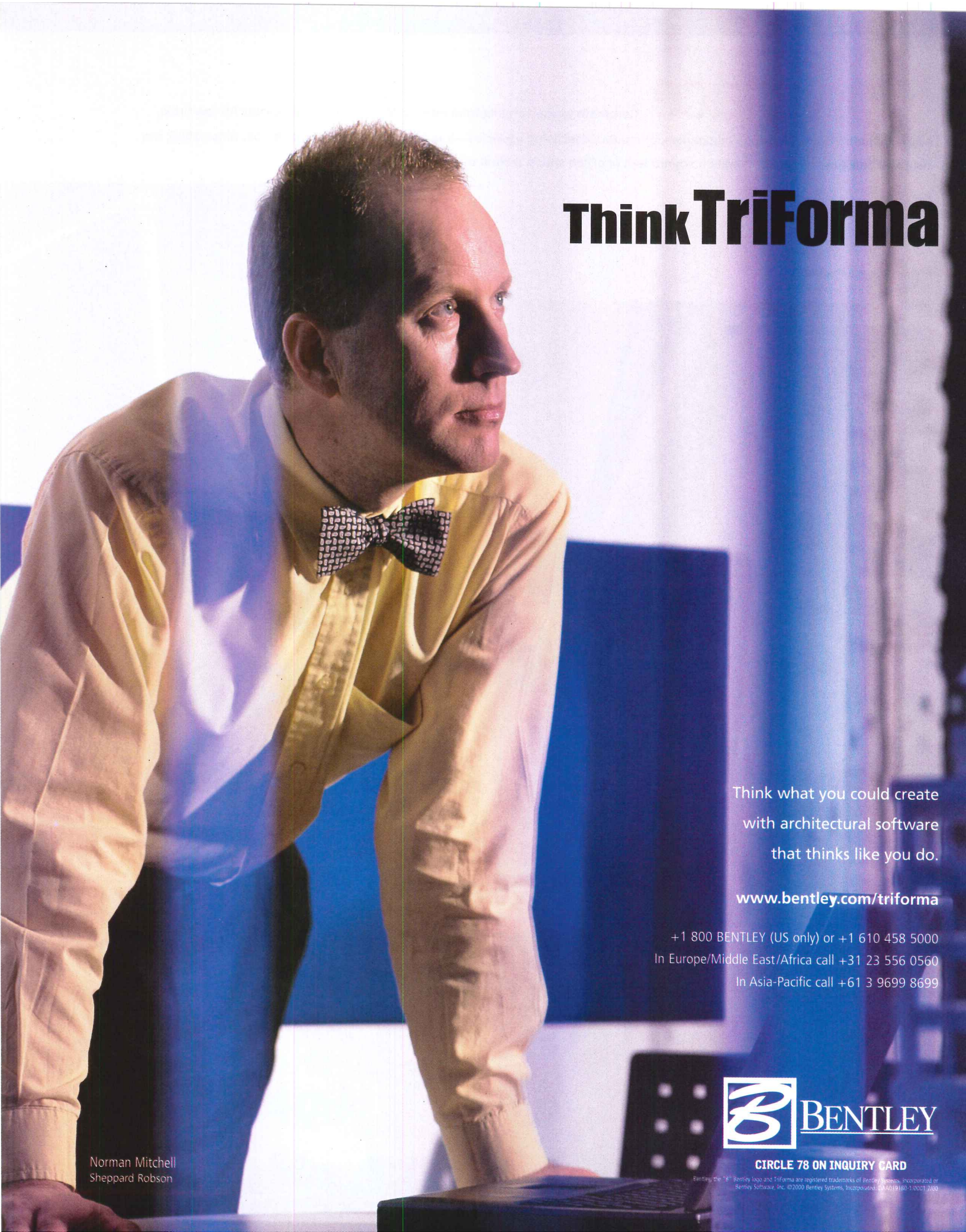




Swiss Re New Markets
New York City, 1997

Oracle
Redwood City, Calif., 1999

PHOTOGRAPHY: © PAUL WARCHOL (EISNER COMMUNICATIONS); NICK MERRICK/HEDRICH BLESSING (SWISS RE); TIMOTHY HURSLEY (ORACLE)



Bentley, the "B" Bentley logo and TriForma are registered trademarks of Bentley Systems, Incorporated or Bentley Software, Inc. ©2000 Bentley Systems, Incorporated. DA0019180-1/0001 7/00

Workplace *continued*

Washington, London, and Boston—opened for interiors commissions. While these offices all have major architectural practices, interiors remain their prime raison d'être. Ninety percent of the New York office's work is still in this realm. Says Walsh, "The very nature of interiors is repetitive. Whether downsizing or upsizing, our clients need our help. With some, we have been through three leases."

Of Fortune 500's largest U.S. corporations in 1999, Gensler's clients include 8 of the top 10, 18 of the top 25, and 66 of the top 100. One hundred eighty of the 500 are Gensler clients.

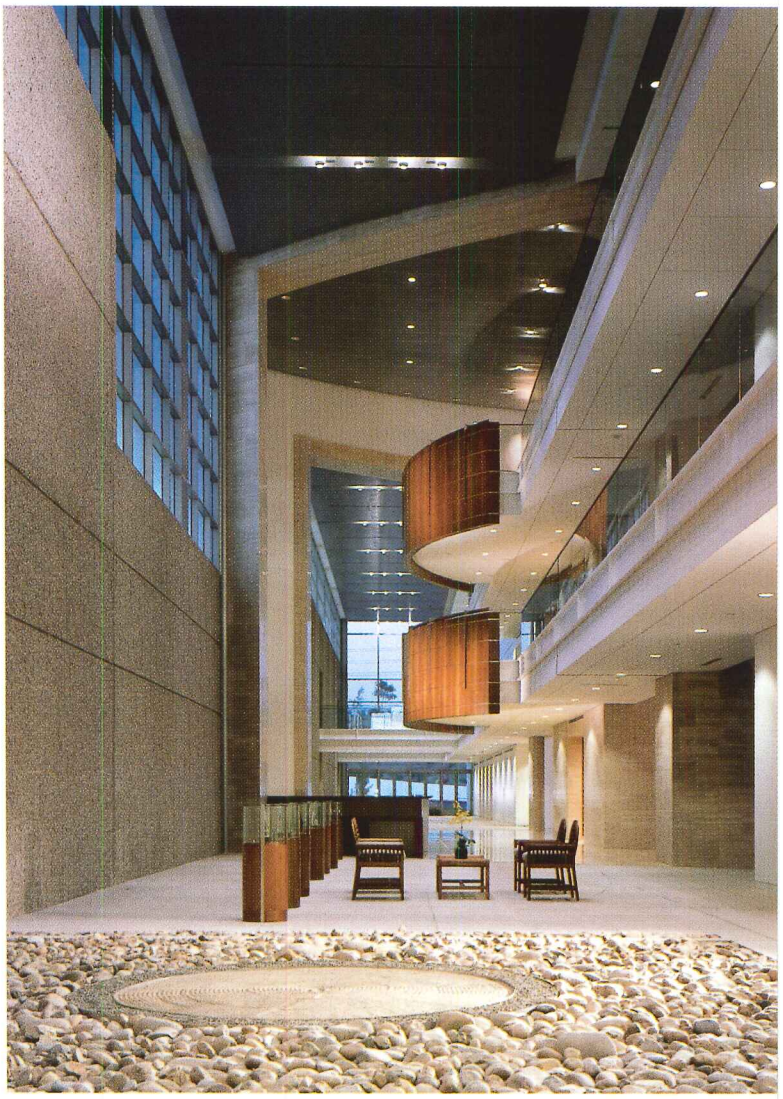
Commitment minded

The practice follows a "relationship model," says Ed Friedrichs, whereas most firms favor a transactional model, which is singular, and project focused. The difference in the two approaches is critical. "I have to live with the results because I want to establish a relationship. A transaction I could walk away from as soon as the project is complete," he explains. Half of the firm's current project load represents clients for whom Gensler has worked in more than one location, and a quarter of its business caters to clients for whom it is the sole architectural provider. Gensler has completed more than four projects each for so many different clients that the list reads like a Who's Who of Fortune 500 companies: American Airlines, American Express, AT&T, Bank of America, Bell Atlantic Corporation, Disney, Ernst & Young, General Motors Corporation, Hewlett-Packard, IBM Corporation, Lucent Technologies, and McDonald's Corporation. And the roster goes on and on.

Such solid liaisons—not marketing—have guaranteed a steady work flow. Instead of a marketing staff, maintains Gensler, "We have three to four thousand clients who spread the word. A firm our size couldn't exist if we had to rely on marketing." In a highly competitive profession, Gensler is one of the few firms that can honestly say its work walks in the door.

Predicating its business on strong relationships, the firm will not open an office unless it is brought to a new city by an existing client. The same holds true for the firm's forays into new service areas. "As our clients began looking for one-stop shopping, we extended our services to include areas that may not traditionally be housed in an architectural firm," says Gensler. Strategic planning, as well as graphic and product design, are now among the firm's holistic offerings. "We're not growing for the sake of

PricewaterhouseCoopers' Zone
Philadelphia, 1999



Nikken, Inc.
Irvine, Calif., 2000

PHOTOGRAPHY: © PAUL WARCHOL (PRICEWATERHOUSECOOPERS); JON MILLER/HEDRICH BLESSING (NIKKEN)

Quality windows and doors make a building more attractive.
Funny. They do the same thing for the

ARCHITECT.

Quality commercial windows and doors make a visual statement about a building and the architect. Windows and doors from a WDMA member will meet your highest aesthetic and performance standards for years to come — and keep you looking good to your clients.

WINDOWS, DOORS AND SKYLIGHTS MATTER.

Ask your suppliers if they're members of the WDMA. For more information about WDMA windows, doors and skylights, call **800-223-2301** or visit our Web site at **www.wdma.com**.

WDMA
Window & Door Manufacturers Association

CIRCLE 79 ON INQUIRY CARD

Entertainment/Leisure

While entertainment is not the firm's biggest market, Gensler is still designing for some of that industry's giants, such as Sony Pictures Entertainment, Disney, and AMC Entertainment.

growing," asserts Gensler, "but because of client demands."

Staff up

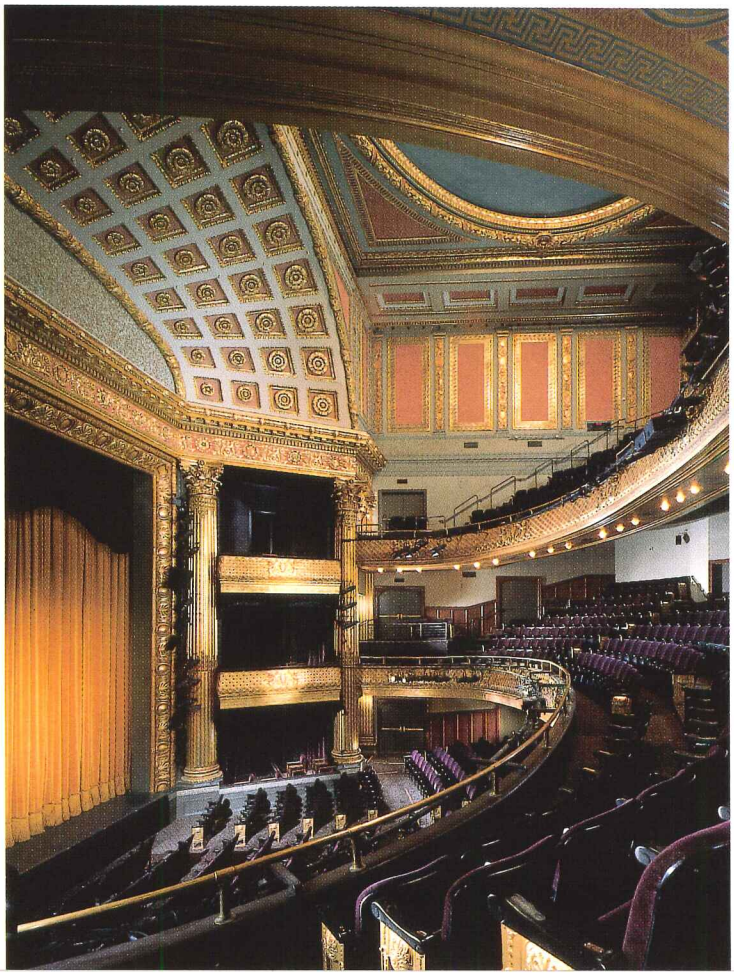
Gensler's staff longevity backs these enduring relationships. The firm gives generous bonuses twice a year, plus continuing education and tuition reimbursements. "Our staff has the opportunity to build a body of knowledge about clients' buildings and culture. When you have a high turnover rate (as most firms do), you lose that. This is a distinct advantage for us."

Departing from architecture's norms, Art Gensler believes such values are critical to a profession in flux. Knowledge in our field changes so rapidly, observes Friedrichs, that "continuing education must be part of any architectural career." The Gensler firm provides an industry model in its

In 1999 Gensler's total worldwide fee billings were $196 million. In the same year, the firm's total gross worldwide revenue hit $264 million.

AMC Festival Walk
Hong Kong, 1999

American Conservatory Theater
San Francisco, 1996



AMC
Nakama, Japan, 1999

OSRAM SYLVANIA

The brand new market leader in electronic ballasts

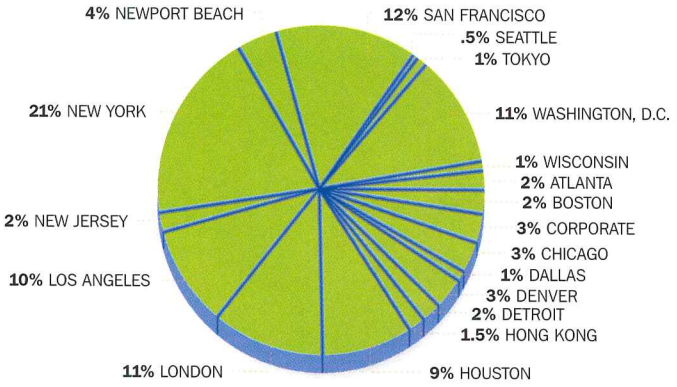
OSRAM SYLVANIA'S acquisition of Motorola's Lighting Division brings together a wealth of electronic **ballast technology** and innovative products unmatched in the industry. Blending the resources and people of both companies with the widely-heralded System Solution® approach originated by OSRAM SYLVANIA, creates one of the **broadest lines of quality lamp and ballast products** you'll find anywhere in the world. All marketed under the well-known SYLVANIA brand and backed by unparalleled customer service. This line of superior products and services will be available to you wherever and whenever needed. It is the beginning of an important partnership...with you. And there will be plenty more good things to come. Call 1-800-544-4828 or visit our website at www.sylvania.com.

OSRAM SYLVANIA

CIRCLE 123 ON INQUIRY CARD

Government

Having completed some 120 public projects, Gensler is one of five architectural firms recently selected to provide services to upgrade 280 million square feet, primarily lobby spaces, in federal buildings across the nation.



ALLOCATION OF GENSLER STAFF

approach to learning. Besides tuition reimbursement for approved classes, the firm offers an in-house educational program—part of what insiders dub "Gensler University." The practice has developed its so-called Leadership 2000 Knowledge Network, a collection of task forces that cover four categories: Design & Delivery Systems, Offices (one for each of the firm's 17 offices), Practice Areas (for specific building types), and Firmwide Shared Services (including communications, financial, and legal offerings).

Ultimately, the Gensler firm seems anomalous in the architectural profession—willing to do anything to satisfy its clients, living by strong relationships with no marketing department, and treating its employees as a prized resource to be nurtured. According to Friedrichs, "We believe a design is not great until it meets and the budget and satisfies the needs of all constituencies. We are a both/and culture." It is this unusual value system—far from the profession's norms—that prompted the AIA to award Gensler its highest honor. ■

Between 1965 and 1998, Gensler completed 204.5 million square feet of interior architectural design, 66 million square feet of interior renovation, 72 million square feet of architectural design, and 51.5 million square feet of renovation.

HUD Next Door
Washington, D.C., 1999

HUD Next Door
Washington, D.C., 1999

PHOTOGRAPHY: © WALTER SMALLING

A duplicate key can come back to bite you.

EVEREST™ Introducing a new patented key control system from the industry leader in life safety and security. Schlage's Everest™ family features a distinctive new key and includes a complete line of open and restricted keyways, allowing you to select the level of key control you desire. The Everest product line is protected by new utility patents to prevent the manufacture and distribution of aftermarket key blanks by anyone else but Schlage. A full range of Everest cylinders and locksets are available to retrofit into your existing door hardware or for new construction. Find out how Schlage can assist you in managing your key system to improve security. Call us at 1-800-847-1864 for more information.

SCHLAGE

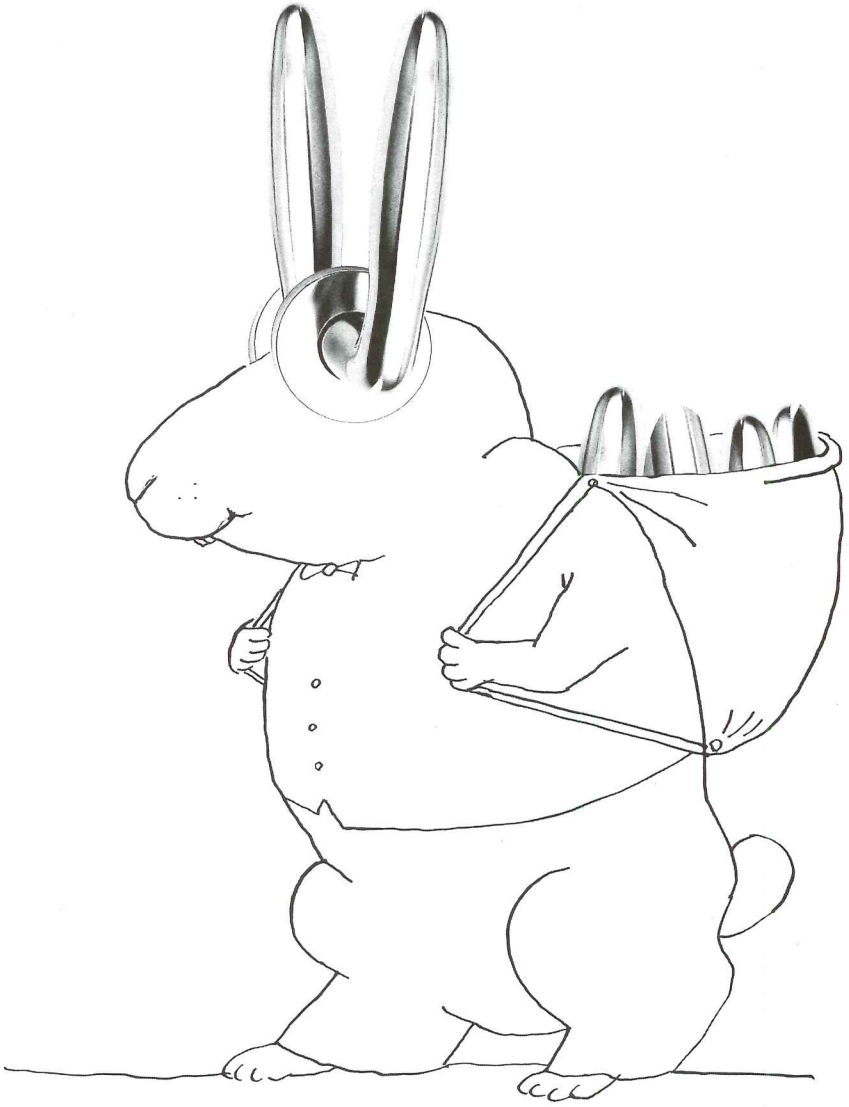
Gain control. Keep control.

INGERSOLL-RAND
ARCHITECTURAL HARDWARE

Ingersoll-Rand Architectural Hardware Group, Schlage Commercial Lock Division ©1999 Ingersoll-Rand

CIRCLE 81 ON INQUIRY CARD

Delivering Fresh Ideas ...



With over 20 lever handle designs to choose from, in both stainless steel and aluminum, a full selection of American mortise locks, and a national network of qualified distributors, FSB is ready to deliver fresh ideas directly to your door. Call us for your complimentary FSB-USA Architectural Hardware Design Manual.

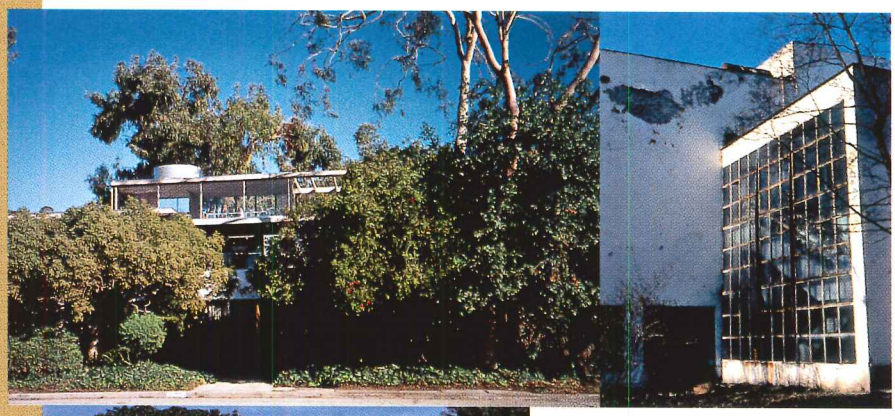
CIRCLE 84 ON INQUIRY CARD

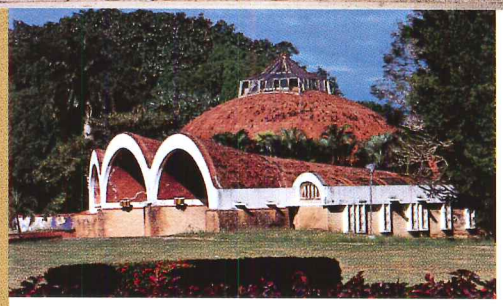
FSB-USA | 55 Ferris Street Brooklyn, NY 11231 | Tel 718 625 1900 | Fax 718 625 1930 | www.fsb-usa.com

© FSB Inc. All rights reserved | Tom Ungerer's Fantasy Level 4 | FSB Model 1170 | Designer: Mario Botta

The WORLD MONUMENTS FUND

Saving the world's architectural heritage





Richard Neutra's home and studio, Los Angeles, (top left); Viipuri Library, Vyborg, Russia (top right); National Art Schools, Cubanacan, Havana, Cuba (bottom).

By Mildred F. Schmertz, FAIA

When a 1963 fire gutted the Modernist Los Angeles home and studio Richard J. Neutra designed and constructed in 1932-33, the architect was 71 years old. His son and partner Dion took charge of its reconstruction, which was completed by 1966. Located in the city's Silver Lake district (known for its concentration of first rate 1925-1960 architecture), the house is considered to be one of the most elegant, precise, yet romantic contributions to the International Style by the transplanted Viennese master. The terraced wood-and-steel-framed glass-walled structure steps down in three stages toward the lake and reveals pure geometries of open and enclosed space.

After the elder Neutra's death in 1970 and after his widow's in 1990, California State Polytechnic University at Pomona took over the house. Because of insufficient funds, no maintenance was performed until 1998 when a new roof was finally installed. Today, however, the current condition of the building remains dire. Termite and dryrot damage must be repaired, asbestos removed, doors and windows replaced, and electrical systems updated to reduce the risk of another fire. Dion Neutra, now 73 and living nearby, has again come to the rescue of his former family home. With the support of Cal Poly Pomona, and several Los Angeles preservation organizations, he recently brought the landmark house to the attention of the World Monuments Fund (WMF), which has placed it on this year's biennial World Monuments Watch list as an endangered site.

In the field of preservation, no single organization is more widely effective than the WMF, a private nonprofit organization dedicated to the conservation of architecture, cultural landscapes, and works of art worldwide. Founded in 1965 by retired U.S. Army officer Colonel James Gray, today the New York-based organization is headed by art historian Marilyn Perry, with affiliates in France, Italy, Portugal, Spain, and the United Kingdom. To date, the fund

Architect and journalist Mildred F. Schmertz is a former editor-in-chief of ARCHITECTURAL RECORD. She writes regularly for Architectural Digest.

Hagia Sophia in Istanbul (right), built 532-563, a Byzantine Cathedral transformed into a mosque, suffers from water penetration and uncertain structural conditions. Roof repairs, structural monitoring, and the conservation of the dome mosaics is now under way.

has undertaken more than 165 preservation projects in 51 countries, coming to the aid of significant sites that have suffered from natural disasters, population explosion, war, commercial development, or neglect. "We are the only private sector response that attempts worldwide to recognize that architectural and cultural heritage matters in the larger sense," Perry says. "We are challenging people to understand that saving something important, in a country they may never visit or a place they may go to only once, should still matter to them."

Membership in the fund is open to all donors of $50 per year or more. In addition to serving as members, architects volunteer to bring endangered sites to the fund's attention, as professionals participate on selection and advisory panels and are engaged by the fund, its partner institutions, or local governments and preservation groups as consultants for chosen sites.

Ancient Pompeii possesses paved streets, structures, wall paintings, and household furnishings of ancient Rome. Pompeii suffers inadequate maintenance and conservation, and requires better tourist management.

In 1995, a $5 million gift from American Express launched a new program, the World Monuments Watch, to bring threatened cultural heritage sites around the globe to local and international attention. The program embodies two interrelated strategies—the identification of vulnerable sites, followed by efforts on many levels to save them. In 1996 the Watch first issued its biennial list of 100 most endangered sites selected by an independent nine-member panel of experts. Hundreds of nominations were sent by government ministries of culture, United States embassies, the national committees of the International Council on Monuments and Sites (ICOMOS), and international and local preservation groups. Project proposals also came from architects like Dion Neutra, historians, mayors, community activists, and citizens wishing to preserve the quality of their habitats. Chosen from 350 nominations, the sites on the current year 2000 list comprise the most extensive global reach yet.

Of the 100 sites on this list, 38 had been selected before, having shown insufficient progress in a prior round. A few have been through all three rounds—Pompeii, for example. "Physically, not enough is being done yet," says WMF president and art historian Bonnie Burnham. To date the Fund has invested almost $1 million in Pompeii. Burnham continues: "Italy's government agency that manages the site has been able to raise significantly more money, in part because of the listing and planning work we did in the first stages. The local authority was able to show the national government that it needs to keep all the revenue generated through tourism in order to maintain the site. But still, physically, not enough is being done yet."

Other Watch locations from prior lists appear again

because they are being moved toward UNESCO World Heritage designation, which the fund wishes to encourage because it assures a higher level of government protection. It is hoped that the UNESCO designation will soon come to the 12th-century Jaisalmer Fort in Rajasthan, India. Inadequate drainage threatens the finely carved architecture of palaces, squares, and temples located within the only still-functioning fortress city on the Indian subcontinent. Water absorbed by building foundations has begun to cause scores of structures to collapse. But Jaisalmer is also adversely affected by changing climactic conditions and the absence of a sustained maintenance program. "It is crucial," Burnham notes, "that the momentum for restoration continue, especially since an unprecedented amount of rain last August caused three bastions of the fortress walls to collapse. In spite of recognition and grants from the Fund, American Express and Indian State sources, the city's situation is worse than ever."

The WMF applies preservation practices and technology toward the development of the listed sites. It supports on-site training in the building crafts for newcomers to the preservation field. It initiates, where appropriate, field surveys, historic research, and preliminary planning and design charettes and also contributes financial aid to help cover the costs of repair and reconstruction at selected sites.

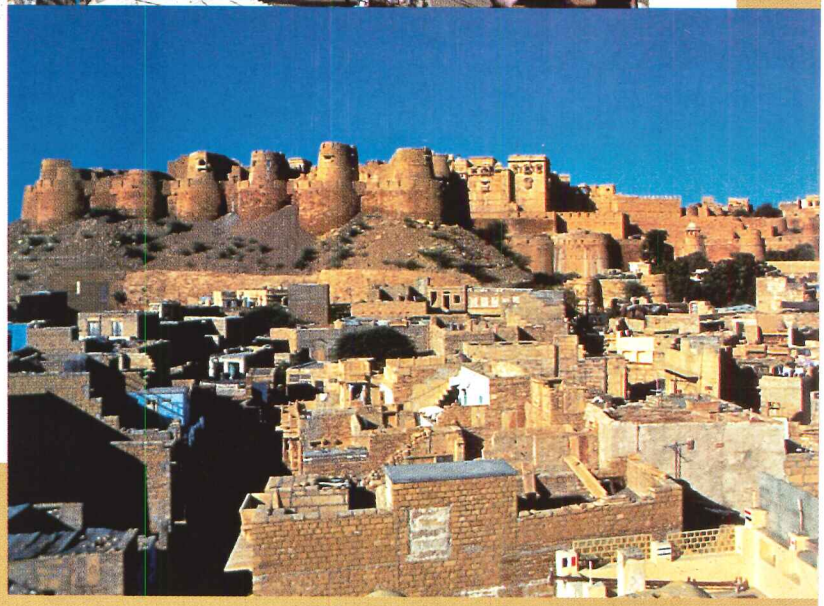
In Istanbul, $200,000 donated by American Express triggered a $1 million grant from the Turkish government for two new restoration campaigns at Hagia Sophia, the great former Byzantine cathedral that became an Ottoman mosque and was finally converted to a museum in 1935. Because areas of the lead roof had cracked,

SAVING SOMETHING IN A COUNTRY YOU MAY NEVER HAVE THE CHANCE TO VISIT SHOULD STILL MATTER.

causing water damage to roofing members, frescoes, and mosaics, the great monument was listed in 1996 and 1998 as endangered. Subsequent restoration of the roof surface and structure created a new level of local expertise, vice-president for programs John Stubbs reports: "Our support of the campaign at Hagia Sophia has led to a very sensible approach to roof repair and documentation of the building's fabric. These procedures were developed only after a financial commitment had been made." Now that appropriate methods have been established, they may be repeated again and again. Stubbs contends that there is enough roof repair work to be done in Istanbul to justify a special training course: "Teams of specialists—hundreds of people—could be kept busy for decades."

While some selected sites are revered or respected by descendants of the people who created them, others just as strongly rooted in community history are forgotten, abandoned, or eroded by looting, illegal development, and tourism. Nominated sites actually selected for the Watch list reflect the pluralistic views of today's historic preservationists. None make the cut simply for being famous. Attention is paid to lesser known sites in addition to places that are traditionally recognized as historically and aesthetically significant like religious buildings, palaces, and ancient ruins. The Watch lists the commercial, civic, and industrial sites that fall outside the traditional canon of art history.

For example, all three lists have included the Tour and Taxis transport hub in Brussels constructed between 1897 and 1907. It is one of the world's great early 20th-century transportation com-



The 12th-century Jaisalmer Fort in Rajasthan is India's only still-functioning fortress city (above), notable for its intricately decorated palaces. Many buildings and three wall bastions have collapsed because of water erosion. Funds must be raised to save the bastions.

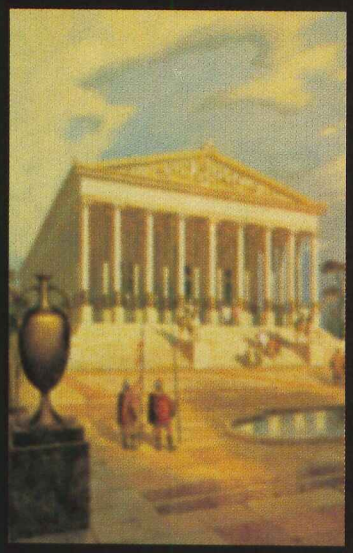
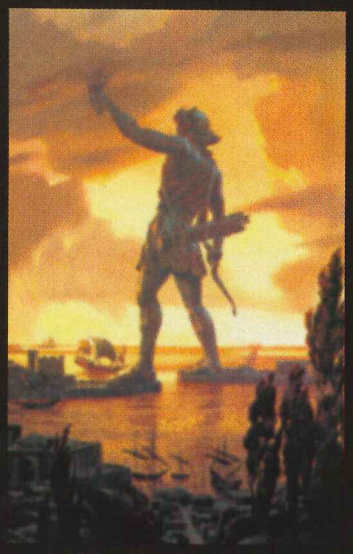
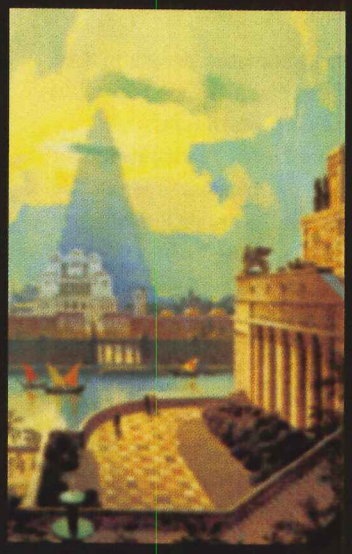
Tour and Taxis, a transport hub in Brussels, consists of warehouses and related structures that were at the time new uses of cast-iron, reinforced concrete, steel and glass. Developers are about to replace two buildings with a concert complex, and other facilities.

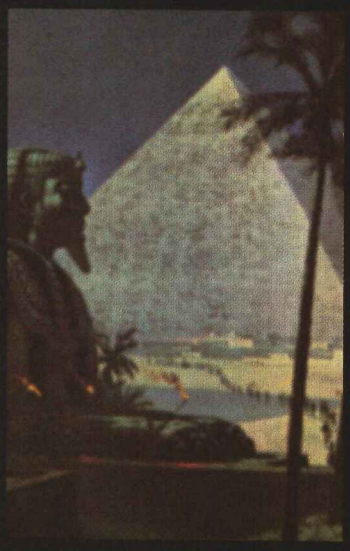
plexes—virtually a city within a city. Inspired by the Flemish Renaissance vernacular style, the warehouses and related structures embody that era's inventive uses of cast-iron, reinforced concrete, steel, and glass. With the formation of the European Community, customs and storage practices are changing, rendering much of the facility obsolete. Because developers plan to destroy two of the most important buildings and eventually tear down the rest—WMF continues to advocate a more appropriate reuse scheme.

Some buildings listed are grand in scale and ambition, others modest. The architects of Saint Pierre Cathedral in Beauvais, France aspired to create the world's tallest Gothic vaulted space, but they didn't quite know how. The choir, begun in 1225 and finished in 1272, suffered the collapse in 1284 of the vaults of its rectangular bays down to the clerestory level, while the apse remained intact. The builders persevered, however, and by the middle of the 14th-century the rebuilding of the choir was completed to an interior height of 158 feet. The transept was begun in 1500 and completed 50 years later, while an open-work spire that soared above the crossing to a height of 500-feet fell in 1573 because it was unstayed on the west by the absence of a nave. The nave was never built. Today the cathedral is threatened by critical structural flaws originating in the 13th century, and others more recent. The foundation is settling and the flying buttresses oscillate from gale force winds coming off the English Channel. In the 1950s, to strengthen the buttresses, crucial iron ties were mistakenly removed, which increased oscillation. A temporary tie-and-brace system installed in the last decade may have made the cathedral too rigid. Structural solutions continue to be proposed, but today there is still no consensus on how to proceed. The Watch listing may help bring about the necessary decisions and actions to keep Saint Pierre from collapsing again.

Paanajarvi Village in Kemi Province of the Republic of Karelia (on the Finnish-Russian frontier), established in the 14th-century, is the last original, intact collection of little houses in the Finnish rural vernacular folk tradition. The Russians intend to build a dam and power plant that would flood the village and the last undisturbed stretch of the Kemi River. WMF has joined Karelian and Finnish cultural foundations in an appeal for international political pressure to halt the dam and to fund restoration. For a start, the Kress Foundation European Preservation Program made a grant to support the training by local masters and Finnish experts of seven local carpenters in vernacular wooden structure preservation, and the renewal of the simple dwellings has begun.

Though all of the listed sites face challenges, many require swift repairs to prevent total disintegration. Restoration must be technologically, financially, and politically feasible. According to Burnham,



Next.

Some of mankind's grandest ideas are as old as time. Others have yet to be created. For those, there is United States Aluminum, an industry leader in quality entrances, storefronts, curtain walls and Raco Interior OfficeFronts.[tm] We give the world's top designers beauty, durability and design flexibility with sustainable aluminum. Then we stand behind our products with the kind of dependable service that is as classic as the designs themselves. For more than four decades, United States Aluminum's commitment and resources have been as unlimited as your imagination. So when you're ready to create civilization's next architectural wonder, make United States Aluminum part of your team. Call us today at 1-800-627-6440, or visit our website at www.usalum.com.

United States ALUMINUM
COMMERCIAL PRODUCTS GROUP

A world of possibilities

©1999 United States Aluminum

CIRCLE 85 ON INQUIRY CARD

the basic criterion is viability, "whether the nominators are going to be able to do what is needed, can command the audience they need to command, and work with or against the local government."

Government support on some level must be established for a nomination to be listed. One of the most controversial sites to go on the 2000 list was the National Arts School built under Fidel Castro near Havana, in Cubanacan, Cuba. In the early 1960s the architects Ricardo Porro, Roberto Gottardi, and Vittorio Garati devised a series of domed buildings of native brick and terra cotta to house schools of modern dance, plastic arts, dramatic arts, music, and ballet. Only the schools of modern dance and plastic arts were completed; both are still in use while the other facilities remain unfinished. Chronic poor maintenance and ill-conceived additions have greatly compromised the complex, as well as the usual water leaks, faulty drainage, structural defects, and vandalism. Because the nomination came from outside preservation constituencies, the Watch sought official endorsement from Cuban authorities. "Asking the government officials for their approval," Burnham relates, "we revealed them as advocates for the site, when outsiders had formerly seen them as being in opposition." Support came through just in time for the school complex to be listed in 2000.

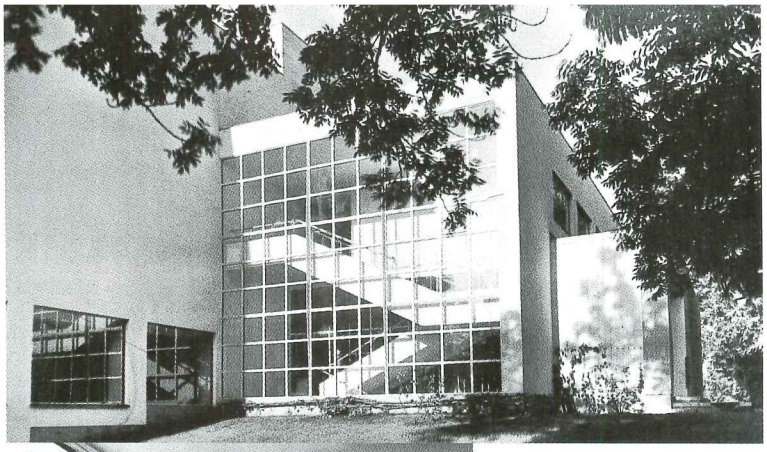
Burnham believes that many of the sites on the current Watch list will be helped much more readily once people begin to recognize them as unrecognized opportunities. One such site is the Seventh Regiment Armory (1877-81), a New York City landmark on

RESTORATION MUST BE FINANCIALLY, TECHNOLOGICALLY, AND POLITICALLY FEASIBLE.

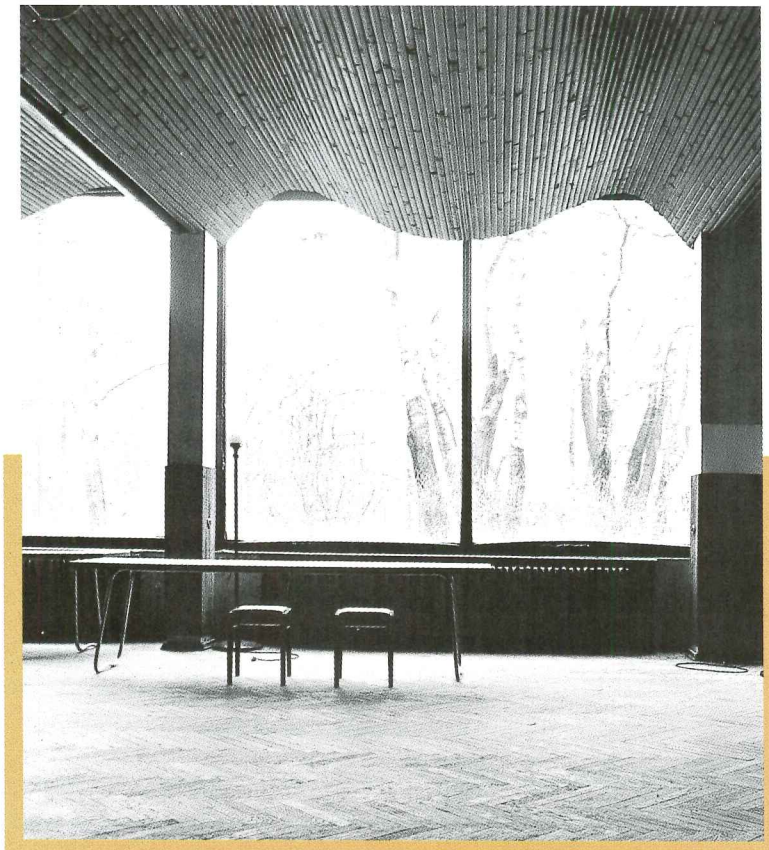
the Upper East Side of Manhattan listed for the first time this year. Designed by architect Charles W. Clinton, with interiors by Louis Comfort Tiffany and Stanford White, the building possesses lavish and elegant public reception rooms and a huge drill shed that remains one of the largest unobstructed interiors in the city. Today the red-brick structure serves as offices for the New York National Guard, an arena for arts and antiques shows, and a homeless shelter. But water leaks have damaged significant interiors, and some are closed because of falling plaster. Burnham notes, "The conservancy group that nominated the Armory is trying to muster public awareness and political support, and one way to do that is to encourage people to realize that there might be many good uses for this building once it is rescued."

Burnham also wants to develop a larger constituency among architects. WMF could not function without dedicated practitioners who team with preservationists, but it seems that few other architects will mount the barricades—even to save threatened works by great 20th-century masters. "We'd like to see more awareness and real involvement from the architectural profession as well as the general public," urges Stubbs. Burnham hopes that the AIA will find a way to help the Watch rescue contemporary master works in crisis. "Conservation of 20th-century buildings," Stubbs says, "is often exotic—involving plastics, synthetic sealants, and unusual alloys."

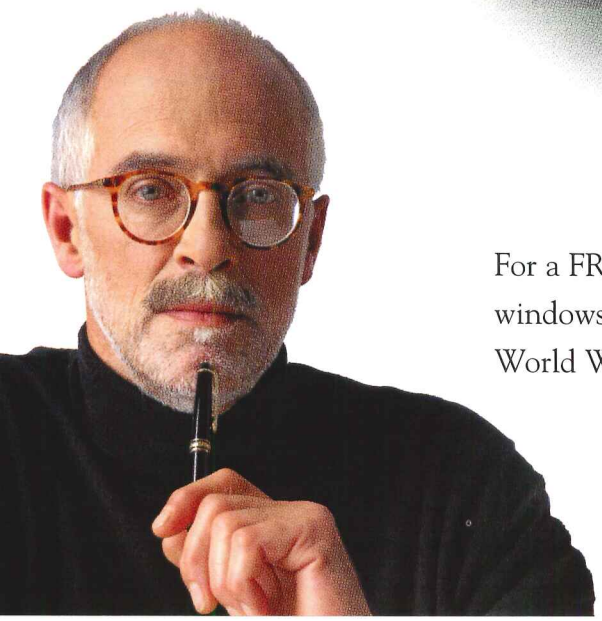
Richard Neutra's home and studio is but one of several endangered 20th-century buildings on the 2000 list. Also included is the Viipuri City Library (1927-35) in Vyborg, Russia, by Alvar Aalto, a celebrated work of modernism that ranks with his Paimio



These photos only suggest the extent of World War II damage and subsequent neglect inflicted upon the Viipuri Library in Vyborg, Russia, one of Alvar Aalto's finest buildings.



Because the Best Windows Are Built Out of Your Imagination



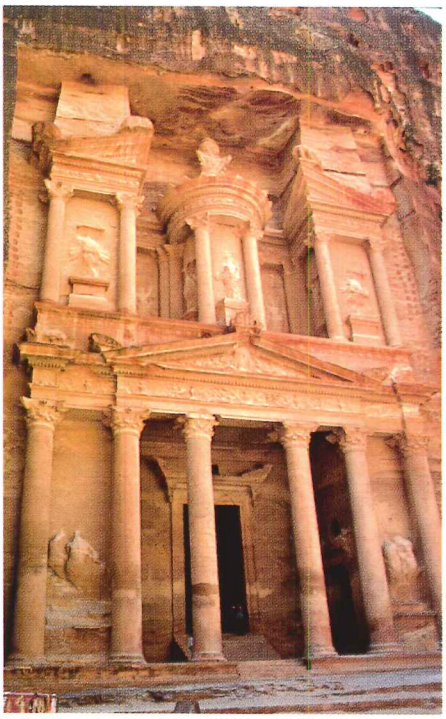
For a FREE catalogue on Kolbe & Kolbe wood or vinyl windows and doors, call 1-800-955-8177 or visit us on the World Wide Web at www.kolbe-kolbe.com.

CIRCLE 86 ON INQUIRY CARD

Kolbe & Kolbe
Millwork Co., Inc.

A-0199

The wooden buildings of Paanajarvi Village in Russia (above) are being restored by trained local carpenters.



The 2,000-year-old Petra Archaeological Site in Jordan (right) is endangered by flash floods and seismic activity, harmful to the facades of the buildings in the rocks.

Machu Picchu, Peru, (below) built in the 15th-century, is imperiled by a proposed cable car that would lead to the quadrupling of tourists.

WORLD MONUMENTS FUND

Tuberculosis Sanatorium (1929-33) as one of his two functionalist masterpieces. Originally eight years in design, the library as finally constructed reveals characteristics that mark Aalto's stylistic transition first from classicism to functionalism and then to a playful and personal style that shaped his work for the remaining four decades of his career. Because Aalto is a national hero in Finland, where his work is revered, the library should have been carefully maintained and cherished. Unfortunately, Finland was invaded by the Soviet Union early in World War II. Viipuri was ceded by the Finns to the Soviets in 1940 and renamed Vyborg. By then the library was badly damaged by the war, and later abandoned for more than 10 years. Subsequent repairs were inadequate or ill-conceived. Exterior brick walls and leaking roofs must be repaired, and nearly all doors and windows replaced with compatible materials. Two forms that Aalto invented and used throughout his career—the gridded field of round skylights and the undulating wooden ceiling—made their debut at Vyborg and must be replaced. Few original exterior or interior finishes and details remain, and all the Aalto-designed furniture is gone. A complete restoration is called for, but the ongoing economic crisis in Russia has prevented funds from being allocated and help is essential.

The difficulties of saving and restoring the library at Vyborg are no less daunting than those faced by others on the 2000 list. Such well-known places as the Egyptian Valley of the Kings, near Luxor; Machu Picchu, in Peru; Teotihuacan near Mexico City; and the Petra Archaeological Site in Jordan, are endangered by rapidly increasing numbers of poorly monitored and managed tourists. Some popular destinations are threatened by the addition of inappropriate facilities—proposed cable cars for Machu Picchu, new commercial construction at Teotihuacan, and tourist-related accommodations for

"WE'D LIKE TO SEE MORE AWARENESS AND REAL INVOLVEMENT FROM THE ARCHITECTURAL PROFESSION . . ."

Petra. The Mnajdra Prehistoric Temples in Malta, consisting of megaliths older than Egypt's great pyramids, have stood for more than 5,000 years. Now many of them are collapsing, thanks to the erosion of surfaces by rain, salt air, vibrations from nearby quarries, and too many uncontrolled visitors.

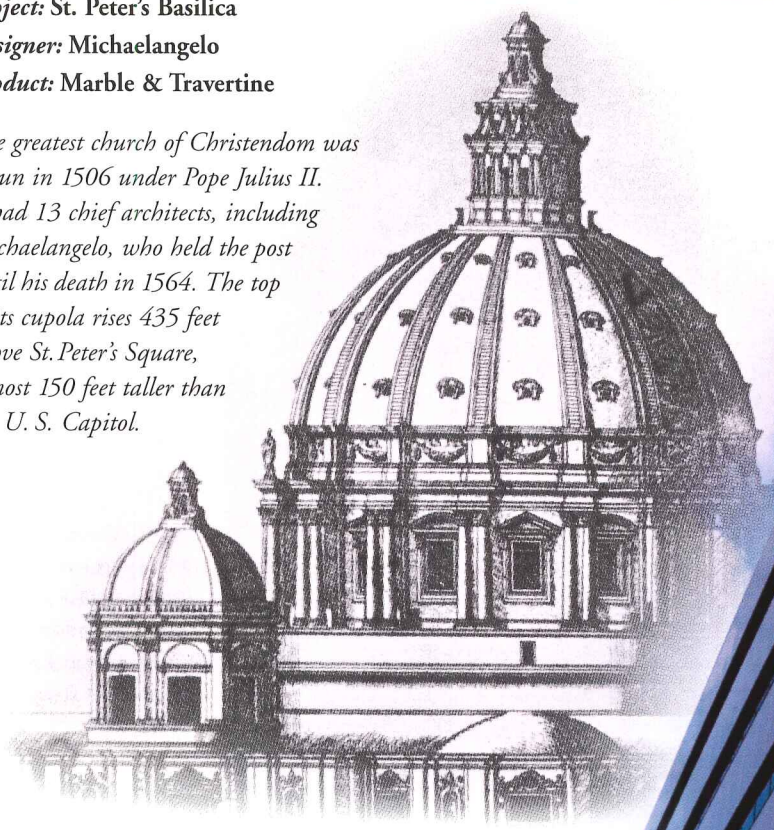
The Watch believes tourism to be essential to the survival of most places on the current list, 95 of which receive too few visitors in relation to their potential as cultural sites. "Planning for tourism," Burnham says, "represents the future. If tourism is indeed going to double in the next decade, people will need more real places to go. Otherwise you wind up with surrogates and simulations. The fact is, conservation of cultural resources is a very good way to invest money." According to Stubbs, "When you translate restoring buildings into money that could be made by architects, builders, property owners, and business, the opportunities are tremendous. Preservation of important sites produces dramatic changes, not only in physical

YOU DON'T HAVE TO BE FAMOUS TO CREATE A MASTERPIECE

16th CENTURY STONE

Project: **St. Peter's Basilica**
Designer: **Michaelangelo**
Product: **Marble & Travertine**

The greatest church of Christendom was begun in 1506 under Pope Julius II. It had 13 chief architects, including Michaelangelo, who held the post until his death in 1564. The top of its cupola rises 435 feet above St. Peter's Square, almost 150 feet taller than the U. S. Capitol.



21ST CENTURY STONE

Project: **Capital Commons**
Architect: **Smith, Hinchman & Gryllis Associates, Inc.**
Product: **ALPOLIC® Red Granite**

This seven-story, six-year-old building was reclad with ALPOLIC STONE SERIES,® utilizing a dry gasketed aluminum composite panel system. The entrances were clad with ALPOLIC® red granite stone series aluminum composite material that weighs only one pound per square foot.

Like Michaelangelo's creations in marble, we have taken aluminum composite materials to new heights. In fact, we're the leader in offering new and innovative products that can help you realize your visionary designs. ALPOLIC® was the first to embrace PPG/MEGAFLON,® a high-performance fluorocarbon, as our primary paint finish. We were the first to offer a virtually endless palette of colors limited only by a designer's vision. Now we've broadened our line to offer you such unique products as our ALPOLIC STONE SERIES,® our ALPOLIC A-LOOK® reflective mirror surfaces and our ALPOLIC ISD® interior products that simulate wood and stone finishes. When you have a vision for the 21st Century, create your masterpiece with ALPOLIC products.

ALPOLIC®

Helping You Create Today's Masterpieces

For more information, call 1-800-422-7270
or email us at www.alpolic.com

©2000 Mitsubishi Chemical America, Inc

CIRCLE 87 ON INQUIRY CARD

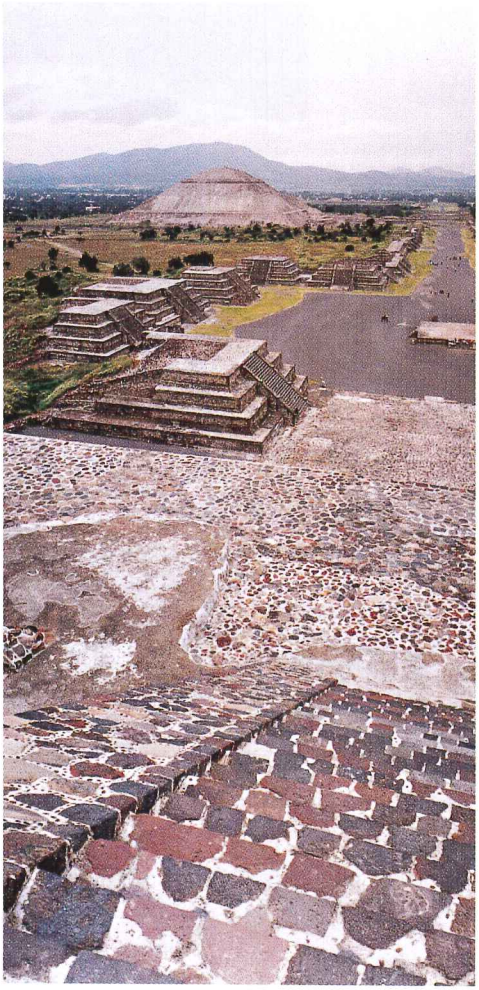
appearance but in the economic condition of the surroundings." Burnham notes, "The great challenge is to demonstrate that the resources needed to make a dramatic improvement worldwide are very small, compared to the potential economic benefits. The reasons buildings fail is that they fall out of use. Their environments have failed in some way." Burnham adds, "We have not yet been able to put together enough vivid demonstrations of how we can change the situation for the better."

Success in the preservation field tends to be achieved slowly and incrementally, but in the four years since the Watch began, much has been achieved with significant financial help. WMF vice-president for development and external affairs Laurie Beckelman points out that "the American Express contribution is absolutely critical for the work that we do, because of the leverage it has given us. We now have an additional five-year commitment of $5 million." A challenge-grant program established by American philanthropist Robert W. Wilson in 1997

"IF TOURISM IS GOING TO DOUBLE IN THE NEXT DECADE, PEOPLE WILL NEED MORE REAL PLACES TO GO,"

matches contributions made by people and organizations from countries other than the United States. "We ourselves have raised around $7 million," Burnham reports.

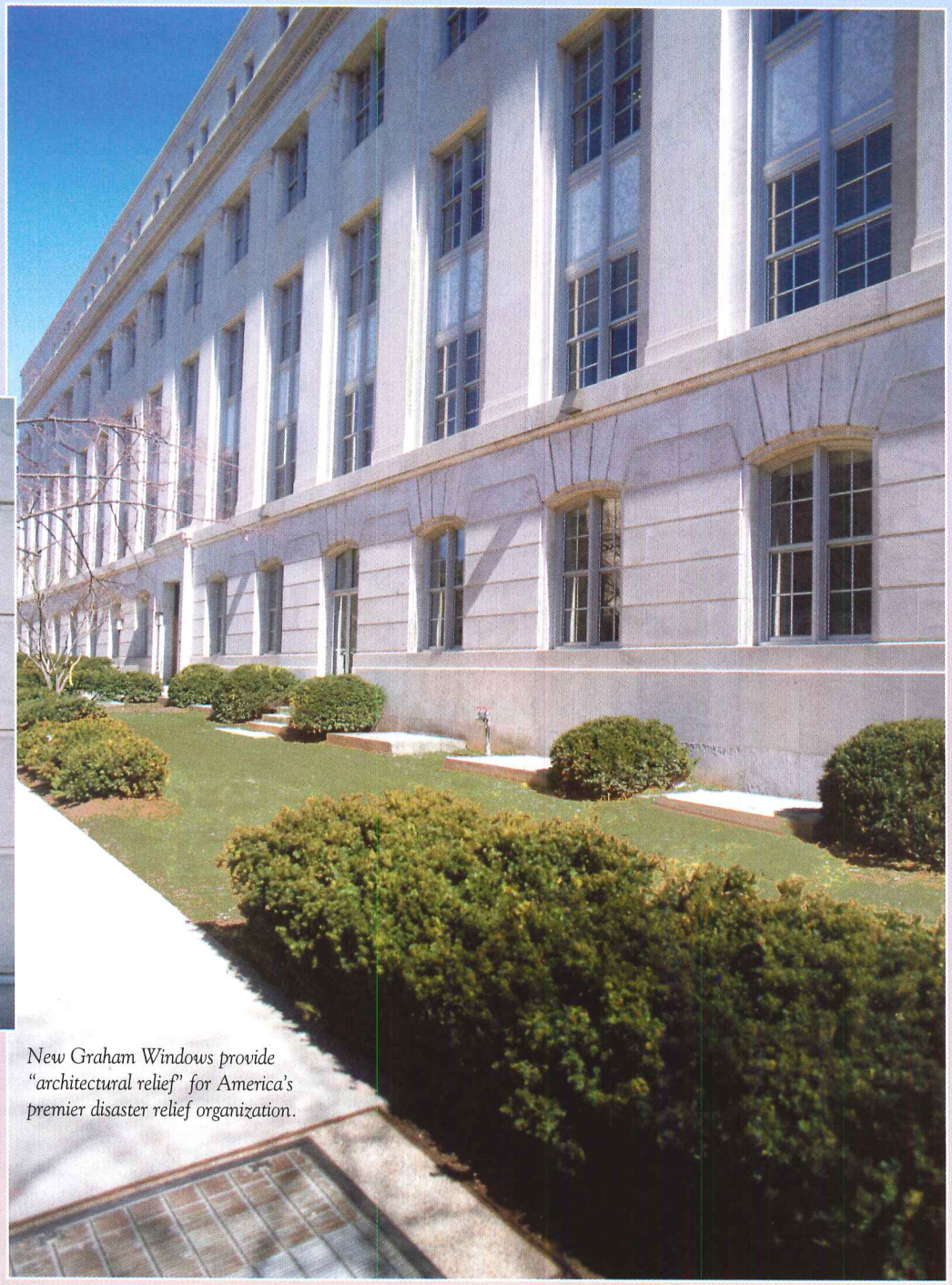
Stubbs is optimistic. "The part of our work that develops new friends and new institutional partners is growing. We learn about innovative methods used by others, and the information that comes to us through the nomination process is astonishing, both in quantity and quality. I think the future couldn't be brighter. We just need time and resources and to work hard." ■



The Teotihuacan Archaeological Site (left) is Mexico's most visited site and a national symbol, yet government support is inadequate.

The Mnajdra Prehistoric Temples in Malta (below) are the oldest surviving free-standing stone structures in the world. Rain, visitors, and vibrations from nearby quarries have inflicted damage.

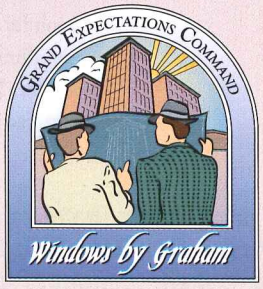
Architectural Relief Mission



New Graham Windows provide "architectural relief" for America's premier disaster relief organization.

Often, an important historical window replacement project provides Graham Architectural Products the opportunity to meet the high expectations of prestigious institutions like The American Red Cross. We strive to exceed them.The 18th Street Red Cross Building is a shining example of neo-classical architecture with an Ionic decorative influence, prevalent in the late 1920's and 30's.

Located near the White House on Red Cross Square, national headquarters for the American Red Cross, the building's facade is of stunning white Vermont Marble. While the other two buildings on Red Cross Square originally featured windows of wood, the 18th Street Building windows were among the first made of anodized aluminum that once glistened in the sun. But, through the years, the metal exterior surface had become pitted and lost its original luster through natural oxidation.



Graham Architectural Products was chosen to replace the original metal windows as part of a general renovation which restored the building's original shining face. 352 fixed Series 1050 high-performance windows, including single, double-wide and springline shapes (on the ground floor elevation) were installed. The bright, clear-anodized aluminum finish, along with the windows' applied muntins and William Penn panning, all faithfully replicate the original architecture.

Credits: Windows by Graham Architectural Products. Architecture/Interior by RTKL Associates, Inc., Washington, DC. Project Manager- Steven D. Cook.

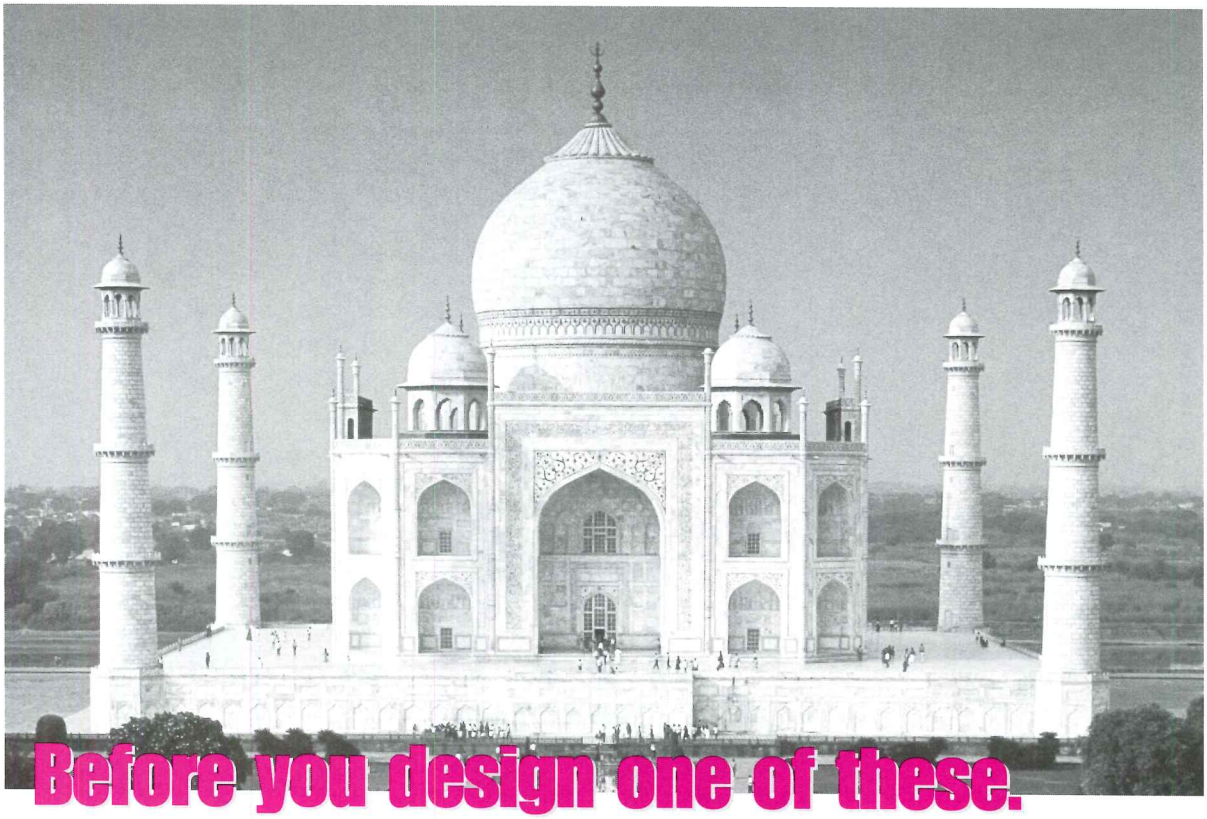
Graham

Architectural Products

800-755-6274
Fax: 800-366-5097
www.GrahamArch.com

CIRCLE 90 ON INQUIRY CARD

Aluminum Commercial Windows • Curtain Wall • Storefront/Entry Systems



Before you design one of these. Consult one of these.

To be certified as an Architectural Hardware Consultant (AHC) or Certified Door Consultant (CDC), individuals must dedicate many years to the architectural openings industry. Their unparalleled knowledge and expertise with the complexities of related building codes, standards and the full spectrum of applications for architectural doors, hardware and access control products makes your investment in a certified consultant one of your best specifying values.

Use of the official seal by AHCs and CDCs signifies the consultant has committed to a standard of ongoing professional education. Look for these seals on door and hardware specifications, schedules, shop drawings and letters. Demand and get the best from a DHI certified consultant.

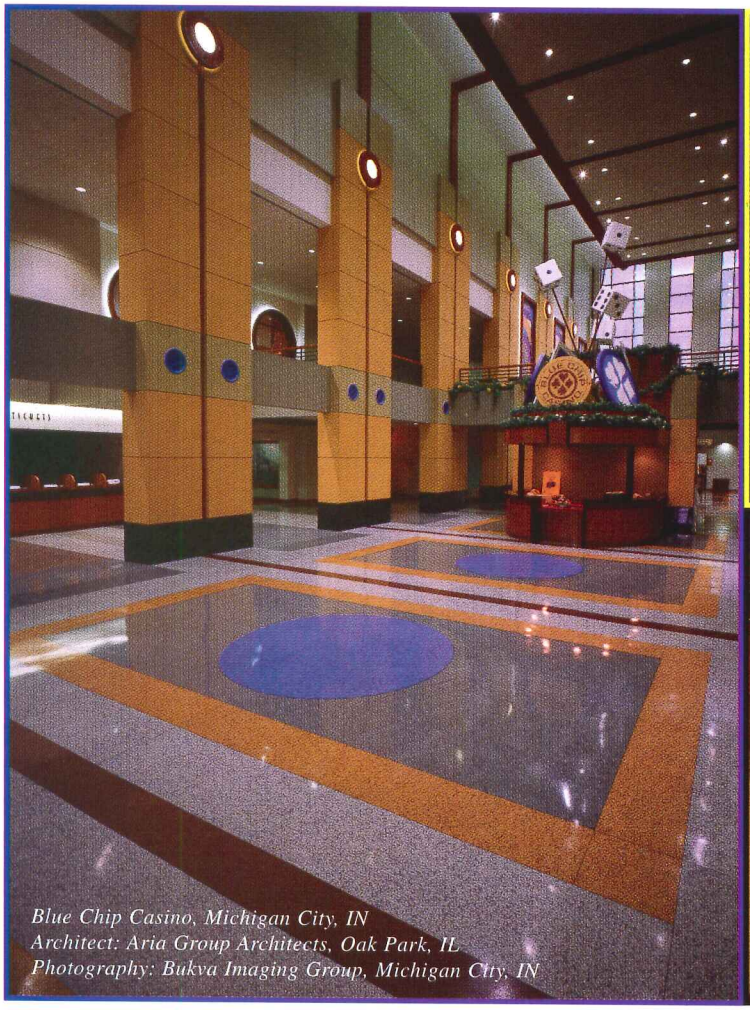
DHI

For a copy of a brochure listing consultants in your area, contact the Door and Hardware Institute, 14150 Newbrook Dr., Suite 200, Chantilly, VA 20151-2223; 703/222-2010; fax: 703/222-2410; e-mail: techdept@dhi.org; or access the information through the Institute's website: www.dhi.org.

See us at AIA in Booth #1714

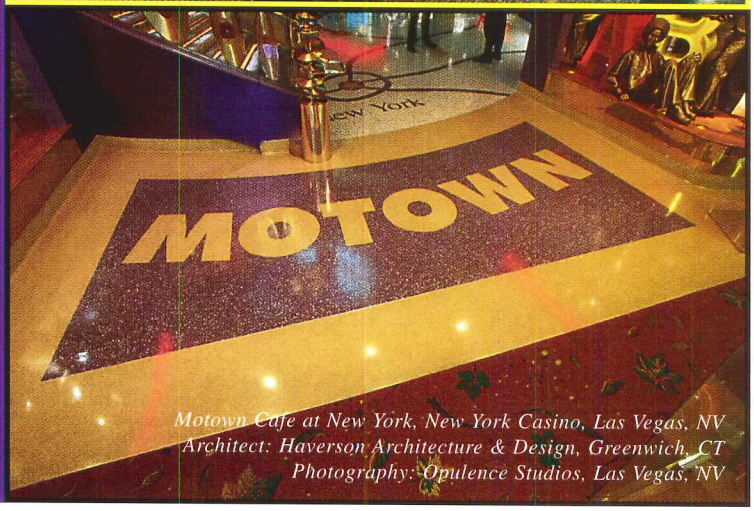
CIRCLE 91 ON INQUIRY CARD

What other floorcovering can offer this degree of design flexibility and durability all in one?



Blue Chip Casino, Michigan City, IN
Architect: Aria Group Architects, Oak Park, IL
Photography: Bukva Imaging Group, Michigan City, IN

New York, New York Casino, Las Vegas, NV
Architect: Gaskin & Bezanski, Las Vegas, NV



Motown Cafe at New York, New York Casino, Las Vegas, NV
Architect: Haverson Architecture & Design, Greenwich, CT
Photography: Opulence Studios, Las Vegas, NV

Unlimited Design Flexibility

Unsurpassed Durability

The use of terrazzo flooring literally goes back hundreds of years.

Why has such an art form lasted so long? Because of its unsurpassed beauty and durability.

The beauty of terrazzo is timeless. The durability outdistances most other flooring systems.

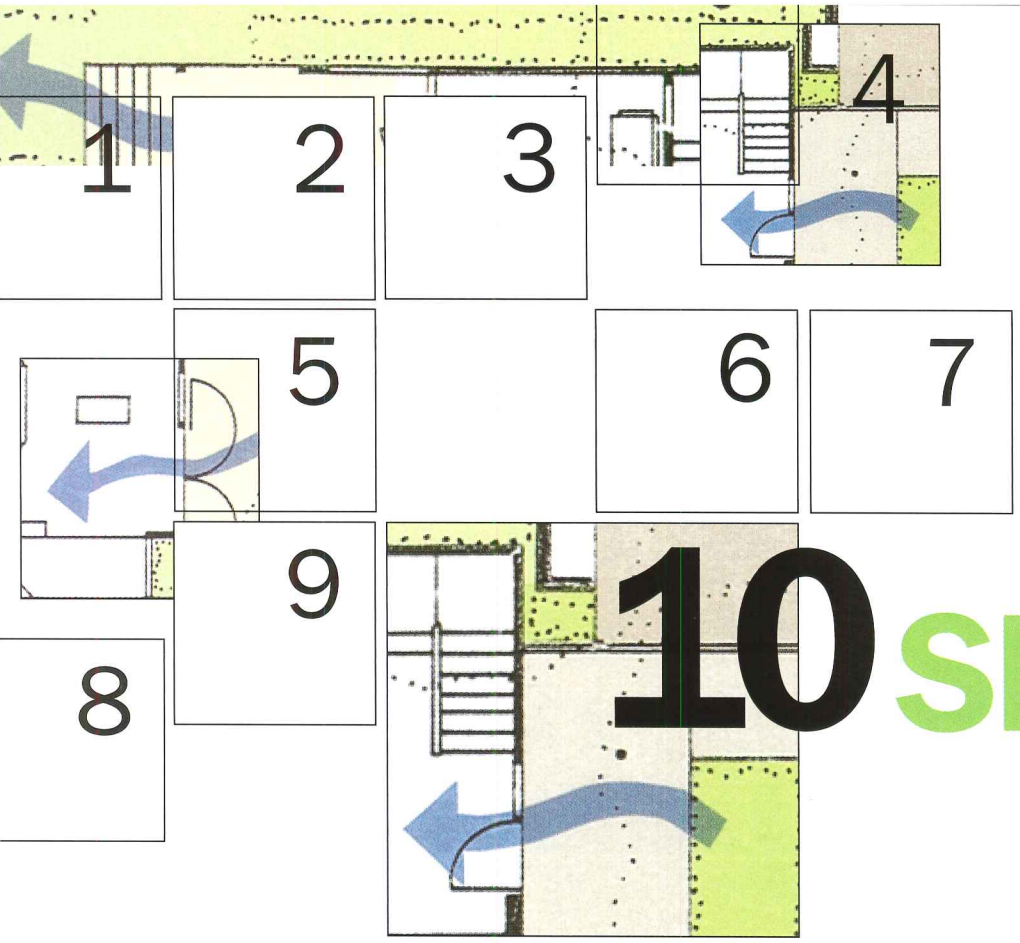
And the value of terrazzo in terms of both performance and economy is untouched!

National Terrazzo & Mosaic Association

#1-800-323-9736

WWW.NTMA.COM

CIRCLE 92 ON INQUIRY CARD



10 Shades of

Critic Peter Buchanan argues that **green design** has too often been thought an add-on. A new exhibit asks viewers to think of environmental sustainability as a synthesis of technology, poetics, and place.

Green buildings are the inevitable future of architecture. Conventional buildings consume and contaminate vast amounts of water, and are responsible for much of the greenhouse-gas emissions that cause global warming—the most tangibly urgent environmental problem threatening our whole way of life.

Whether drawing on long-proven traditional strategies or innovative new techniques, green design everywhere, but especially in Europe, is moving to a new, more holistic scale. Buildings already exist that are sparing in their use of water and energy, and even export energy harvested from sun and wind. Such buildings can also be more profitable than conventional

James S. Russell adapted material supplied by Peter Buchanan, a London-based architect, writer, and critic, who curated the show.

WWW *Go to* **Green Architect** *at* **www.architecturalrecord.com** *for more*

PHOTOGRAPHY: © RICHARD STRINGER (THESE PAGES)

Green

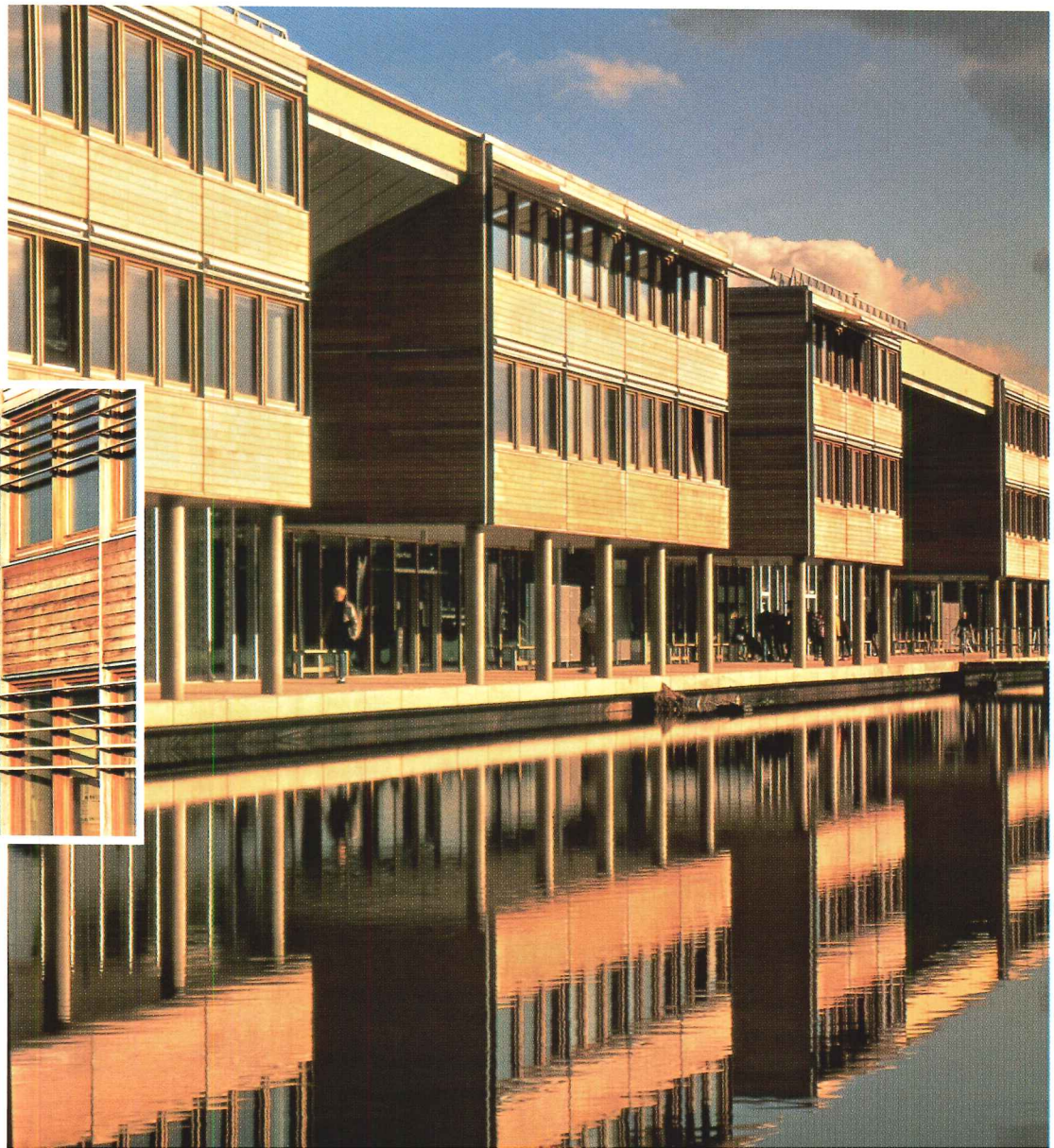
Project: *Cotton Tree Housing, Maroochydore, Queensland, Australia*
Architect: *Clare Designs*

buildings, largely because their occupants prefer them. Though such buildings may include unconventional elements, their acceptance by users accords with major changes sweeping through the culture.

Americans and Europeans alike have wondered why, to date, there has been so little of this kind of innovation in America—a nation that was once a fount of architectural progress. What seems to be missing from American work is the synthetic impulse one sees in the most insightful international projects: the poetics of architecture brought together with the most sophisticated engineering and technology. The Architectural League of New York has brought some of the best recent work to America in an exhibit. *Ten Shades of Green*, which opened in New York's Urban Center in March, shows nine European buildings and four North American houses (grouped together as a 10th "shade").

The title also refers to 10 themes that need to be considered to create a fully green or sustainable built environment. Some are familiar; others are too infrequently considered green in America. The show's twin strands are intended to help professionals and the ordinary public engage with the designs and the ideas informing them, and also to better appreciate the rich way they have synthesized numerous tactics in even the most understated of structures. (The exhibit closes May 13, but is expected to travel to additional cities.)

These themes and buildings were chosen to dispel lingering misconceptions. They are not meant as prototypes suitable for universal deployment, nor must every green building subscribe to every item on the list—some of the projects do a few things very well. The Minnaert building uses just one element, rainwater, as a means to absorb heat generated by the building's dense array of computers. The Götz headquarters cleverly exploits the thermally moderating qualities of a double curtain wall and a shaded atrium. Others, such as Nottingham University's Jubilee Campus, unite an impressive number of strategies: A new lake and band of trees modulate climatic extremes; cowls atop



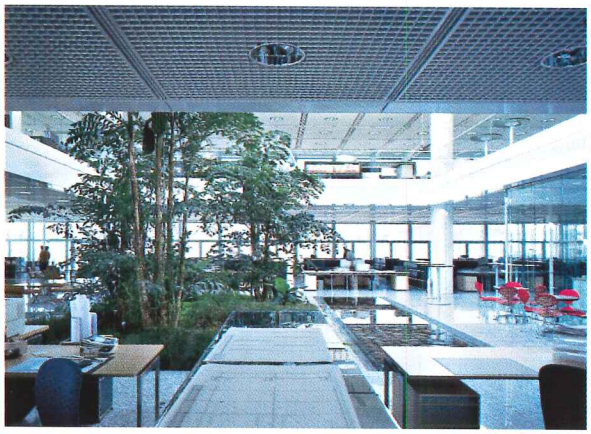
Project: *Jubilee Campus, University of Nottingham, Nottingham, England*
Architect: *Michael Hopkins & Partners*

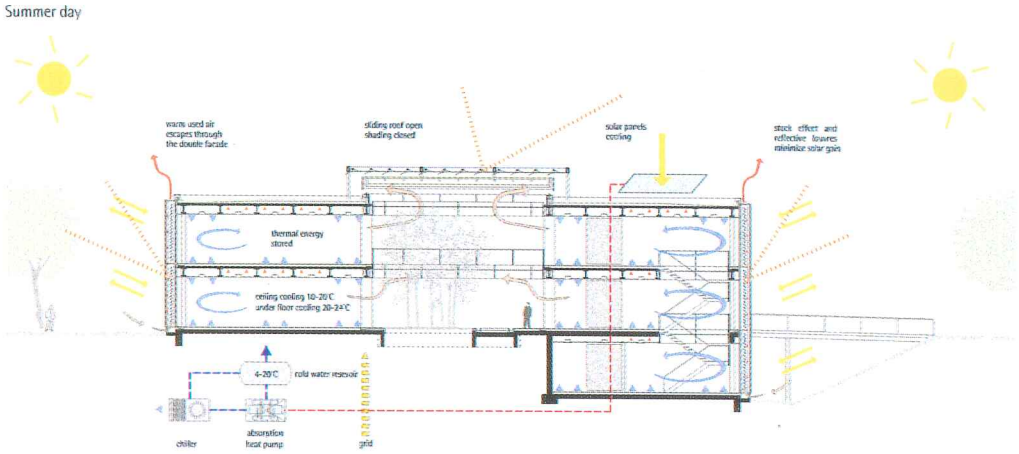
PHOTOGRAPHY: © IAN LAWSON

stair towers were shaped to create negative pressure to draw in prevailing winds for natural ventilation; atrium spaces serve as casual meeting places while thermally buffering classrooms.

Among the reasons the exhibited projects have been successful is that they do not look at green design purely as an exercise in diminished energy consumption and pollution. Nor do the solutions lie even primarily in the electrical or mechanical realms. These architects don't see specifying low-emissivity windows, non-polluting paints, and low-flow toilets as the limit of their influence. Consider Commerzbank, which embodies numerous green technologies [January 1998, page 68]. The skygardens offer appealing casual meeting places. The vistas across its atriums subtly reinforce solidarity to co-workers on other floors in ways a conventional tower never could. In other words, the 10 themes represent a nexus of interrelated social, cultural, psychological, economic, and even poetic dimensions that transcend the product-oriented add-on approach.

Project: *Götz Headquarters, Wurzburg, Germany*
Architect: *Webler + Geisslers*





Ten Green Themes

Buildings designed to use as little energy as possible and minimal or no fossil fuel are **low energy/high performance.** The biggest energy consumer is artificial lighting; next is air-conditioning, particularly the cooling cycle. Whatever energy is required is drawn as much as possible from ambient sources. **Replenishable sources** avoid overtaxing the earth's resources by harvesting energy from sun and wind, waves and gravity, and using materials from renewable sources such as sustainably managed forests, or virtually inexhaustible ones such as mud, clay and sand. **Recycling** today means reusing entire buildings and assemblies, not just making use of reprocessed industrial waste. New buildings can be designed to facilitate recycling through easy disassembly of components. With fresh water among the world's most threatened resources, capturing rainwater to irrigate plants or flush toilets will soon become a necessity everywhere, along with purifying "grey" water through reedbeds. **Embodied energy** takes into account the energy required to extract, manufacture, transport, and assemble materials and components. The greater use of wood in European architecture recognizes that its extraction, fabrication, transport, and assembly require the lowest energy output. (Aluminum requires 126 times the energy to produce.)

By designing buildings to be easily adaptable to new uses, architects conserve the energy embodied in their construction and increase the returns on initial investment, which is why **long life, loose fit** is an ecologically appropriate strategy. Architectural character can survive the vicissitudes of time. **Total life cycle costing** is an essential part of the

ANDREAS LAUBLE (INTERIOR)

Project: *Minnaert Building, Utrecht, the Netherlands*
Architect: *Neutelings Riedijk*

holistic thinking that makes sustainable buildings successful financially and evokes pride among owners and users alike. Of course, part of the life-cycle cost of a building is whether its useful life ends in 15 years or in 50. A building made of sturdy, appealing materials, with ample light and views, will find new uses. Even if a green building can't adapt to future circumstances, its recyclable components will retain value even as the structure is demolished. A true life-cycle analysis will take into account such social costs and benefits, the ecological impact of the materials it uses, and the recyclability of its components, for example.

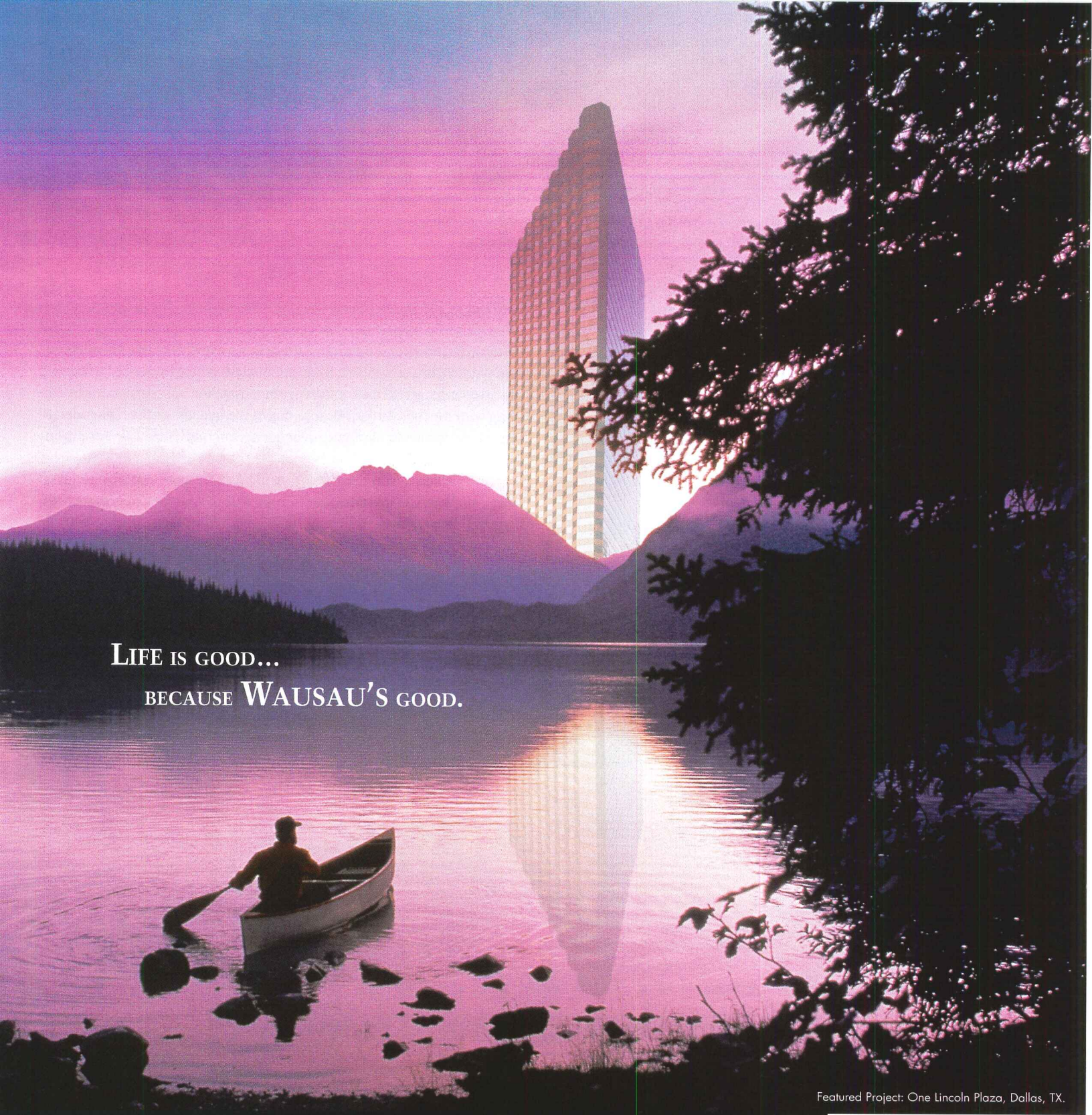
Achieving sustainability will also involve new ways of arranging human settlement. Energy-conservation virtue means little if a building is erected miles beyond the reach of public transport. Consideration of **access and urban context** is part of what makes a building green. Building owners too often fear that **health and happiness** will not be reflected in the bottom line. The best green buildings are pleasant and healthy places for people. A

Green design influences the whole form of a building and is one of its main generators from the first moments of design. As a corollary, green design is no constraint on creativity, but rather a stimulus to more novel and relevant designs. Green design is not incompatible with architectural excellence. Despite its all-glass roof and fully-glazed west elevation, the Beyeler Foundation Museum [May 1998, page 160] is exceptionally energy efficient. Europe's leading architects, including Renzo Piano, Norman Foster, and Michael Hopkins, are also among its best exponents of green design. Soon no building will be considered first-rate if it is not also green.

As one of the *10 Shades* themes asserts, green buildings cannot be designed in the abstract but are shaped by their reciprocal interactions with all aspects of a place, including its history and traditions as well as the microclimate and ambient energies that impact upon it. This is the strength of the Australian Cotton Tree Housing and the best North American work, whether it be by Lake/Flato in Cotulla, Texas; Fernau & Harman in coastal Marin County, California; Rick Joy, in arid Tucson; or Brian Mackay-Lyons in chilly Nova Scotia [April 2000, page 108]. For larger, less traditional building types, design tends to rely on meticulous surveys of all aspects of the setting (such as ecology, microclimate, and

Project: *Hall 26, Hannover Fairgrounds, Hannover, Germany*
Architect: *Herzog & Partner*

PHOTOGRAPHY: CHRISTIAN RICHTERS (TOP); DIETER LEISTNER (LEFT)



Featured Project: One Lincoln Plaza, Dallas, TX.

WE HAVE A CALMING EFFECT.

Projects just seem to go smoother with Wausau Window and Wall Systems. From our pre-bid consultation, through engineering, manufacture and installation, your Wausau customer service team keeps everything on course.

And our industry-leading 10-year warranty on material and workmanship adds an extra measure of serenity. Contact us today. We know these waters.

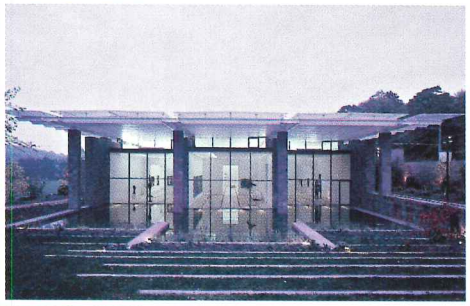
Life is good...because Wausau's good.

WAUSAU

WINDOW AND WALL SYSTEMS

1.877.678.2983
www.wausauwindow.com

CIRCLE 93 ON INQUIRY CARD

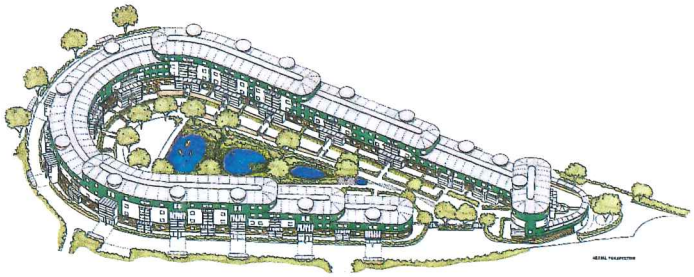


Project: *Beyeler Foundation Museum, Basel, Switzerland*
Architect: *Renzo Piano Building Workshop*

hydrology) and state of the art engineering analysis. The design process is often far more intense than for standard construction, involving detailed computer studies and predictive modeling as well as constant collaboration with creative engineers. More sophisticated buildings need to be very precisely engineered: users cannot compensate for miscalculations by fiddling with the thermostat, because one of the benefits of the higher design effort is to reduce or eliminate dependence on mechanical air conditioning and ventilation.

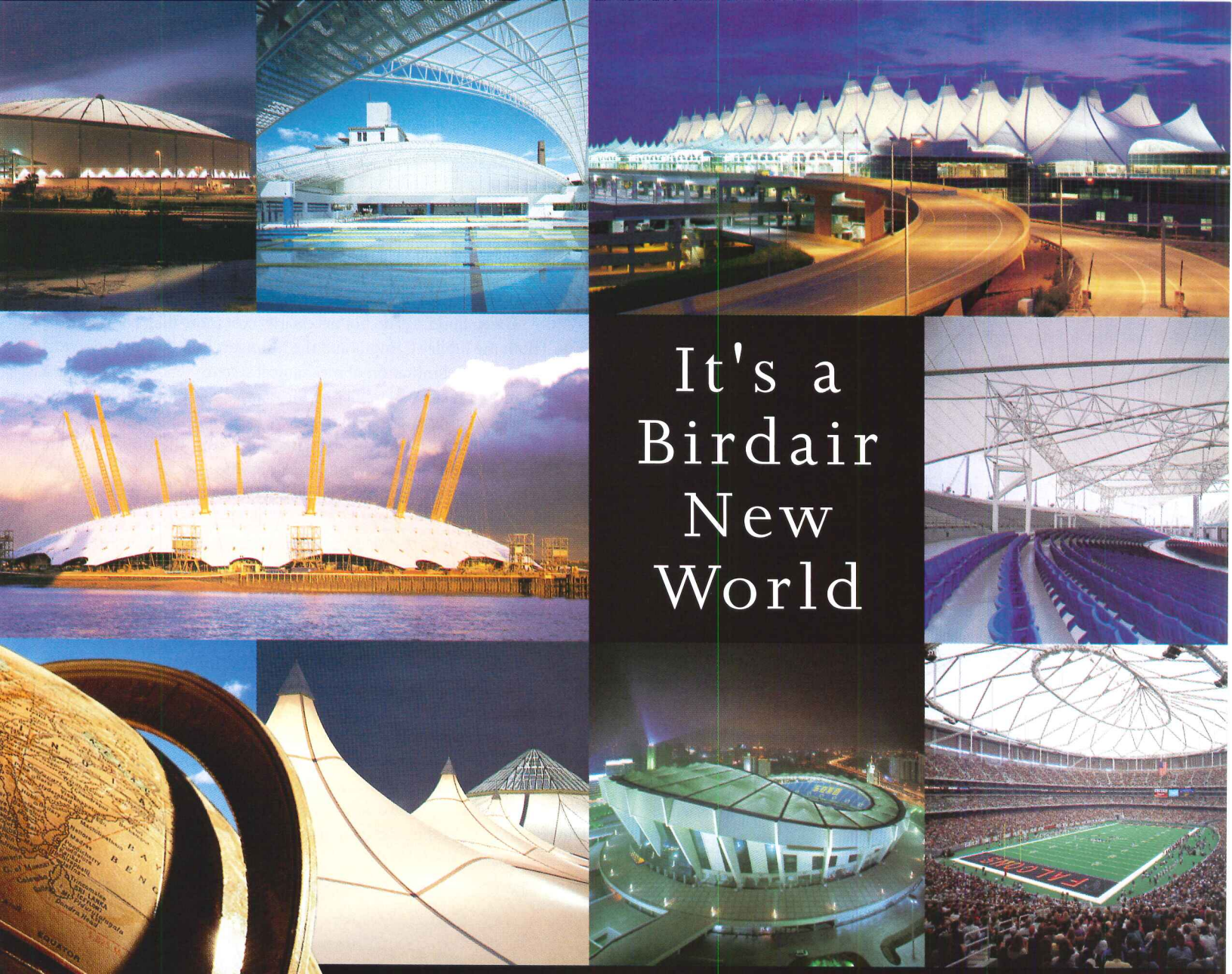
"Clients won't pay for it" is the usually cited obstacle to green design in America. It is true that Europe enforces aspects of green design through increasingly stringent laws. The European Union actively encourages sustainability by sponsoring research and experiment. (The Jubilee Campus and the Mont-Cenis Training Center [December 1999, page 199] both benefited from research paid for by the EU, which also subsidized their photovoltaic cells—a technology that such applications is making economically viable. But many green buildings are commissioned, often to standards exceeding Europe's requirements, because clients (even speculative

building's initial capital costs amount to only a small fraction of the total costs of ownership over time. More important, the salaries paid to occupants of a commercial building dwarf the operating costs. The advantages green buildings offer (fewer sick days, better employee retention) translate into enormous economic benefits quickly. Truly sustainable design transcends mere technical, ecological, and economic issues. By fostering **community and connection,** it brings the nurturing social linkages of the city and the inspiriting aspects of the natural world into manmade realms. Today's mechanized world puts us out of touch with the sensory pleasures of physical reality and the social ties that bind. Architecture can put people in contact with these precious aspects of life. ■

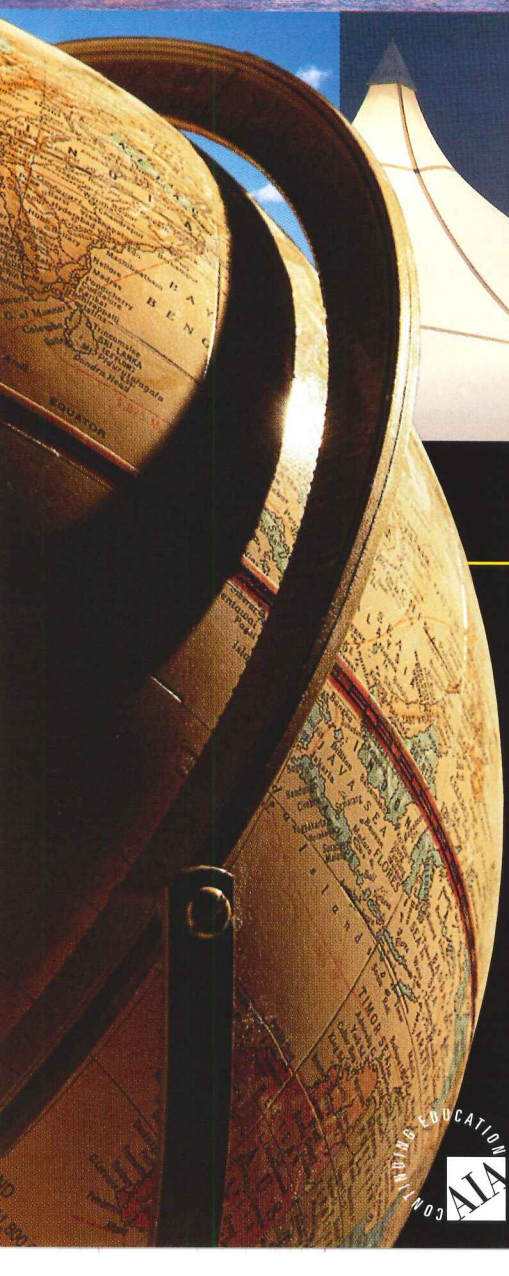


Project: *Slateford Green housing, Edinburgh, United Kingdom*
Architect: *Hackland+Dore, Architects*

PHOTOGRAPHY: CHRISTIAN RICHTERS (TOP PHOTOS); JOHN REACH (LEFT)



It's a Birdair New World



Bright, Beautiful and Completely Practical. Explore It.

Tensioned membrane is an architectural reality, a refreshing global solution for enclosing spaces both public and private. It's a new world of building design, and in it Birdair structures form dramatic sports venues and transportation facilities, stunning convention centers and malls, hotels and recreation sites. Birdair technology was meant for the next millennium because it offers every architect extraordinary possibilities -- the chance to create in new shapes and inventive configurations. Provide natural daylight and project an exciting aesthetic signature on the evening horizon.

Birdair structures are changing the way we participate in architecture. Virtually maintenance free, long lasting, resistant to wind, snow loads and temperature extremes, they are worldly practical, bright and beautiful.

Birdair Tensioned Membrane.
A technological vision that works.

CIRCLE 94 ON INQUIRY CARD

BIRDAIR

65 Lawrence Bell Drive
Amherst, New York 14221 USA
716.633.9500 / 800.622.2246
www.birdair.com

Project: *Commerzbank headquarters, Frankfurt, Germany*
Architect: *Foster & Partners*

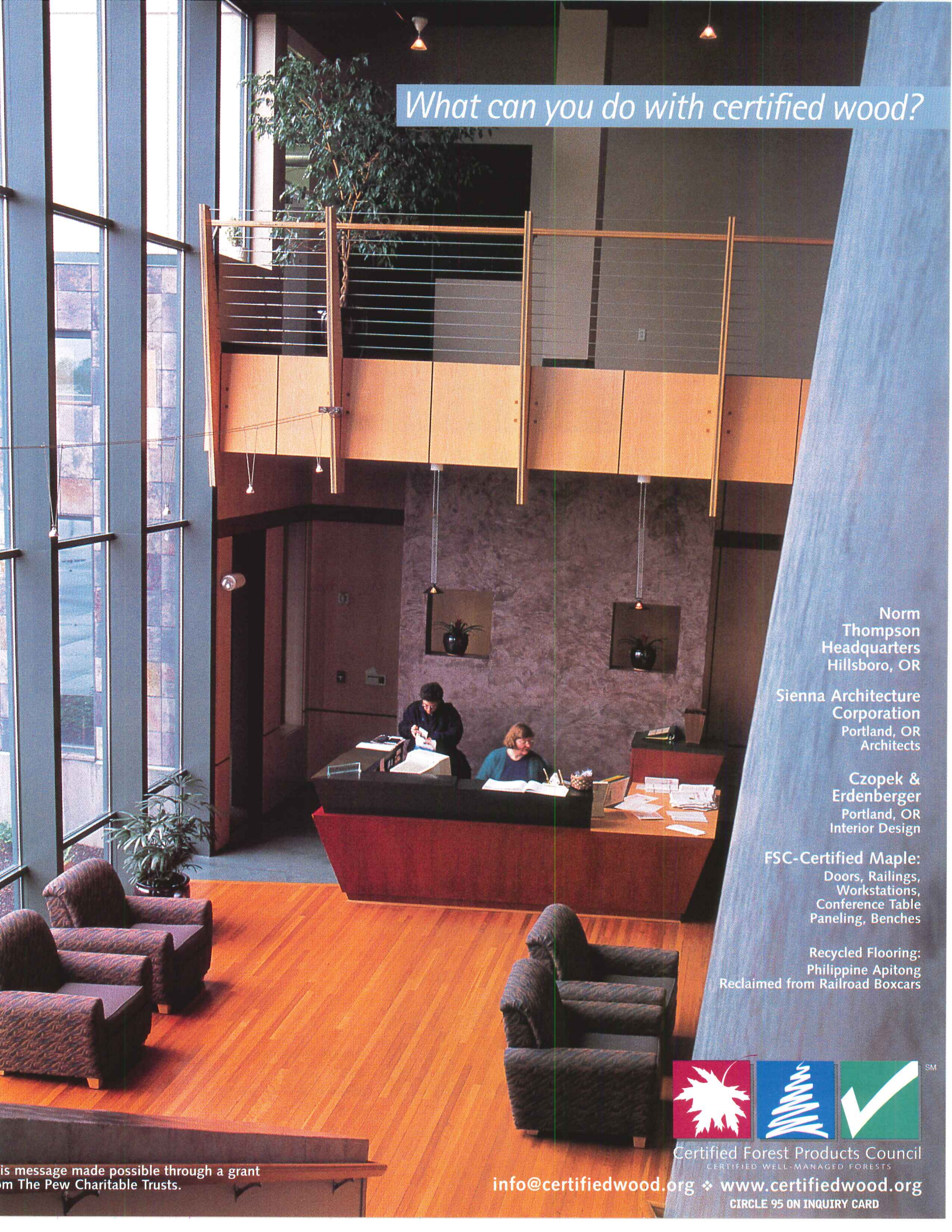
developers) recognize their economic virtues.

Green buildings do not necessarily cost more than conventional ones. (Both the Jubilee Campus and the Minnaert Building are low-cost.) The reduction or elimination of mechanical systems tends to offset extra costs for more precise assemblies or for a more complex building shell. Diminished running and maintenance costs soon bring additional savings. But spectacular economic benefits arise from the impact on the occupants. Typically in green workplaces, absenteeism and staff turnover (and so retraining costs) drop considerably and productivity increases. Lockheed-Martin's Building 157, built in the 1980s in Sunnyvale, California, is just one documented American example. With an American economy desperate for skilled labor, these are major incentives for American clients to build green.

Other common criticisms of green design are that it requires people to sacrifice comfort or convenience. Greater familiarity with such buildings will cause these concerns to evaporate. Improved quality of life explains the deep appeal of green buildings to their occupants. After the alienating isolation of sealed and artificially lit and ventilated buildings, people are overjoyed to re-establish contact with the outdoors, especially because well-designed green buildings embed themselves beautifully into their environment and enhance people's contact with nature.

Green design also reinforces the social life within buildings. The rise and ebb of the rainwater-fed pool inside the Minnaert building

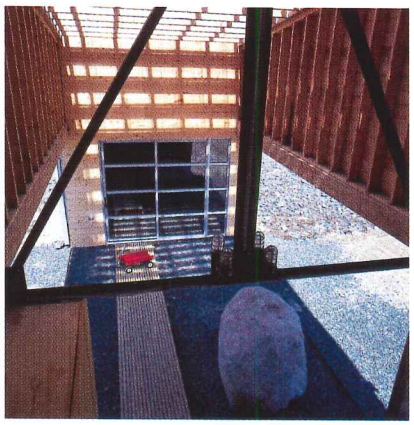
Project: *Mont-Cenis Training Academy, Herne-Sodingen, Germany*
Architect: *Jourda & Perraudin Architectes*


What can you do with certified wood?
Norm Thompson Headquarters
Hillsboro, OR
Sienna Architecture Corporation
Portland, OR
Architects
Czopek & Erdenberger
Portland, OR
Interior Design
FSC-Certified Maple:
Doors, Railings, Workstations, Conference Table Paneling, Benches
Recycled Flooring:
Philippine Apitong
Reclaimed from Railroad Boxcars
SM
Certified Forest Products Council
CERTIFIED WELL-MANAGED FORESTS
is message made possible through a grant
m The Pew Charitable Trusts.
info@certifiedwood.org ❖ www.certifiedwood.org
CIRCLE 95 ON INQUIRY CARD

puts its college community in touch with forces of nature otherwise taken for granted. The ponds and native reed beds built within the Slateford Green housing are arranged not only to filter grey water and shelter wildlife, they are arranged to create attractive places for residents to stroll or socialize. It is easy to underestimate (or simply to fail to value) design that is sensually satisfying and psychologically meaningful. But by allowing a building to resonate with people's deep need to connect with nature and each other, we simply recognize forces that are increasingly coming to the surface in our culture. Instead of requiring any sort of regression, the green agenda asks us to step forward into a new culture that replaces the real-estate developer's simplistic product or the marketer's focus group-derived pastiche with buildings that allow us to become who we really can be.

Yes, the environmental crisis makes green buildings an urgent priority. A deep-seated desire for more appropriate buildings may be asserting itself even without the crisis that is currently helping to precipitate the changes in our values. These buildings don't deliver just low fuel bills and reduced emission of pollutants, they celebrate and symbolize human aspiration. ■

Project: *Cotulla Ranch, Cotulla, Texas.*
Architect: *Lake/Flato Architects*



Project: *Howard House, West Pennant, Nova Scotia*
Architect: *Bryan Mackay-Lyons*

Project: *Palmer Rose Residence, Tucson, Arizona*
Architect: *Rick Joy, architect*

PHOTOGRAPHY: © WAYNE FULL (TOP); JAMES STEEVES (MIDDLE); MICHAEL LYON (BOTTOM)

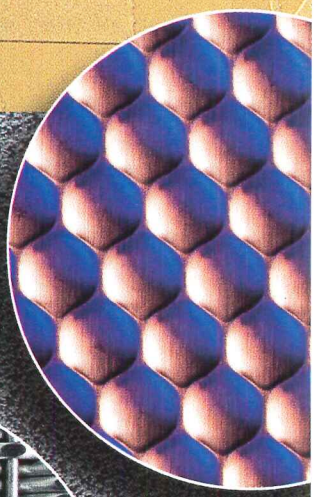
NEW DESIGNER HANDBOOK NOW AVAILABLE

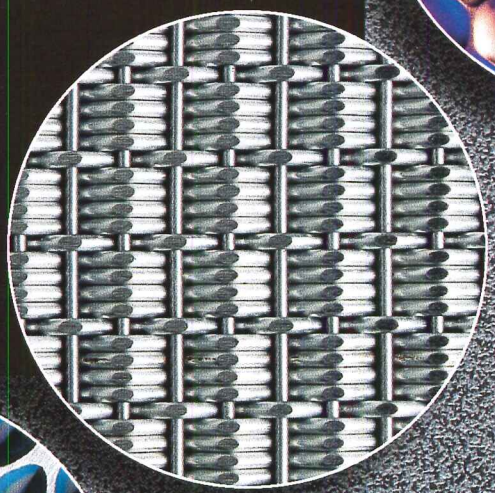
and it's free.

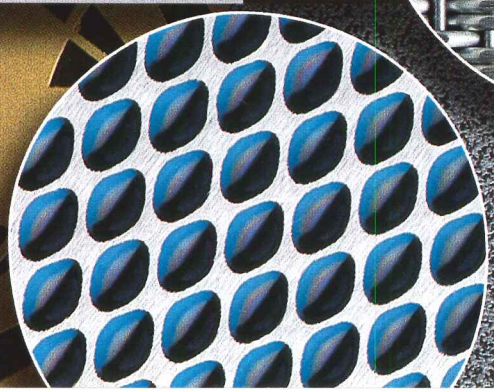
Colorful photographs provide a sampling of the customized, special finishes for stainless steel available in today's marketplace. Learn about etched, embossed, rolled, colored, and other special finishes, and where you can find them through the handbook's Directory of Representative Suppliers.

Request your free copy by contacting the Specialty Steel Industry of North America at 800-982-0355 or through the web site at *www.ssina.com*.

Special Finishes
FOR STAINLESS STEEL



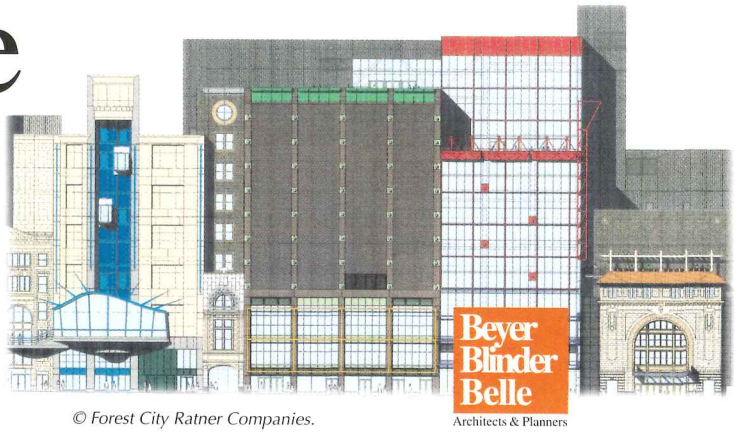




SPECIALTY STEEL INDUSTRY OF NORTH AMERICA
3050 K Street, N.W.
Washington, D.C. 20007

CIRCLE 96 ON INQUIRY CARD

Times Square renovation requires historical authenticity

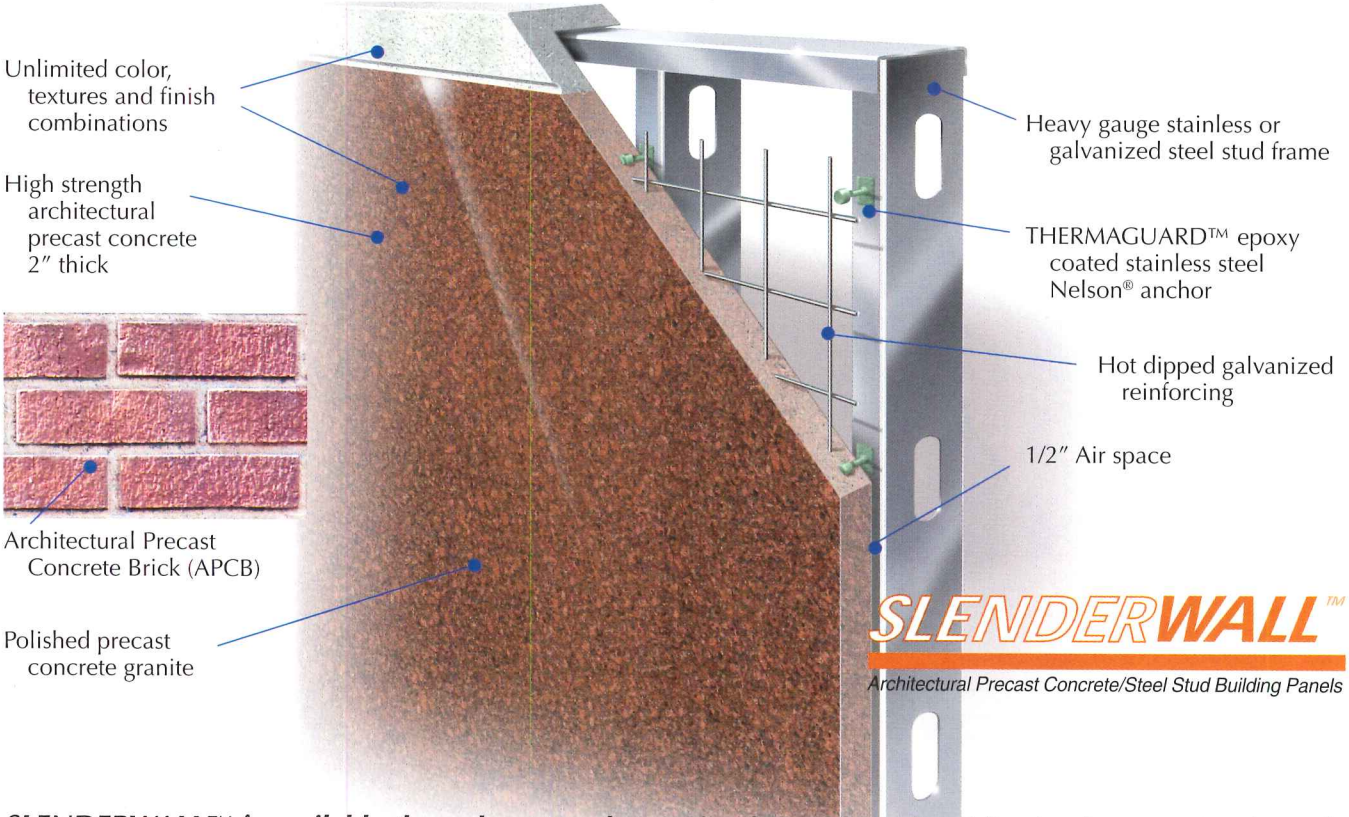


© Forest City Ratner Companies.

When Forest City Ratner and Lehrer McGovern Bovis required a permanent, lightweight wall system to pass the scrutiny of the Times Square Historical Review Board, they chose SLENDERWALL™.

SLENDERWALL combines time proven components to create a lightweight permanent wall panel system for new construction and renovation. Architectural precast concrete, insulated Nelson anchors, and heavy gauge steel studs create a single, efficient exterior wall system with unlimited design freedom.

SLENDERWALL is designed to reduce building foundation and structure costs; shipping and installation costs; and thermal transfer. The design isolates the exterior precast concrete skin from the structural stresses associated with wind loading, steel frame movement, expansion and contraction, and seismic shock.



SLENDERWALL™

Architectural Precast Concrete/Steel Stud Building Panels

SLENDERWALL™ is available throughout North America from selected architectural precasters through EASI-SET™ Industries, licensor of precast concrete products, with 30 licensees in 7 countries.

EASI SET

EASI-SET™ INDUSTRIES
Midland, VA 22728
(800) 547-4045

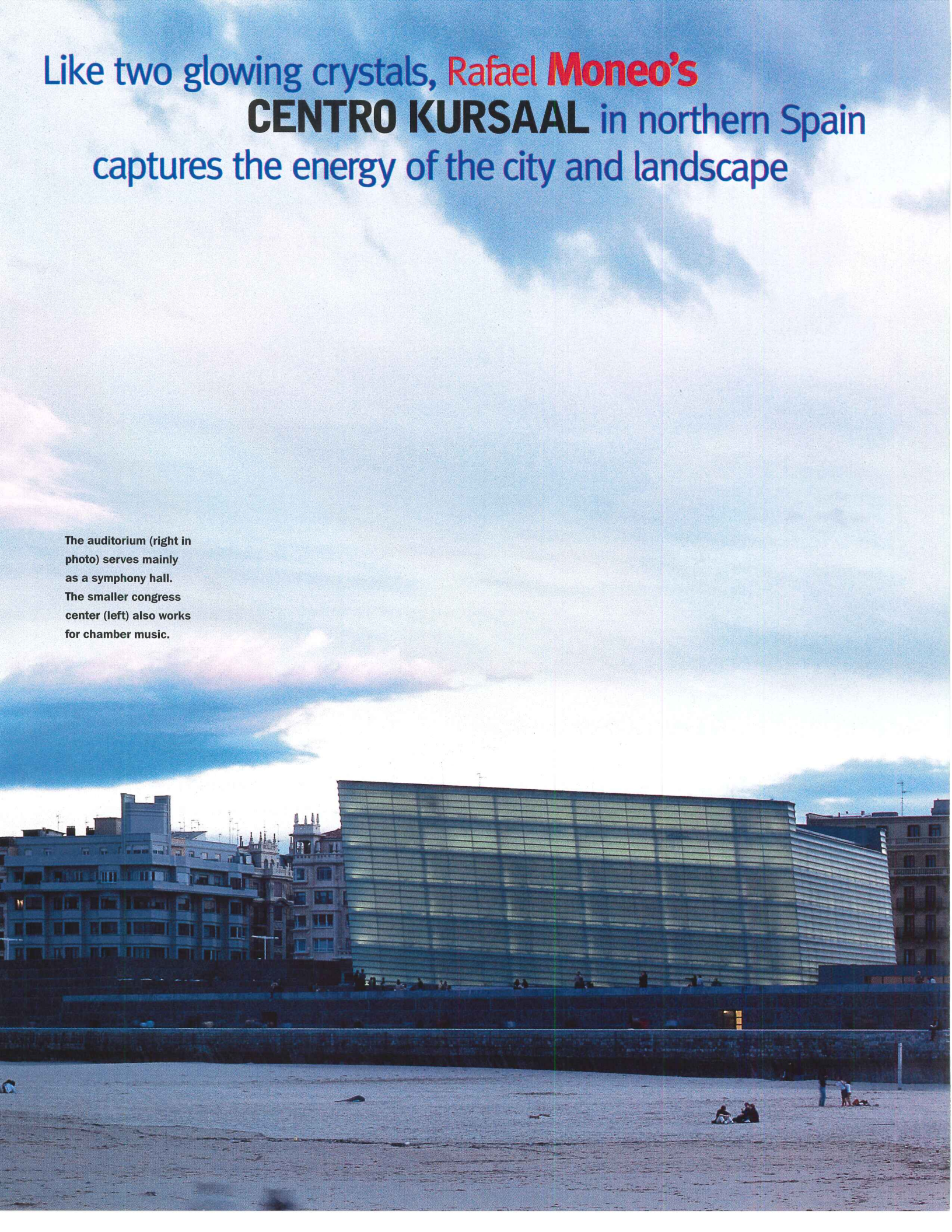
Manufactured by:
SMITH-MIDLAND
EXCELLENCE IN PRECAST CONCRETE
Midland, VA 22728• (540) 439-3266

Sweet's Catalog 07415ESI
www.easi-set.com

EASI-SET is a wholly owned subsidiary of *SMITH-MIDLAND Corporation*, a publicly traded company

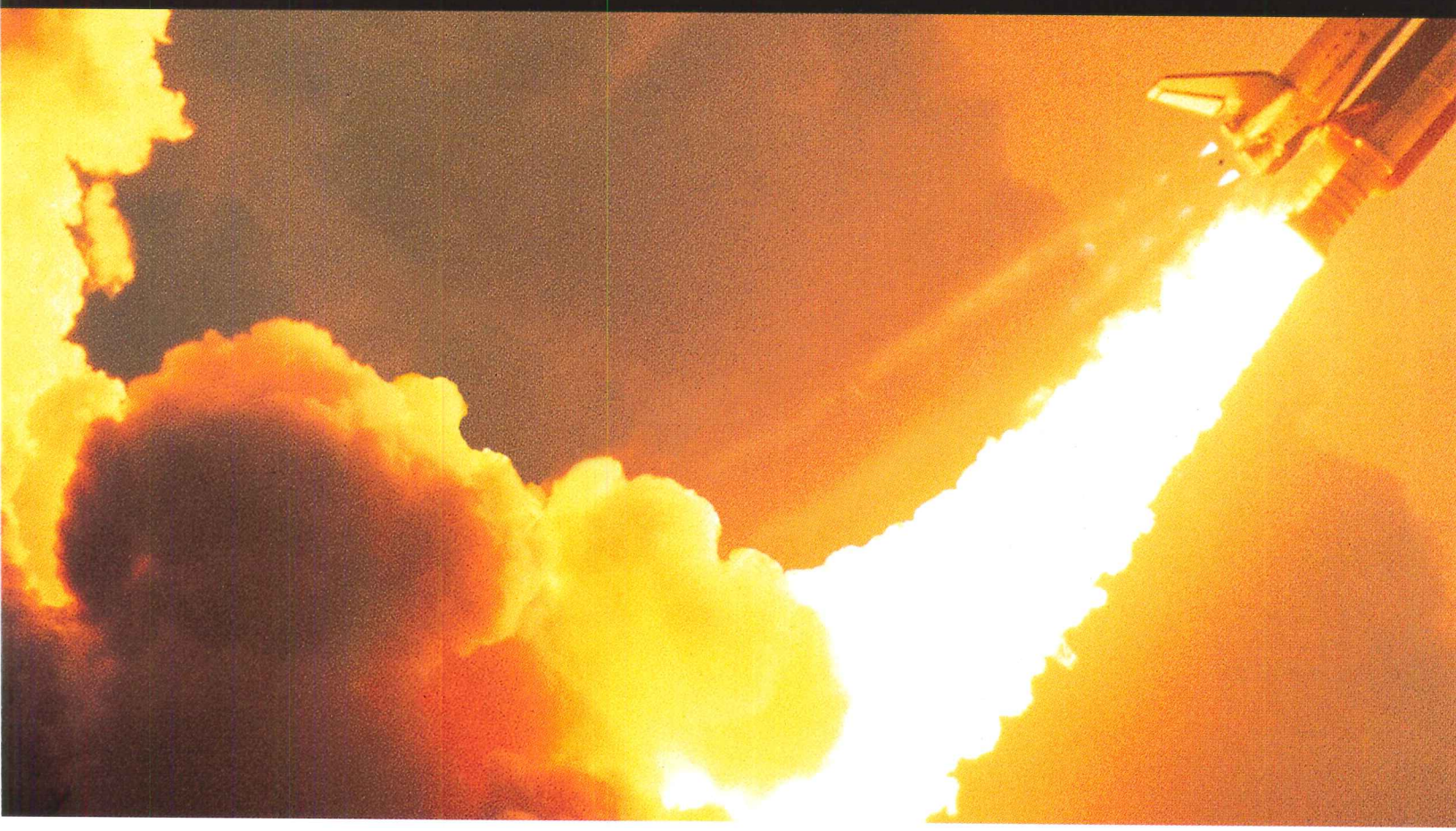
CIRCLE 97 ON INQUIRY CARD

Like two glowing crystals, Rafael Moneo's **CENTRO KURSAAL** in northern Spain captures the energy of the city and landscape



The auditorium (right in photo) serves mainly as a symphony hall. The smaller congress center (left) also works for chamber music.

Prepare for liftoff!



Everything builds to a defining moment. It's the moment when all the elements come together to create the desired effect.

In the design and construction industries, e-IDC.com brings hundreds of separate and distinct professional disciplines together into a centralized network community. A global Internet marketplace where "transactional e-commerce" is conducted instantly — from anywhere in the world.

The defining moment is now. Get on board ... or get left behind.

e-idc.com

INTERNATIONAL DESIGN AND CONSTRUCTION ONLINE

The new tool of your trade

CIRCLE 98 ON INQUIRY CARD

Call 1.877.302.5400 or visit www.e-idc.com

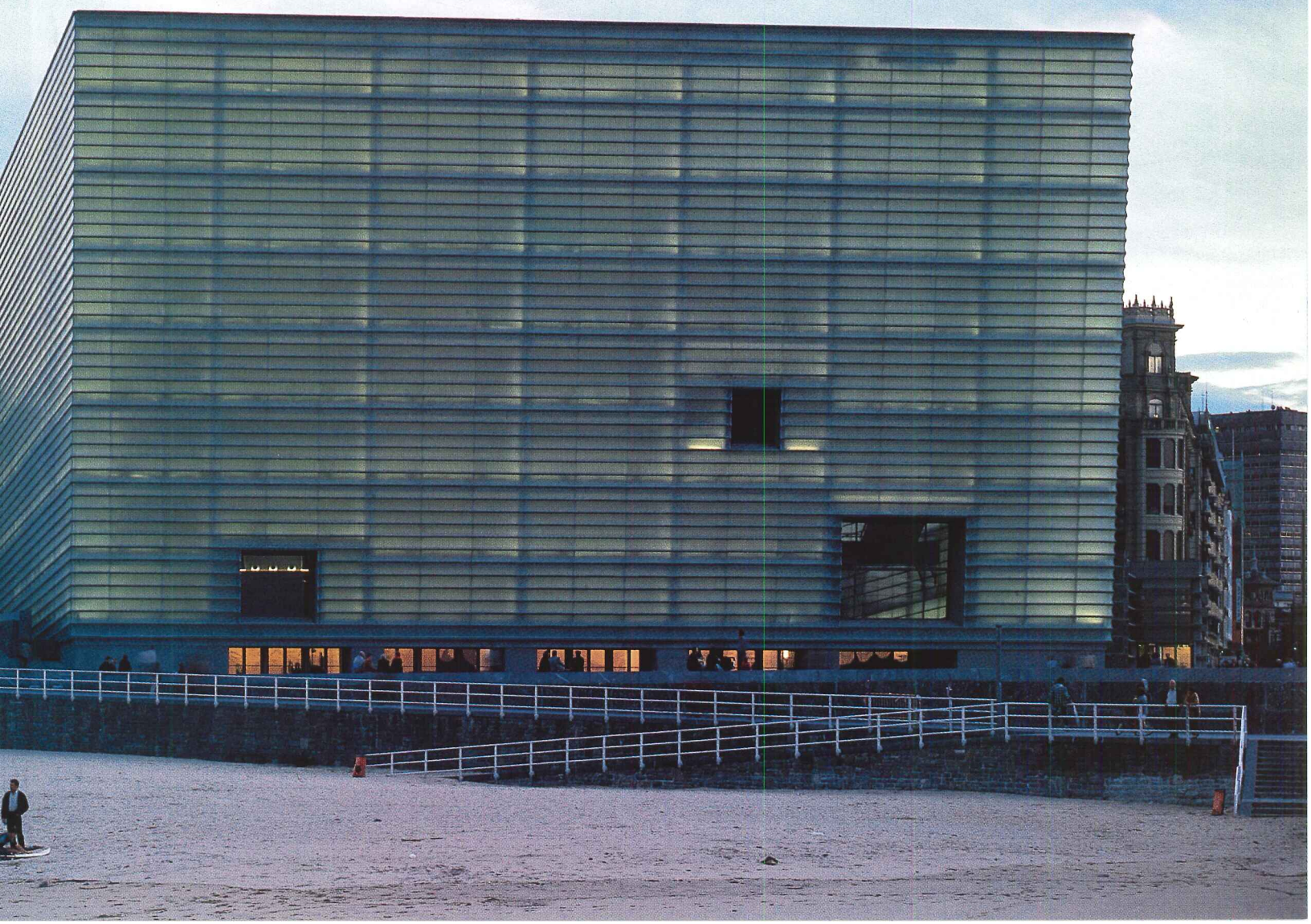
By David Cohn

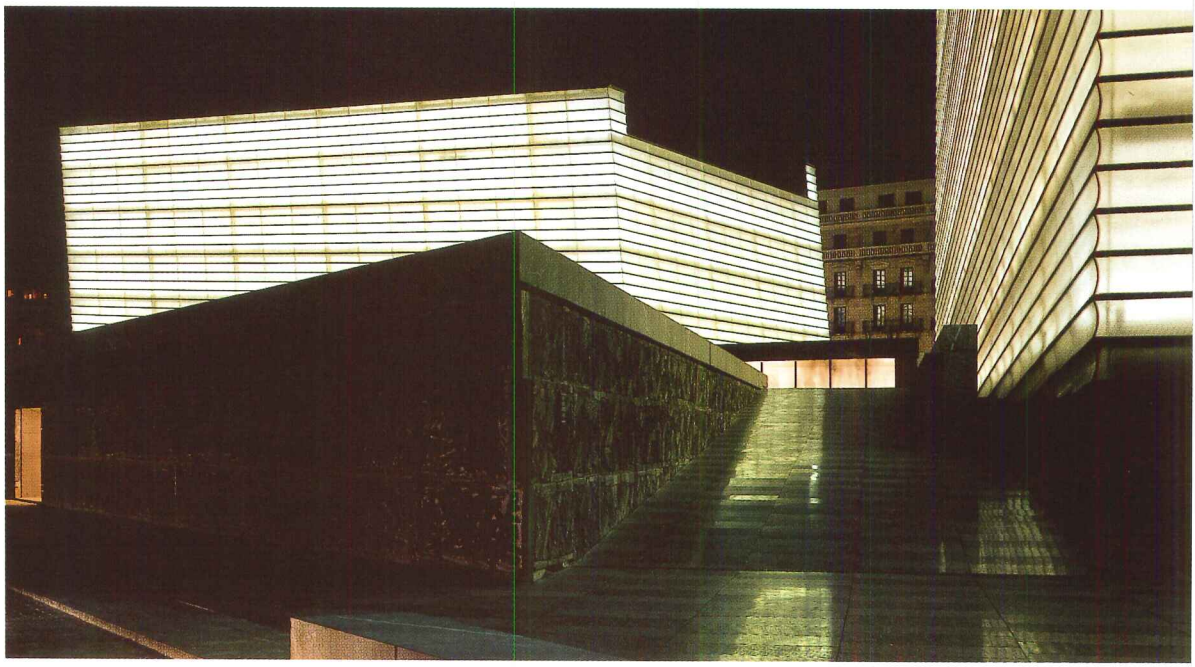
The Kursaal Auditorium and Congress Center is strikingly situated on Spain's rugged Basque coast. With a curving wall of old buildings serving as an architectural backdrop, the performing arts complex designed by Rafael Moneo offers a bold new face for the resort city of San Sebastián. Raised prominently on a stone podium overlooking one of the city's two protected bays, the Kursaal's two tilted boxes of translucent glass gesture dramatically to the sea in front and the steep hills behind.

Since its inauguration last August, the Kursaal has been a popular and critical success and was widely celebrated in Spain's national media last fall when it served as the venue for the San Sebastián Film Festival. Only 45 miles from the Guggenheim Museum in Bilbao, the auditorium is part of a public development plan aimed at economically renewing the Basque region. The project was sponsored by a consortium of local, regional, and national government groups, and it is run as a public institution.

Moneo's design is an inventive reinterpretation of the building typology used by Jørn Utzon in his Sydney Opera House of 1956–73, which impressed critics and the public with its freestanding forms set on a podium at the center of a panoramic landscape. (As a young man in the early 1960s, Moneo worked for a year in Utzon's Copenhagen office.) The building-on-a-podium form—which originated with the Greek temple on an acropolis and passed into modern architecture through romantic-classical designs such as Schinkel's Altes Museum in Berlin—is ideally suited to the site. San Sebastián's success as an early-20th-century upper-class bathing resort owed much to the romantic qualities of its

David Cohn is RECORD*'s correspondent in Madrid and is an American architecture critic who also writes for* Arquitectura Viva *and* Bauwelt. *His book* Young Spanish Architects *was published this year by Birkhäuser.*





The 540,000 square-foot Kursaal sits on a promontory between San Sebastián's two bays (opposite top). Stores, a cafe, a restaurant, gallery space, and parking for 500 cars are tucked

into the podium. Sheathed in concave bands of glass, the Kursaal's two main volumes change character continually during the day—evolving from opaque blocks in daylight to lanterns at night.

geographic features. The contrast between the calm, sheltered bays and steep, rocky promontories, where ocean waves crash against the cliffs, recalls the pictorial drama of 19th-century landscape paintings by artists such as Caspar David Friedrich or Arnold Böcklin.

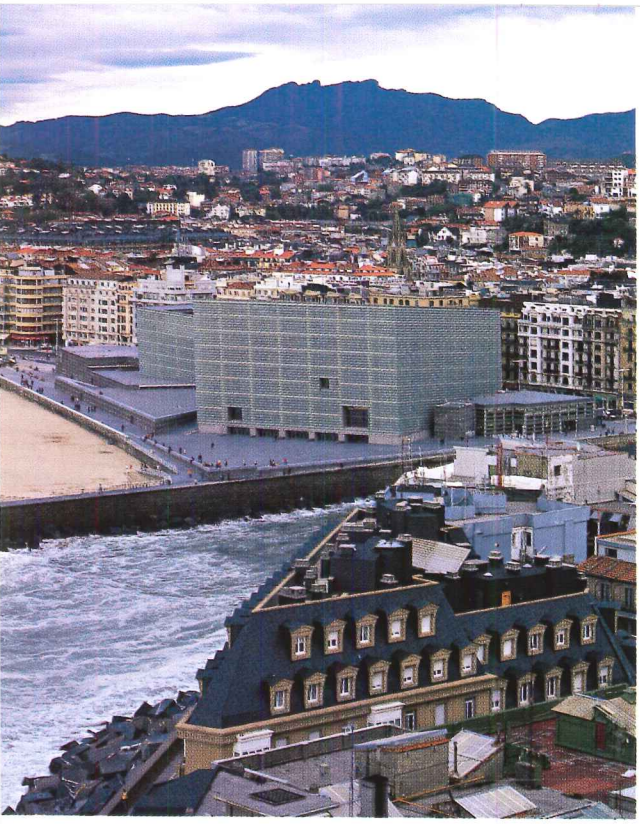
The Kursaal, named for a casino that once stood on the site, occupies a key position in this landscape. The building rises beside the mouth of the Urumea River, where, in Moneo's words, "the river gives itself up to the sea." Here, strong ocean breakers and tidal swells rush up the river channel to push against the very foundations of the city.

Moneo felt this strategic meeting point between nature and the city required "an architectural symbol that did not belong so clearly to the world of buildings, but maintained the abstract and natural condition one can find in mineral forms such as crystals. From this arose the analogy or metaphor that imposed itself from the beginning, which compares the Kursaal to a rock beached or anchored in the mouth of the river, like a geographic accident." Moneo believes this approach is the key reason his entry was selected in the 1990 competition for the project, over designs by Norman Foster, Arata Isozaki, Mario Botta, Juan Navarro Baldeweg, and local architect Luis Peña with J. A. Corrales. "The jury

---

Project: *Centro Kursaal—Kursaal Elkargunea, San Sebastián, Spain*
Architect: *José Rafael Moneo, Arquitecto—Rafael Moneo, principal in charge; Luis Rojo, project architect; Jeff Inaba, Andrew Borges, Barry Price, Ezra Gould, Collette Creppell, Nancy Chen, Albert Ho, Ignacio Quemada, Eduardo Belzunce, Fernando Iznaola, Jan Kleihues, Luis Diaz Maurino, Adolfo Zanetti, Robert Robinowitz, Juan Beldarrain, Pedro Elcuaz, Imanol Iturria, project team*
Engineers: *Javier Manterola, Hugo Corres and Associates, Jesús Jiménez Cañas (structural); J.G. Asociados (mechanical)*
Consultant: *Higini Arau (acoustical)*
Builders: *Murias, Moyua (foundations); Dragados, Amenabar, Altuna y Uría (concrete); URSSA (steel), Umoran (curtain wall)*

PHOTOGRAPHY: © DUCCIO MALAGAMBA



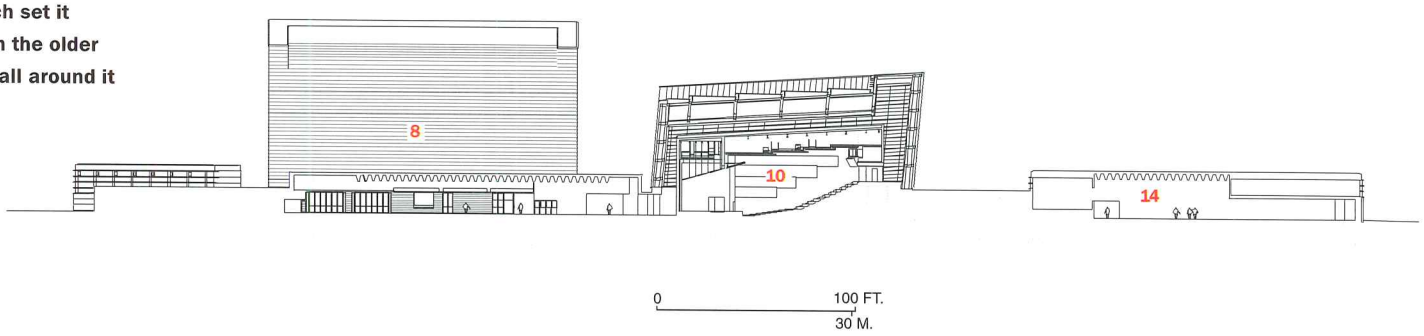
The project is clad with 5,808 pieces of curved glass (opposite), which set it apart from the older buildings all around it (above).

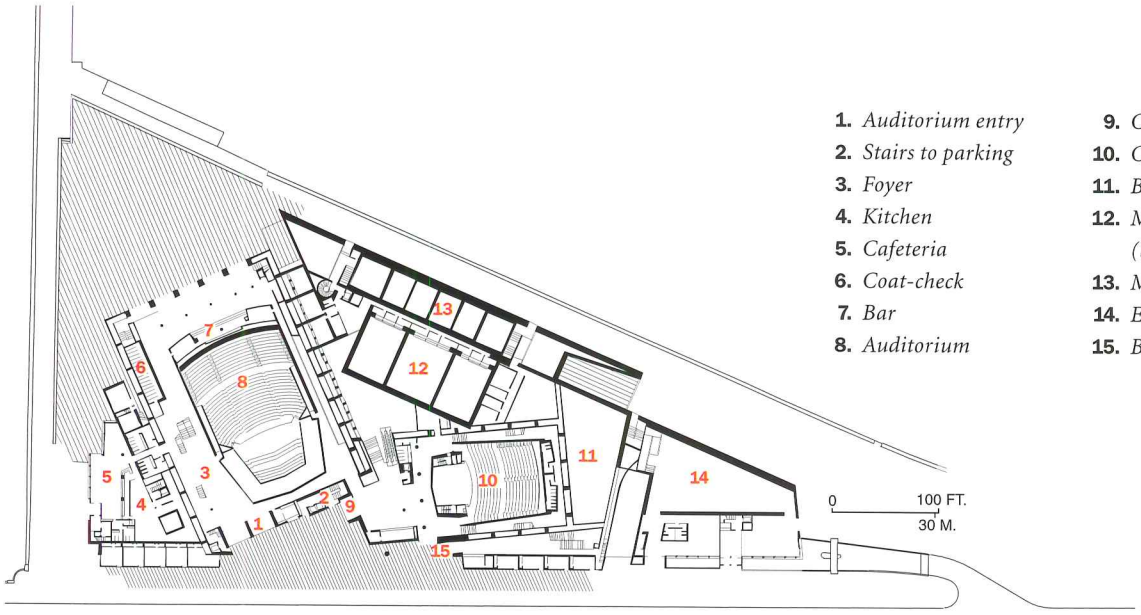
understood, I think, that this site could not be approached as an extension of the urban fabric, no matter what form that extension might take."

To achieve the abstract, mineral-like quality he wanted for the buildings, Moneo treated the exterior glass like a masonry cladding, rather than a transparent curtain wall. The architect compares the concave bands of glass to "the scales of a fish, multiplying reflections." The glass is pressed and laminated, with a rippled exterior profile and sandblasted interior finish, and has the slightly greenish tint of breaking waves. It forms part of a thick double wall, finished in strips of straight glass on the interior and enclosing a substantial structure of steel box beams.

The Kursaal's two glass "temples" clearly form the pièce de résistance of the design. Opalescent in sunlight, deep and fluid in shadow, and glowing at night, these remarkable cubes promise spatial magic. And inside, they deliver: Soaring lobbies that surround each freestanding auditorium are wondrous spaces, insulated from the outside, as if under water. The tilting boxes, which can be seen through the translucent glazing, inject a subtle dynamism into the diffused daylight flooding the interiors. Stairs, balconies, and other circulation elements also set the grand spaces in motion. Each lobby, though, has a visual focal point: a single large window that frames a carefully selected exterior view.

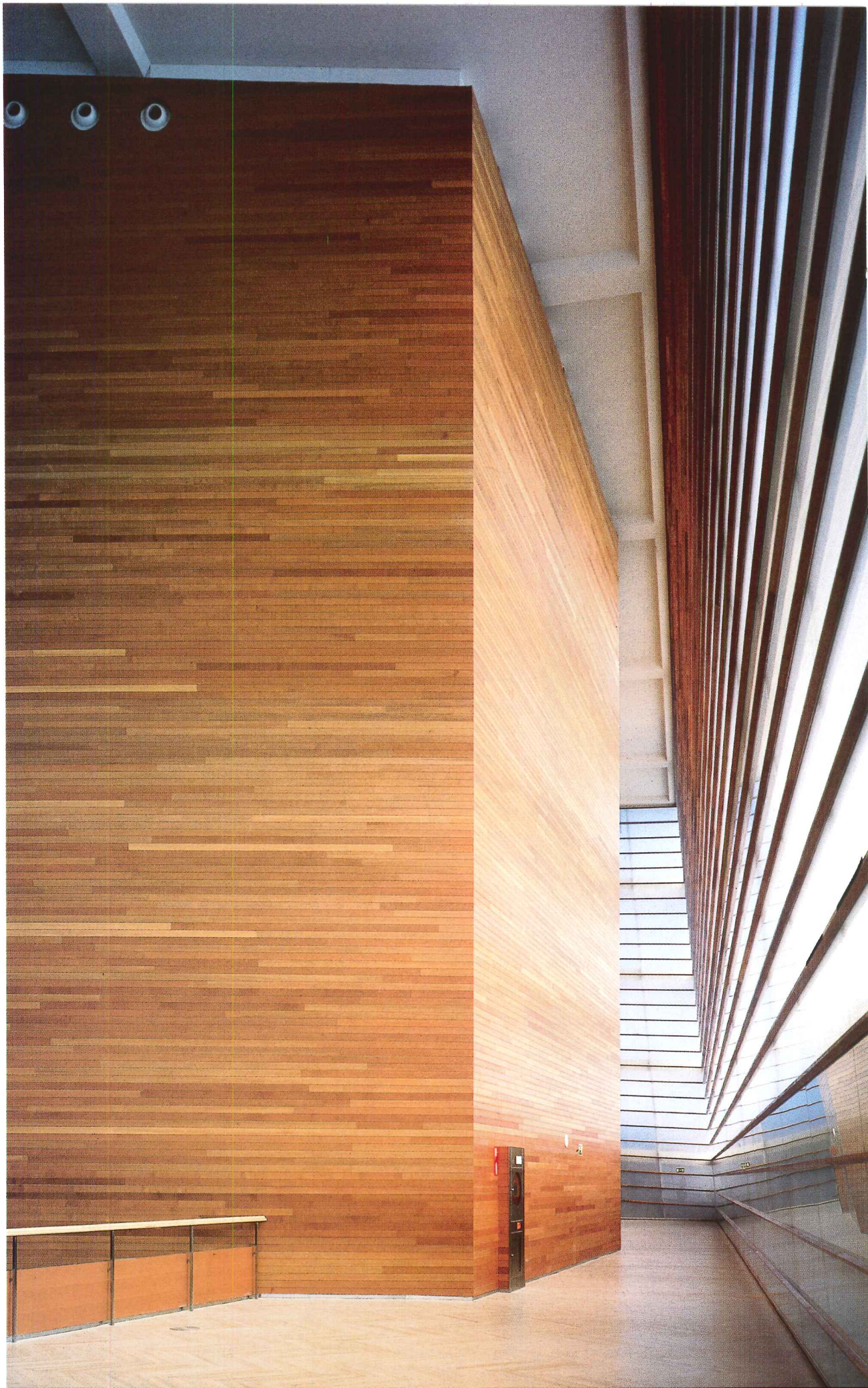
The natural wood finishes of the floors, balustrades, and auditorium walls give the public and performance spaces a warm Scandinavian sensibility. In the largest lobby—which opens onto an entire

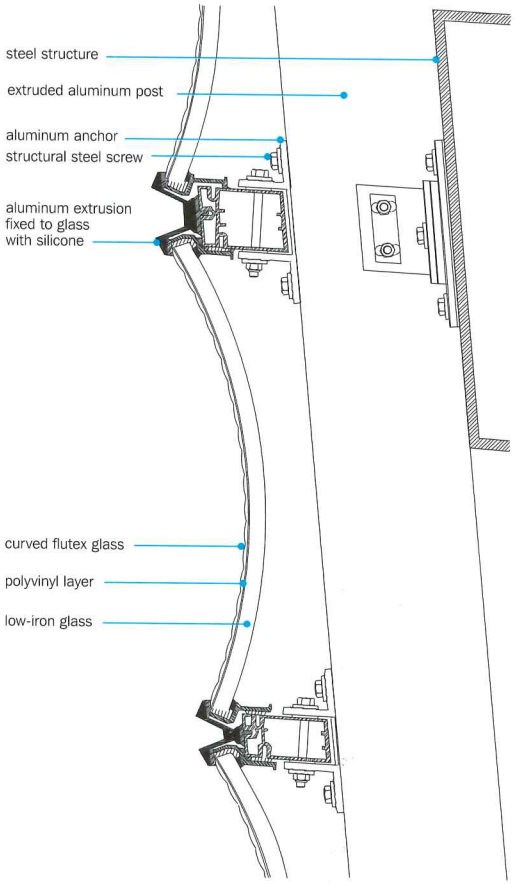




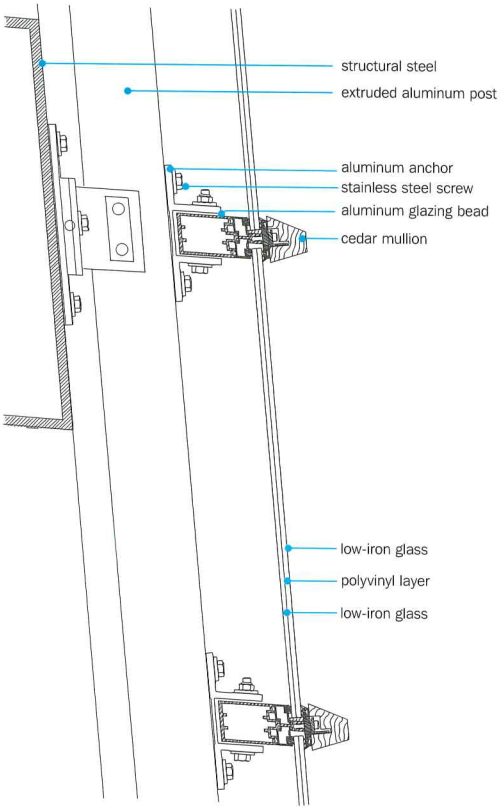
1. *Auditorium entry*
2. *Stairs to parking*
3. *Foyer*
4. *Kitchen*
5. *Cafeteria*
6. *Coat-check*
7. *Bar*
8. *Auditorium*
9. *Congress hall entry*
10. *Congress hall*
11. *Banquet hall (below)*
12. *Multipurpose (below)*
13. *Meeting (below)*
14. *Exhibition*
15. *Banquet hall entry*

The architect treated the auditorium and congress hall as blocks set within giant glass containers. The juxtaposition of Mediterranean limestone floors, oak-clad interior walls, and the glass curtain wall creates rich interiors.





EXTERIOR CURVED GLASS WALL



INTERIOR FLAT GLASS WALL

side of the concert hall and is ringed by a cantilevered balcony for good people-watching during intermissions—a very high and seemingly unsupported sequence of stairs draws visitors up toward another source of warmth: daylight and a sea view.

Beneath the Kursaal's glass pavilions, the podium contains a number of retail and restaurant spaces, along with their supporting services. The plinth is partially clad in black slate, assembled in prefabricated panels in roughly textured patterns of deep relief. The long street facade at this level is lined with small shops, a cafe, and an upscale restaurant at one end and a public exhibition gallery at the other. Each of the public spaces—including lower-level functions such as meeting and seminar rooms, a multiuse banquet hall, and public parking—can be accessed independently from within the angled entry portico.

Like Moneo's recently completed Barcelona Concert Hall, the Kursaal's rectangular auditoriums are classically proportioned for acoustic reasons and are entirely finished in wood, in this case, Canadian cedar and Oregon pine. The large hall, with an 1,828-seat capacity, can accommodate small opera productions as well as symphonic concerts; the smaller hall, suitable for chamber music, seats 626.

Given the geometric complexity of the tilted glass forms, which angle three degrees off one horizontal axis and slope five degrees from the vertical, the detailing was relatively straightforward, according to Moneo. The asymmetrical, scalloped corner joints of the glass are repetitions or

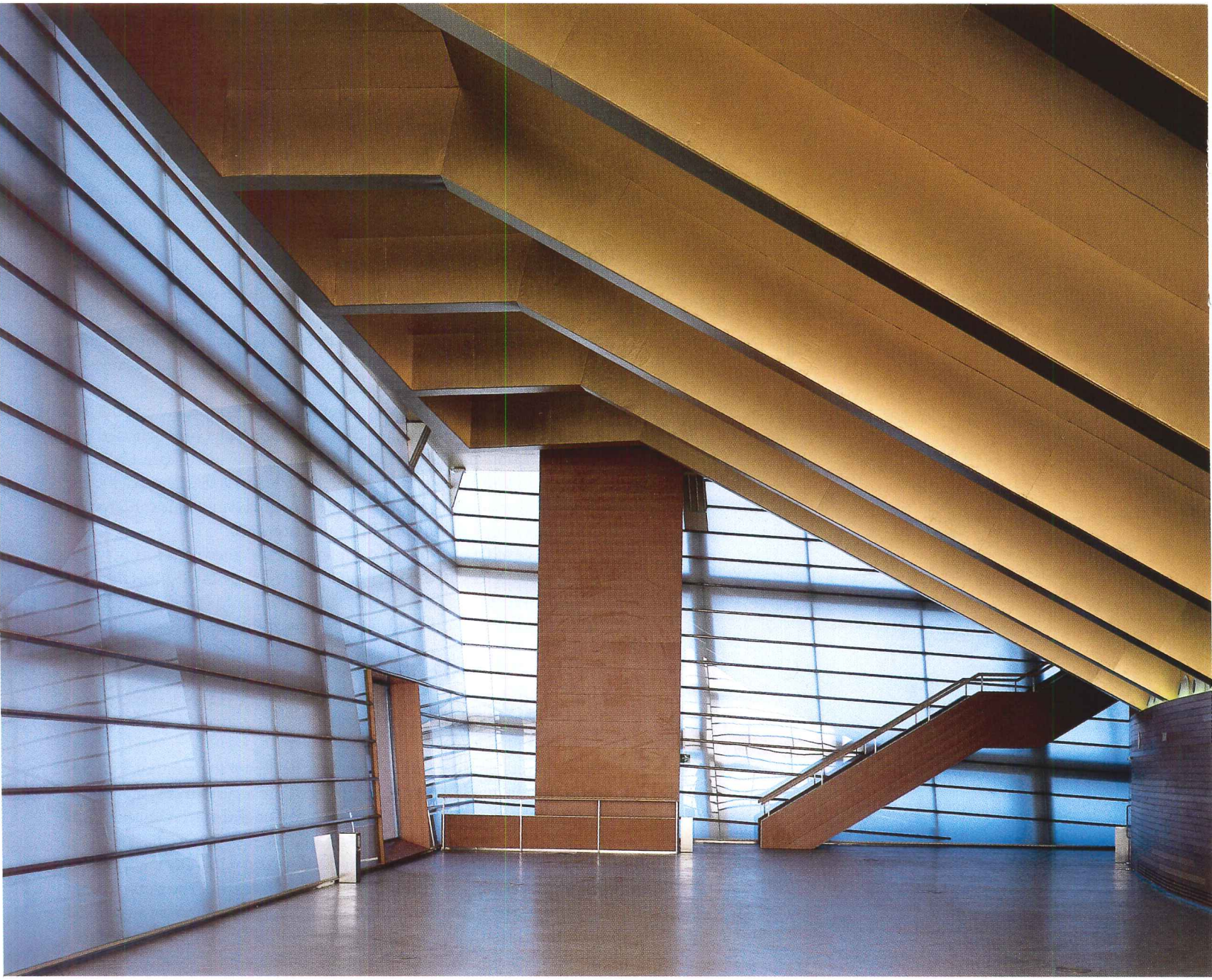
THE KURSAAL STANDS OUT FROM THE CITY TO ENGAGE IN A DIRECT DIALOGUE WITH THE LANDSCAPE

simple inversions of a single form, and they share the same custom element. Horizontal joints between the glass use a custom cast-aluminum V-shaped channel. Only two special types of angled-steel mounting clips were required to attach the struts supporting the glass to the structure. The angled box beams and columns have welded joints and are spaced to allow service access and the circulation of tempered air. The glass volumes span freely over the auditoriums, with air-handling equipment suspended from their beams, thus making rooftop mechanical enclosures unnecessary and isolating the auditoriums from vibrations.

The building's curtain wall is a double skin of glass: curved on the outside and flat on the inside (drawings left and above). Lobbies are grand spaces perfect for people watching during intermissions (opposite).

The relationship of the glass pavilions to the immediate surroundings is not always entirely satisfying. Particularly disappointing is the lack of connection between the major public interiors and the outdoor terraces overlooking the bay. The one exception is a line of glass doors at the rear of the main lobby, which open to the wide seaside walk; unfortunately these are set a few feet below the walkway level and are normally closed for security reasons. Moneo also seems to have had difficulty resolving the connection between the glass volumes and ground plane. Wherever possible, he hid this encounter in a narrow trench behind a rising ramp or behind the extended wing of the podium, producing a curious, volumetric collage effect. The problems of integrating indoors with outdoors and glass volumes with the base seem to arise from an overemphasis on the sealed image of the glass cubes, which does not permit a natural relationship with the exterior. Even the clear windows cut into the building's glass walls seem incongruous and uncertainly placed.

Ignacio Quemada, one of the architects from Moneo's office who supervised the construction process, notes that the project was complicated by a number of management problems. After languishing



The 33,000-square-foot auditorium (opposite) seats 1,828 people and can accommodate full orchestral performances. Access spaces outside the halls (above and left) are generously sized to handle large crowds.

unfunded for six years following the 1990 competition, the project was finished at breakneck speed to meet politically imposed deadlines. The interior of the main auditorium, for example, was mounted in only two months. Drastic late changes in program included the addition to the concert hall of a flytower for theatrical productions, which, midway through design development, required lowering the hall one floor to the basement. To hold down costs to a reasonable $53 million for a gross 540,000 square feet, the project was built without a general contractor. Instead, a city-employed architect served as construction manager. With no general contractor, 24 subcontracts were bid out independently, a management nightmare that resulted in, among other problems, the mid-construction collapse of the concert hall's lobby stair.

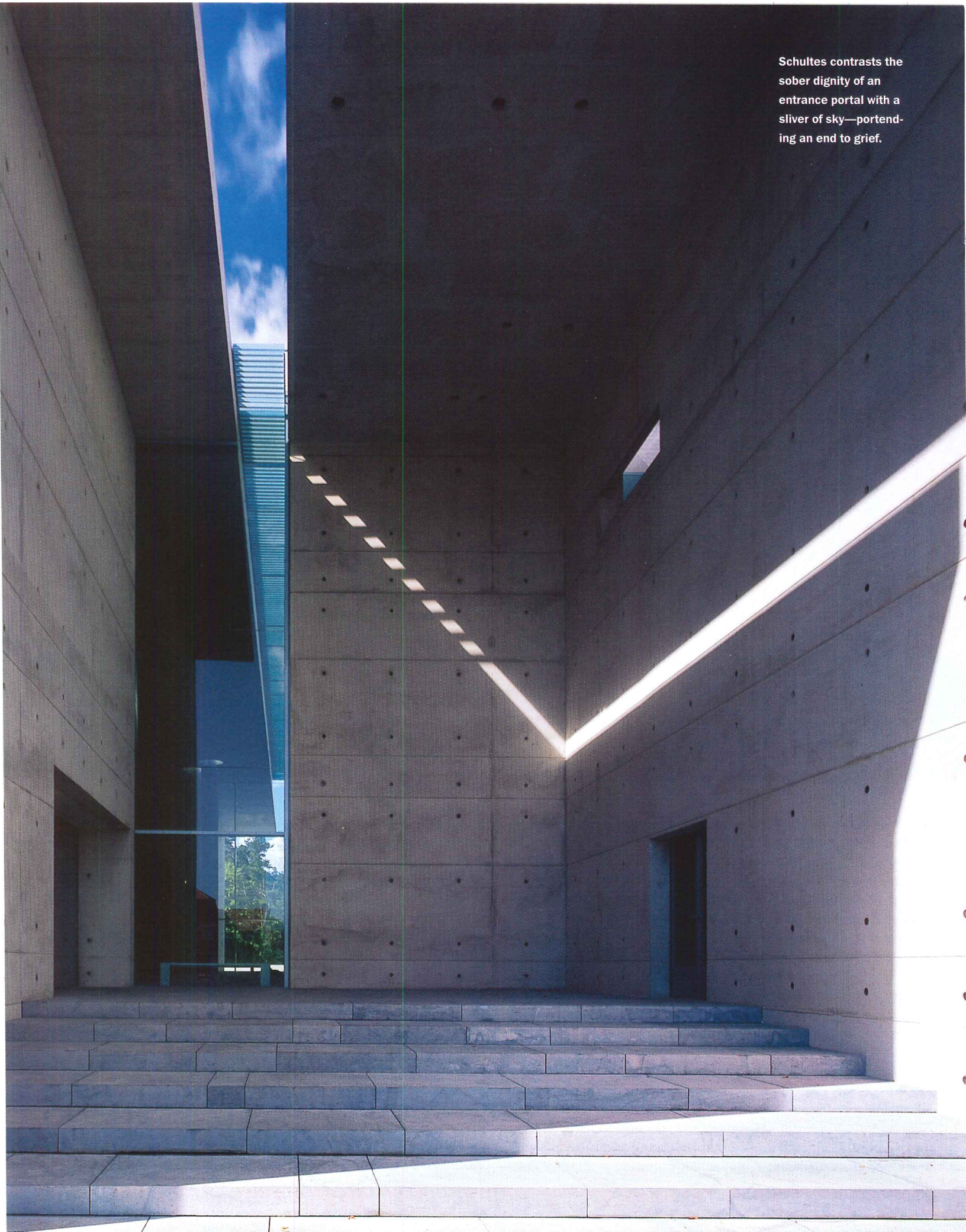
The Kursaal finds Moneo, now 63, at the height of his career. He continues to commute regularly from Madrid to Harvard, where he holds the José Luis Sert Chair in Architecture at the Graduate School of Design. His building for the Houston Museum of Fine Arts opened this March (see next month's issue of ARCHITECTURAL RECORD), and his project for the Los Angeles Cathedral broke ground last year. Meanwhile, in Madrid he is shepherding his competition-winning expansion plan for the Prado Museum through a complex approval process.

Like many of the best works of the modern movement, Moneo's Kursaal Auditorium and Congress Center is an extremely bold and risk-taking design, standing out from the city fabric to engage in a direct dialogue with the surrounding landscape. In this sense, it is true to both the romantic origins of San Sebastián and the romantic-classical origins of Utzon's acropolis-type form, transforming the physical image of the city while reaffirming its identity. ■

Sources

Prefabricated concrete panels with slate insets: *Pizarrerias Bernardos*
Clear glass in curtain wall: *PPG*
Curtain wall fabrication: *Cricursa*
Metal windows: *Umaran*
Roofing panels: *Robertson*
Limestone flooring: *Ureche (crema mediterraneo)*
Oak flooring: *Carpinteria Elorza*
Cedar wall surfaces: *Carpinteria Blasco*
Auditorium seats: *Casas (designed by Rafael Moneo)*
Elevators: *Thyssen*

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



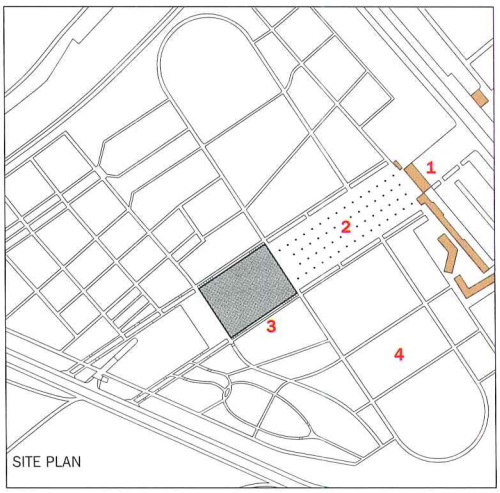
Schultes contrasts the sober dignity of an entrance portal with a sliver of sky—portending an end to grief.

Evoking the infinite, Axel **Schultes** takes mourners at a **CREMATORIUM** from the clamor of daily life to a realm of calm and contemplation

By James S. Russell, AIA

The visitor who comes to this leafy southeastern suburb of Berlin to mourn a recently deceased loved one passes through an arch attached to a stolid yet picturesque gatehouse and confronts head-on a severe facade of alternating concrete-framed openings and metal grilles. Set at the end of a treelined axis cut through the unruly greenery of an early-20th-century cemetery, the building reveals little about its function. Does one read this implacable block of a building as a symbol of the finality of death—of a threshold that the living have yet to cross? Even the architect recognizes the menace implicit in the first glimpse. "Some mourners have told me they don't like it," says Axel Schultes.

Designing the Baumschulenweg Crematorium was a delicate task



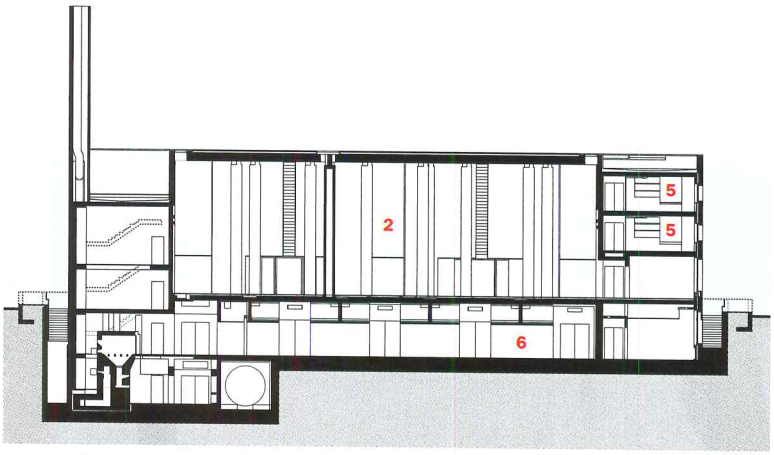
SITE PLAN

1. *Cemetery entrance and gatehouse*
2. *Forecourt*
3. *Crematorium*
4. *Cemetery*

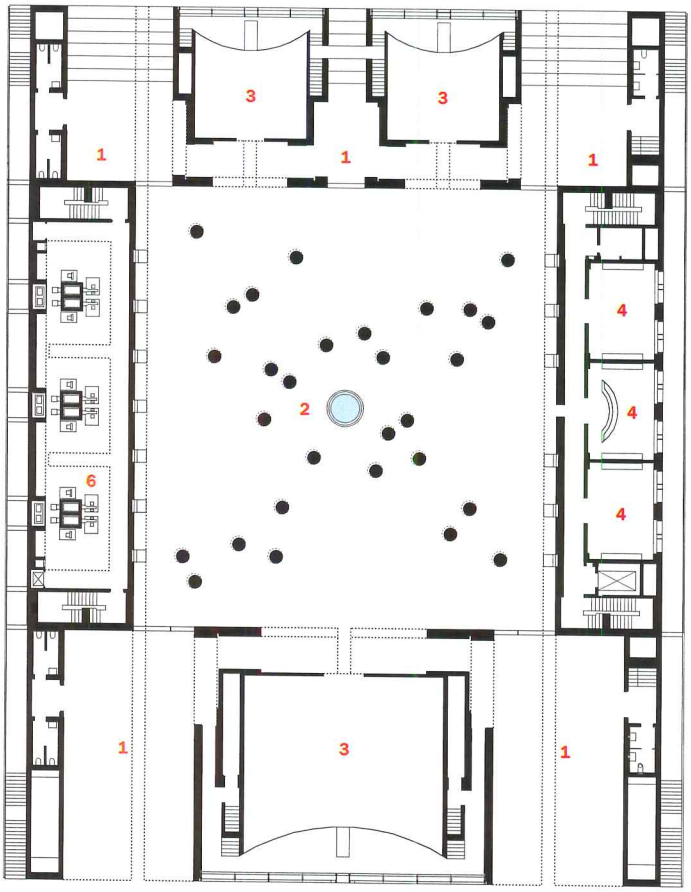
Project: *Baumschulenweg Crematorium, Berlin-Treptow, Germany*
Architect: *Axel Schultes Architekten—Axel Schultes, Charlotte Frank, design; Margret Kister, Christoph Witt, Daniela Andresen, Bob Choeff, Patrick Dierks, Christian Helfrich, Andreas Schuldes, Till Waninger, team*
Engineers: *GSE Saar Enseleit und Partner, IDL (structural); Brandi Ingenieure (mechanical)*
Contractor: *Bilfinger + Bilfinger*

PHOTOGRAPHY: © WERNER HUTHMACHER/ARCHITECTON, BERLIN

1. *Entrance portal*
2. *Gathering space*
3. *Chapel*
4. *Waiting area*
5. *Office*
6. *Crematorium*



SECTION



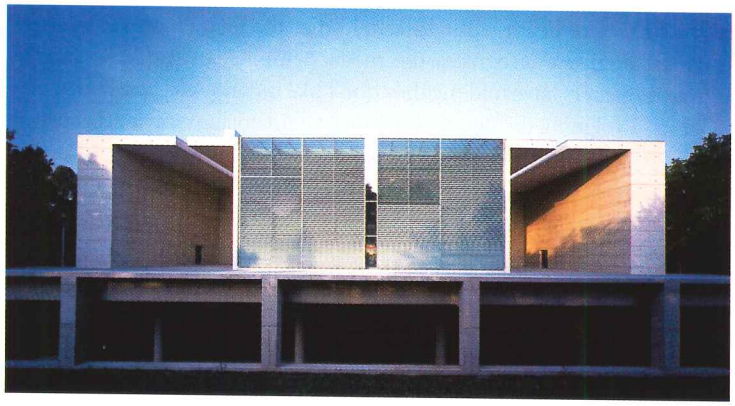
MAIN FLOOR

for Schultes and his partner, Charlotte Frank, because the building tends not just to the living but to the dead. As in America, cremation has become more popular in Europe as burial space has shrunk and as society has come to value less the almost intimate contact with the dead that traditional ceremonies entailed. Cremation is efficient but uncomfortably reminiscent of hell. In Germany, it also evokes the use of ovens in the Final Solution. While making the incendiary purpose of the building all but invisible, the designers created instead a realm suitable to the occasion of mourning by subjecting the building to a rigorous discipline. It is most visible at dusk (opposite), when the light behind the flat planes of the grilles reveals two cubes, the same size as the flanking entrance portals, within which two inner cubes enclose chapels. As the visitor approaches one of the massive portals, however, the imposing order is rent by a simple gesture. A slot interrupts the portal roof, opening a view of cloud-dotted blue. There is something heartening about that sliver of sky, a harbinger of the end of grief.

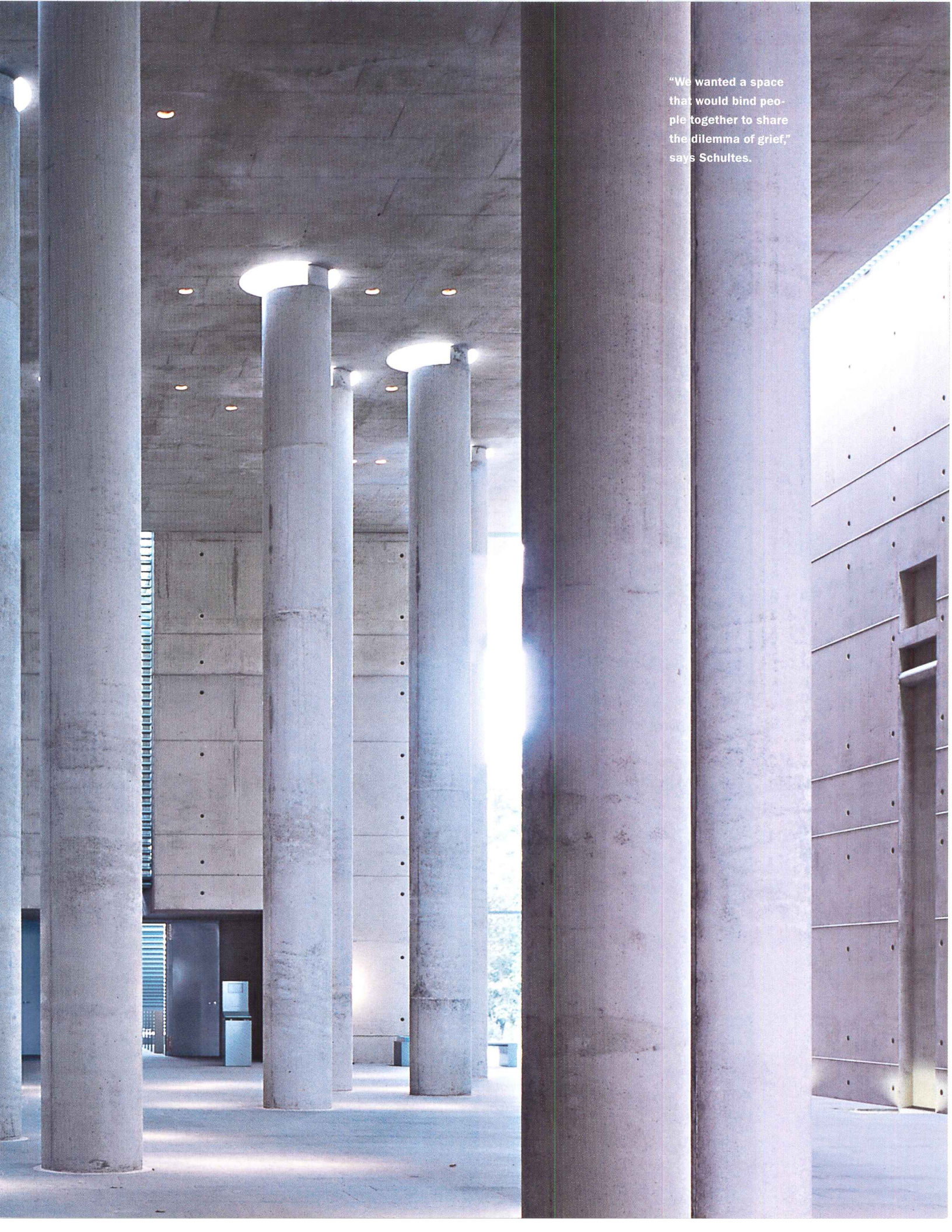
Schultes and Frank drew the slot at the top of the portico through the building, leading the mourner into an enormous central interior gathering space. Though the chapels are where the actual ritual of memorialization takes place, the architects made this condolence hall the focus of the architectural composition.

The massive columns within this hall appear to have been scattered at random, clustered in small groups or standing apart, just as mourners do. To further delimit the columns' ceremonial rather than structural role, Schultes ringed their "capitals" with south-facing skylights. Sunlight skims the shafts and dapples the stone floor. A basin of water bubbles amid the columns. What could have been a mere waiting room has been made into a metaphysical forest.

Originally, the program contained no gathering space. The architects were asked to put in anterooms connected to each chapel. To Schultes, these spaces would have proved as clinical and anxiety-provoking as doctors' waiting rooms. "We wanted a space that would bind people together to share the dilemma of grief," he explains. The time people take to console one other, and to remember together the person who has passed on, may be more important, Schultes thinks, than the actual funeral service. So he and his team united the waiting areas into a single space, one with the scale and architectural dignity that he hopes "reaches



Schultes united a series of programmed waiting rooms into a single large gathering place (plan and section opposite), around which he placed chapels. Dusk (bottom) reveals the layering of walls behind the cast concrete, metal louvers, and glass of the entrance facade (below). View of rear elevation (opposite bottom).



"We wanted a space that would bind people together to share the dilemma of grief," says Schultes.

The inner concrete wall in the chapels offers a primordial sense of enclosure (right).

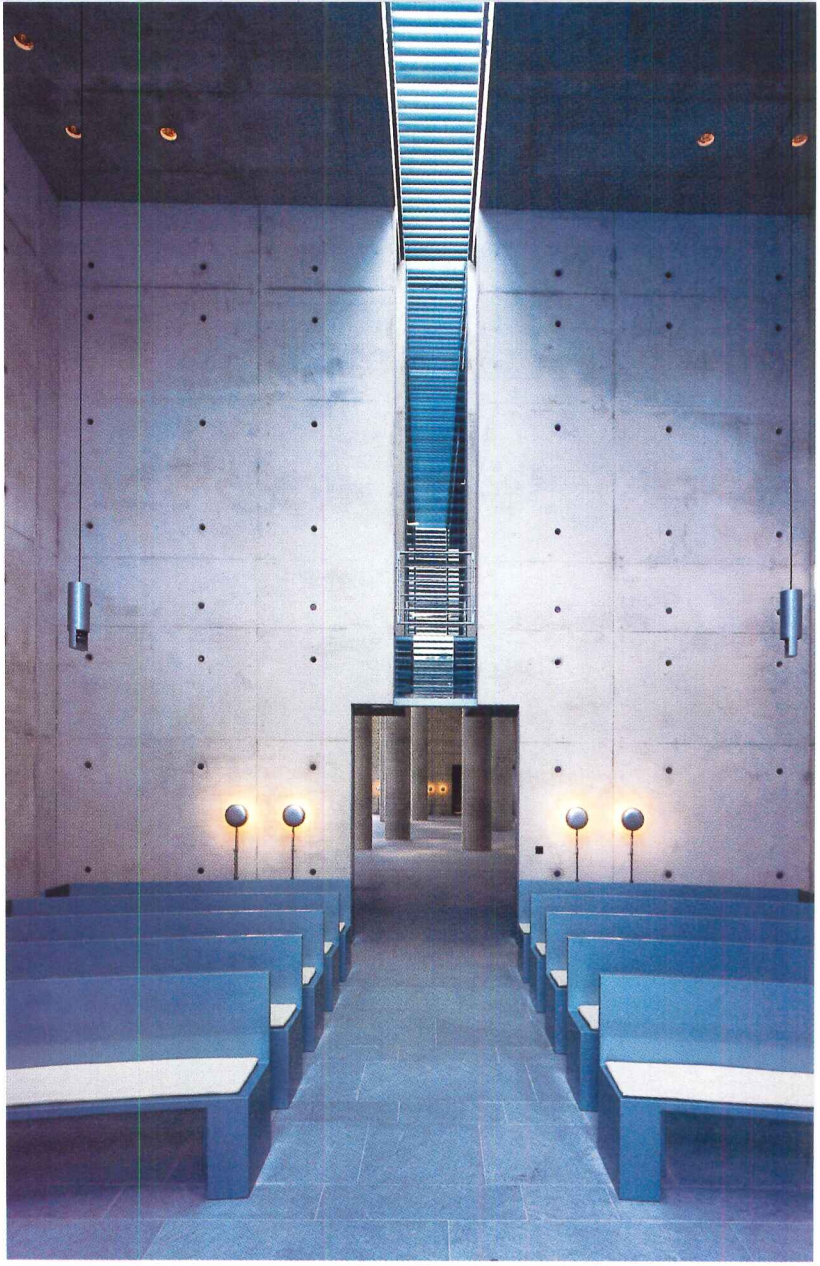
the hearts and spirits of people." The architects found the elegiac quality they sought for the building by reaching back through history in a search for forms that tap universal understanding. Schultes admires the shafts of light slicing the dusty air of Hagia Sophia and the shadowy world of columns and arches in Spain's Alhambra. He once described the Baths of Caracalla as a building consisting of "wall and light."

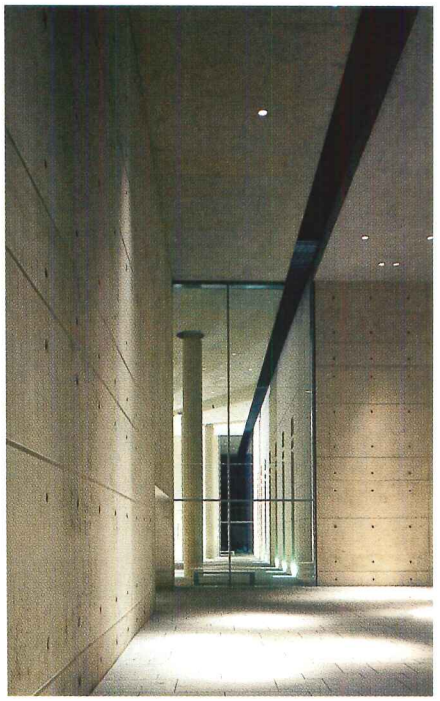
The simple dignity of the plan and the modern materials evoke a primordial, weathered purity of the past. But contemporary buildings intended for today's use can never be so pure as ancient ruins, so the architects cue viewers to their intention by undercutting their own carefully fabricated rationale, as in the columns that recognize no conventional ratio of span to height and "support" only light. Similarly, the massive side walls don't hold up the enormous flat plate of the double-height ceiling of the gathering space: the light slots separate wall and ceiling. "You sense the weight in the hundreds and hundreds of tons of concrete, but we relieve the weight because of the light that comes where the pressure should be greatest," says Schultes.

The crematorium is just one project in which Schultes and Frank have struggled to move beyond what they regard as a simplistic debate on the design of public buildings in Germany. Schultes views design in the former West German capital, Bonn, as so deferential as to be all but invisible. Yet the partners do not want to reinvent classicism, however abstracted or disguised. They want architecture to recognize a progressive and optimistic view of the future, but they also want it to play its historical role of dignifying the rituals and events of public life. Their vision won them the master plan for the Spreebogen—a vast band of government ministries that will become the heart of united Germany's new government. While politics and budget cuts have pared down that scheme's ambitions, Schultes and Frank are also designing its key structure, the chancellery, which will house the offices of the prime minister when it is completed later this year.

CAN ARCHITECTURE STILL MAKE A REALM FOR THE RITUALS AND EVENTS OF PUBLIC LIFE?

The partners' design operations are perhaps too internal to architecture to be readily understood by most people, but in the crematorium they succeed in touching an emotional chord. Without using ecclesiastical devices (it serves those of a variety of faiths as well as those with no faith at all), Schultes conveys the visitor from the clamorous everyday world to a realm of calm and contemplation. The heft of the enclosure is at once sepulchral and comforting. The shafts of light from the skylight and the slots in the roof subtly evoke the infinite. ■

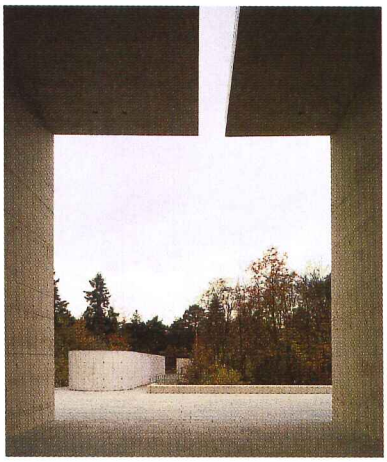




Large doorways and slotlike openings invite mourners to proceed from the gathering space to the chapels, which are bathed in sunlight (above). A skylighted slot runs from the portals through the gathering space (right). Leaving, one greets the unruly landscape of the cemetery (left).

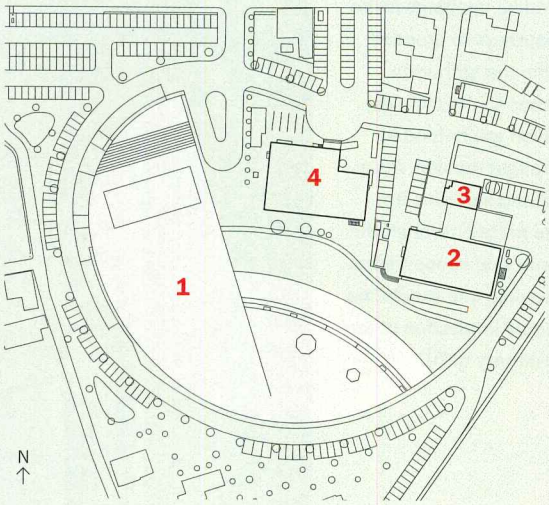
Sources

Concrete: *Cast-in-place, flat, untextured in blocks in 231-by-165-foot blocks*
Floors: *Serpentino marble (Italy)*
Lighting: *Custom designed by Friedjof Schlorphacke*
Seating: *Thonet, Landi, Kewi*



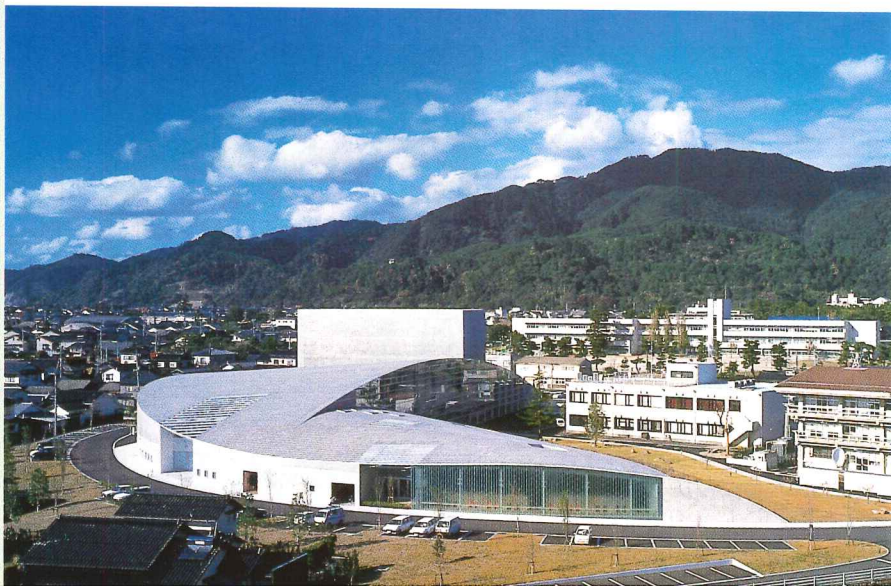
WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

PHOTOGRAPH: © ULRICH SCHWARZ (REAR RIGHT)



1. *Taisha Bunka Place*
2. *Town hall*
3. *Fire station*
4. *Health center*

Set between the Hori River and a group of nondescript municipal buildings, the 63,000-square-foot T Hall draws visitors around the site with its curving form. The publically owned project cost $26 million to build.



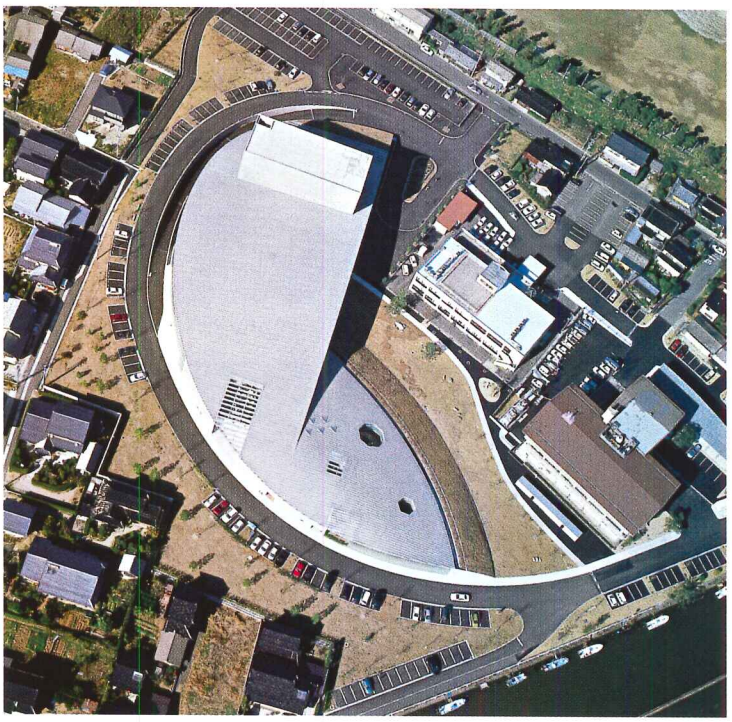
Toyo Ito brings disparate cultural and civic functions together under one great curving roof at TAISHA BUNKA PLACE in Japan

By Naomi Pollock, AIA

Taisha Bunka Place's most striking feature is its roof. Bold but understated, simple yet sophisticated, the roof bestows an air of monumentality on an unremarkable site and turns an informal civic building into a landmark. A public library, theater, and multipurpose center all in one, the T Hall, as the project is often called, primarily serves the 16,000 residents of Taisha, a coastal town on the Japan Sea 400 miles southwest of Tokyo. An agricultural area known for its grapes and wineries, Taisha is most famous as the home of Izumo Grand Shrine, one of Japan's most venerated Shinto monuments, whose wood buildings and forestlike setting draw two million tourists a year.

In 1993 the town held an invited competition for a new Kabuki theater to create an additional lure for sightseers, and awarded the commission to Tokyo architect Toyo Ito. But a year and a half later the town elected a new mayor who questioned the project—a common occurrence in Japan, where public works are often redirected following a change in government officials. Instead of a theater that would be used only a few times a year, the mayor thought his constituents would be better served by a building they could enjoy daily. In a series of meetings at which the town's inventory of public buildings was reviewed, local residents realized that their 30-year-old community center was outdated and could not compare to the state-of-the-art cultural facilities springing up all over the country as a result of a government building boom in the early 1990s. The town library was also in woeful need of an upgrade. Consequently, the competition program was scrapped and Ito started from scratch with the town's revised list of needs.

One of the few aspects of the transformed project to remain constant was the site: an irregular, C-shaped parcel bounded by modest, single-family homes to the west and nondescript municipal buildings to the east. Previously occupied by houses and a small factory, the site is off the beaten tourist track, beyond the town's main street, which also serves as the approach road to the Shinto shrine. Instead, it is wedged between two smaller streets near the Hori River across which a proposed bridge will someday provide greater access to the site. In response to these various conditions, Ito devised a curved building that facilitates movement around and through the property. "I think of it as a kind of linchpin," says the architect. One goal of this strategy was to create a building without a strong differentiation between front and back. In designing the project, says Ito, "it was difficult to know where to put the facade." Ultimately, he took his cues from nature and located the main entrance on the north side where it is maximally shielded from cold winter winds.



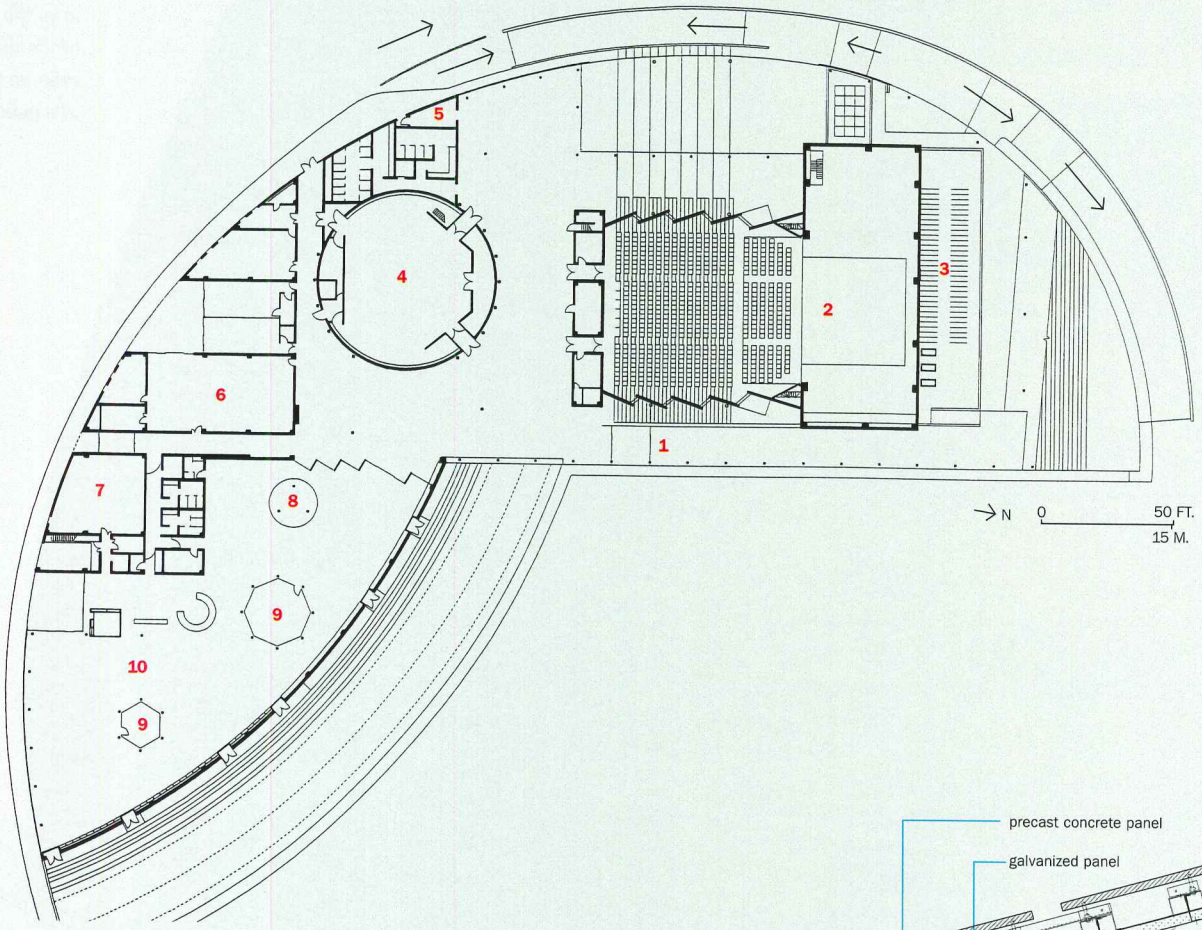
The building's great arched roof helps the 63,000-square-foot project fit into its context, bowing politely to its neighbors at either end after rising to a height of 39 feet near the main entrance. The roof is composed of two abutting planes—the larger one a shallow, single arc punctured by the theater's 69-foot-high flytower and the smaller one composed of three different arcs that segue into a gently sloping man-made hill. Though visually contiguous, the roof and hill are actually

Naomi Pollock, AIA, is ARCHITECTURAL RECORD*'s Tokyo-based correspondent. She curated the exhibition* Japan 2000: Architecture for the Japanese Public, *at the Art Institute of Chicago in 1998.*

Project: *Taisha Bunka Place, Taisha, Japan*
Architect: *Toyo Ito & Associates—Toyo Ito, principal in charge*
Interior Designer: *K.T. Architecture/ Hirono Koike + Yoshiaki Tezuka*
Engineer: *Sasaki Structural Consultants*
Consultants: *Nippon Koei Co. (landscape); Koizumi Sangyo (lighting); Nagata Acoustics (acoustics); Shozo Motosugi (theater planning and technology); Motoi Hattori (theater lighting)*
General Contractor: *Taisha Bunka Place Project Joint Venture (Konoike Construction, Nakasuji Corp., and Iwanari Industry Co.)*

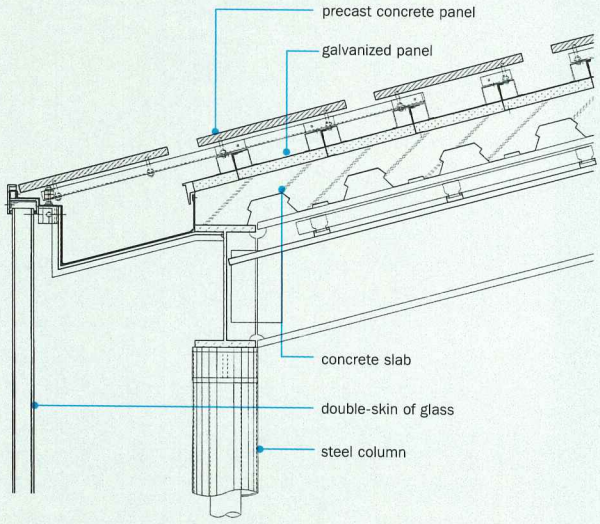
To bring a soft, diffused daylight into interior spaces, the architect used translucent glass panels around the building's periphery (left). On edges that are cut into the mass of the building or are protected from direct sun, Ito specified clear glass. The main entrance is on the north side (below), which is protected from sometimes bone-chilling winter winds.

A covered terrace follows the stepped form of the theater's seating area on the other side of a glass curtain wall.



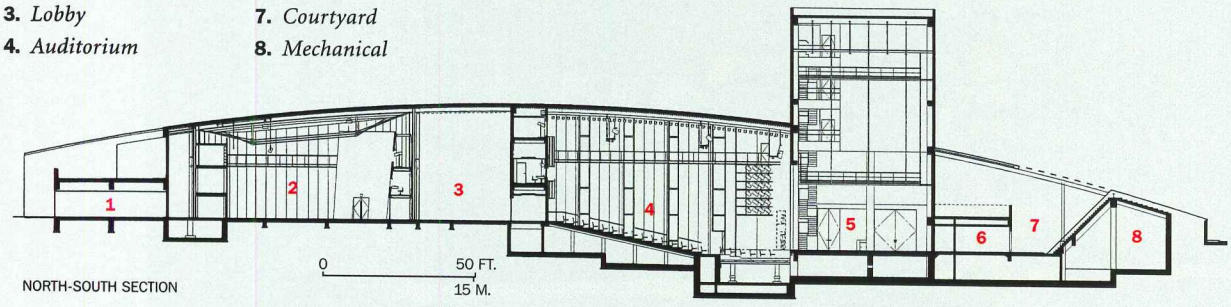
MAIN FLOOR

1. *Main entrance*
2. *Theater*
3. *Parking*
4. *Multipurpose*
5. *Kitchen*
6. *Office*
7. *Book storage*
8. *Children's corner*
9. *Courtyard*
10. *Library*



ROOF DETAIL

1. *Meeting*
2. *Hall*
3. *Lobby*
4. *Auditorium*
5. *Stage*
6. *Dressing*
7. *Courtyard*
8. *Mechanical*



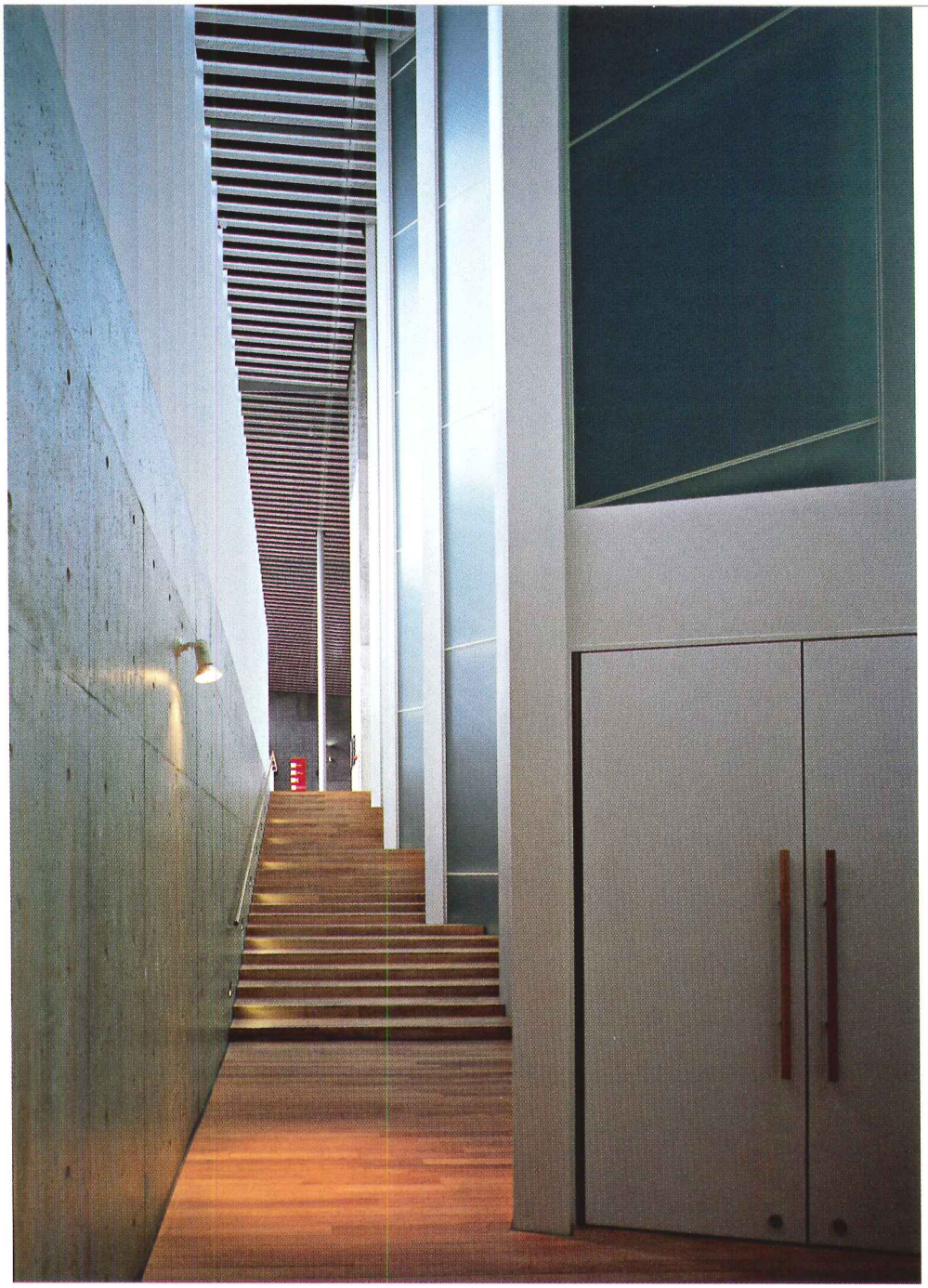
NORTH-SOUTH SECTION

separated by a five-foot gap to deter people from climbing on top of the building. As if sliced off by a giant knife, the roof meets the perimeter walls precisely, revealing its 12-inch thickness. A composite of steel-deck plates, poured concrete, and precast-concrete panels colored with traditional calligrapher's gray sumi ink to complement the roof tiles of the surrounding houses, the roof is relatively light in construction. Slender steel columns, most just nine inches in diameter, support the building in combination with concrete walls.

Between structural walls the building is enclosed with two types of glass that blur the boundary between inside and out. Flat, translucent panels at the periphery conceal interior space during the day, but gradually become more transparent as the sun goes down, revealing shadowy movement inside. Two glass layers with an air pocket in between, the translucent walls also reduce heat loss and sound transmission. Where walls cut into the building's curving form to make entrances, courtyards or terraces, clear glass is used instead. Indeed, the facade is composed largely of clear glass sheets held in place by 16 structural columns that double as mullions. Suspended from steel rods, painted-aluminum-and-wood slats run horizontally between columns; spaced an average of three feet apart, the slats screen the lobby but let in the view of Mt. Misan to the north. Where the building cuts into the ground, Ito designed rust-colored

The library is one large space with courtyards, seating, and other elements floating within it (right and above).

The cafe is an informal area within the main lobby, adjacent to the circular multipurpose room. Wood flooring, found throughout the project, helps unify disparate elements.



Translucent glass panels subtly introduce light from a stepped corridor (left) into the 600-seat theater (opposite). Seats in the front section of the theater can be removed and stored under the stage. The multipurpose room (below) can be set up for lectures, public presentations, and other events.

retaining walls that resemble the traditional *tsuchikabe* mud used for everything from traditional temples to teahouses.

Inside, an expansive wood floor provides a warm and informal accent and ties together the building's disparate elements. In the lobby the floor wraps around a 56-foot-diameter circular multipurpose room and then goes on to become part of the lounge, an open area dotted with red tables and chairs. It also crosses over into the theater, where it turns into the aisles' gentle steps.

The theater can accommodate up to 600 people. But because there are few occasions when the entire hall is filled, 162 chairs up front can be collapsed and stored underneath the stage. Using eight hydraulic lifts, a facility crew can raise the seating floor to extend the stage or can make the stage smaller by partitioning it off with a screen. Dressing rooms—two Western style and two fitted out with tatami mats—and other stage-support areas are directly behind the theater, so performers can move easily from makeup table to spotlight. While most theaters are sealed off from the outdoors, this one makes connections with floor-to-ceiling translucent glass panels set in its walls and a stepped terrace outside that echoes the seating tiers within.

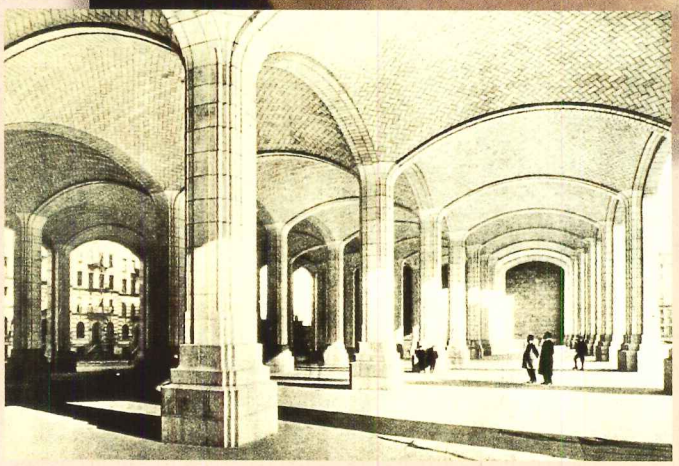
At the other end of the building, a soaring library space with storage capacity for 100,000 volumes is visible from the lobby through a clear glass wall. The library is defined by a thick, curving wall lined with bookshelves and an adjacent translucent-glass wall highlighted by one long desk with seating for 22. Set within the sprawling space are a children's reading corner, video-viewing cubicles, a forest of low shelves, and two courtyards—one open so bookworms can bask in the sun and the other a garden for eyes only.

Something of a maverick when it comes to public works, Ito wanted both the library and theater to be even more open and the boundaries between them and other elements even less distinct. But government officials were wary of blurring the lines between programmatic elements, and some local residents considered putting the theater and library together under one roof as plenty bold. Yet Taisha Bunka Place, with its striking yet approachable form, has succeeded in creating a strong presence in a place where none had existed before. ■

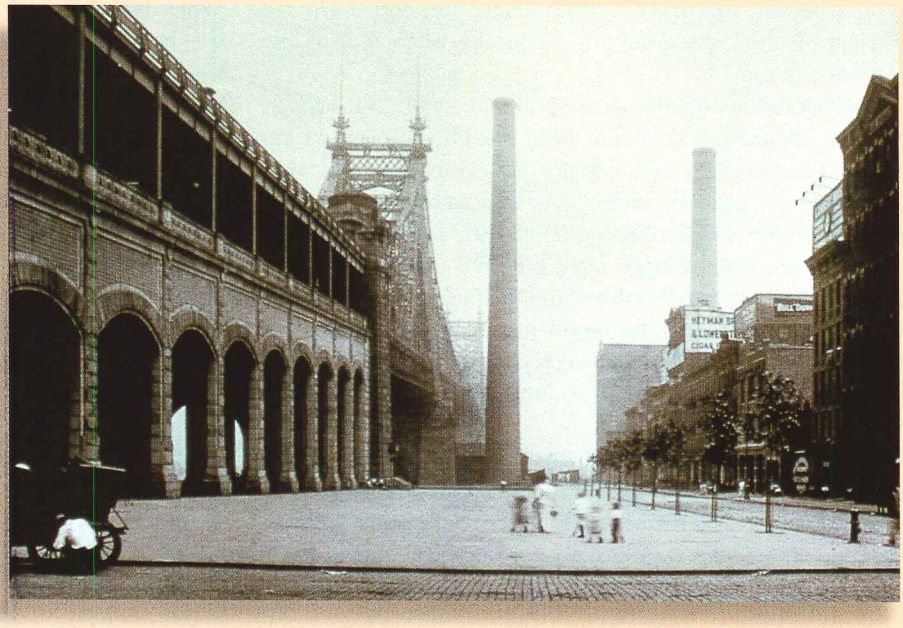
Sources

Steel curtain wall: *Yamaki Industrial Co., Ltd.*
Curtain-wall glass: *Nippon Sheet Glass Co., Ltd.*
Built-up roofing: *Fujita Kenzo Co.*
Theater seating: *Kotobuki Co., Ltd.*
Library chairs: *Idee Co., Ltd.*
Library tables: *Sobi Co., Ltd.*
Downlights and task lighting: *Koizumi Sangyo Corp.*
Interior ambient lighting: *Koizumi Sangyo Corp.*
Stage construction: *Morihei Stage Construction Co., Ltd.*

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



From its inception, the technologically sophisticated Queensboro Bridge has synthesized monumental architecture, seen here in the bridge's Manhattan approach (top), public space, dramatically shaped by Guastavino vaults (center), and adjacent open space (bottom).



PROJECT DIARY New Yorkers are singing the 59th Street Bridge song as they discover BRIDGEMARKET in a century-old space

By Thomas Mellins

Since its completion in 1908, the Queensboro Bridge has become the stuff of legend, a fabled gateway to a magical city. Its significance exceeds its roles as a major conveyor of traffic and an armature for electrical lines, and even goes beyond its grand visual contribution to the cityscape. In his novel of 1925, The Great Gatsby, *F. Scott Fitzgerald proclaimed, "The city seen from the Queensboro Bridge is always the city seen for the first time, in its first wild promise of all the mystery and beauty in the world."*

But cities are not composed exclusively of celebrated landmarks; cities also keep their secrets, holding fascinating places out of reach for natives and visitors alike. These places remain, in effect, hidden in plain sight until an individual or a group, equipped with sufficient knowledge and vision—not to mention organization, drive, and money—brings them back into the public realm. The soaring, vaulted space beneath the Manhattan approach to the Queensboro Bridge, between First and York Avenues and 59th and 60th Streets, was such a place, long shrouded in obscurity.

For nearly three decades, efforts to renovate the space now known as Bridgemarket constituted a roller-coaster ride through booms and busts, endorsements and protests, lawsuits and countersuits, traditionally inspired designs, and Modernist ones. In time, it was not only the bridge that possessed a mythic significance but also the plans to restore it. Ultimately, it took the sustained efforts of architects, developers, community leaders, and a host of city officials and municipal agencies to bring Bridgemarket to fruition.

Building bridges of communication and cooperation was as key to the project as restoring the landmark bridge itself. Throughout the long process of design and construction, all those involved faced two principal challenges: Could they respect the integrity of the bridge and simultaneously create a compelling commercial destination? And could they create a place that would be both a big draw and a public amenity valued by the adjacent neighborhoods?

1893–1918

A city on an island has two choices when it comes to growth: It can build skyward or can expand to the other side of the water. Nineteenth-century New York chose to do both.

In 1893, 10 years after the Brooklyn Bridge's completion forever changed New York City geography, plans were submitted for a second bridge spanning the East River. The project languished. Six years later, a design by Leffert L. Buck, an engineer who had worked on the Brooklyn Bridge, was selected. Public reaction to his utilitarian design was overwhelmingly negative. A newly appointed commissioner of the Department of Bridges, the engineer Gustav Lindenthal, worked with the architect Henry Hornbostel to redesign the structure, first known as Blackwell's Island Bridge. In 1908 the name changed to the Queensboro Bridge.

Lindenthal and Hornbostel turned to Louis-Jean Résal's Pont Mirabeau in Paris for inspiration. This European bridge was not a surprising design source; it was completed in 1895 when Hornbostel was a student at the École des Beaux-Arts.

The 7,000-foot-long Queensboro Bridge is at once practical and poetic. The roadways of the steel cantilevered bridge—the first of its type in New York—are ingeniously double-decked, allowing the structure to be elegantly narrow.

The steel skeleton of the bridge's Manhattan approach is sheathed in a terra-cotta-and-granite skin. In the residual space beneath the approach, rows of massive columns, covered in cream-colored terra-cotta tiles, support a canopy of tiled vaults crowning 30- by-30-foot bays. The bays vary in height—from 24 to 44 feet tall—because the ground slopes down

Thomas Mellins is an architectural historian and the coauthor of three books on the architecture and urbanism of New York City: New York 1880, New York 1930, *and* New York 1960.

Project: *Bridgemarket, New York City*
Owner: *City of New York*
Design Architect: *Hardy Holzman Pfeiffer Associates (Bridgemarket); Conran & Partners (Guastavino's and The Terence Conran Shop); In-House Design Team—Sam Burman, VP Planning & Design (Food Emporium); Rosenbaum Design Group (Food Emporium interior architecture); NYC Dept. of Transportation (tile restoration)*
Architect of record: *HHPA (Guastavino's, The Terence Conran Shop)*
Structural Engineer: *Goldstein Associates, Consulting Engineers, P.C.*
MPE Engineer: *Altieri Sebor Wieber; Clive Samuels & Associates*
Landscape Design: *Lynden Miller*

The Guastavino Fireproof Construction Company: The Spanish architect Rafael Guastavino y Moreno founded the Guastavino Fireproof Construction Company in New York in 1889, eight years after emigrating from Barcelona. The company specialized in terra cotta–tiled vaults, domes, and other architectural elements. Guastavino initially explored the possibilities of poured concrete as a fireproof material but was later convinced of the superiority of tile and believed in the enduring value of masonry. Adapting a time-honored Spanish vernacular building technique known as *boveda catalana* (Catalan vault), Guastavino developed a method in which tile courses were joined with a mix of Portland cement and Cow Bay sand.

The Guastavino Company's tiles were usually 6 inches wide, 12 inches long, and 1 inch thick—a dimension reputedly determined by the largest size a mason could pick up in one hand. Applied in a basket-weave pattern, the tiles were capable of spanning greater distances at a lower rise than stone. Furthermore, the company's total control over the design, production, sales, and installation of its tiles increased the speed and economic viability of construction.

Though trained as an architect, Rafael Guastavino y Moreno officially worked, after 1885, as a contractor and inventor. Upon his death in 1908, his son, Rafael Guastavino y Esposito, took over. The company worked with many well-known architects, including Henry Hornbostel; McKim, Mead & White; Warren & Wetmore; and Carrère & Hastings. Overshadowed by their famous collaborators, the Guastavinos were nearly forgotten by history. Largely through the efforts of the late George Collins, as well as Janet Parks, Alan G. Neumann, Angela Giral, and others at Columbia University, documentation of the Guastavinos' remarkable work has been preserved and their historic contribution more widely recognized.

toward the river, while the roof, supporting the roadways above, slopes up from the city streets to the bridge's river-crossing segment. The vaults contain four layers of backing tile and one layer of so-called face tile; each vault contains more than 1,600 face tiles.

To articulate and build this grandly proportioned hypostyle hall, Lindenthal and Hornbostel relied on the services of the Guastavino Fireproof Construction Company.

From the first, the space was intended to function as a farmers' market, with Long Island produce coming in over the bridge. The market was announced by cornucopias carved in stone on the bridge's towers. So successful was the operation that in 1916 the 120-by-275-foot marketplace was glazed for year-round use. Two years later, to supply the market's vendors with water, Evangeline Wilbour Blashfield, an early supporter of the Municipal Art Society, financed the construction of a granite fountain designed by Charles W. Stoughton. A carved bull's head functioned as a waterspout, and a colorful mosaic portrayed the figure of Abundance.

The marketplace flourished throughout the 1920s but could not survive the Great Depression. In the 1930s, the New York City

Department of Transportation (DOT) took over the space for use as a sign-painting shop, storage area, and parking garage. With utility triumphing over lively civic activity, the area surrounding the bridge gave way to industrial marginalia. As decades passed, the bustling marketplace faded from collective memory.

1918–1976

In 1972, the Office of Midtown Planning and Development launched the Queensboro Bridge Area Study, which catalyzed preservation and redevelopment initiatives. Referring to the former marketplace as "the cathedral," the study called for landmarking the bridge. The New York City Public Development Corporation advocated reuse of this city-owned space and initiated what would evolve into an elaborate, decades-long dance between public- and private-sector players.

In time, the PDC and its successor agency, the New York City Economic Development Corporation, would see the project through completion and coordinate all work between the developers, architects, and municipal agencies.

In April 1973, the New York City Board of Estimate approved a proposal to lease the space to the American Cinematheque at an annual rent of one dollar. Named after its Parisian counterpart, the proposed film center, designed by I. M. Pei & Partners in New York, was at once bold and site-sensitive: The design called for a mezzanine and, on an adjacent plaza, a drumlike theater adorned with supergraphics announcing the complex's name. In 1975, the project was terminated due to lack of funds, and the former marketplace, though given landmark status in 1974, remained largely unknown to the public.

Plans to transform the space into the International Fair, housing a mix of food shops, restaurants, boutiques, and movie theaters, were presented in 1975. Within two months, Community Board No. 8, representing the area directly to the north of the bridge, voted down the project, charging that it would cause congestion. The plan was derailed, reflecting the increasing decentralization of governmental power, the public's growing concern with density, and the widening rift between neighborhood groups and developers. With a nationwide recession in effect and the city government headed toward its own economic collapse, further development prospects looked bleak.

The nation's bicentennial, with its spectacular parade of tall ships in New York harbor, ushered in a period of civic pride and renewal. In the spring of 1977, the City Council's State Legislative Commission approved a proposal by the developer Harley Baldwin for a multilevel food market and restaurant complex under the bridge. As designed by the

New York City and Los Angeles firm of Hardy Holzman Pfeiffer Associates (HHPA), the development would incorporate a plaza with two historically referential, gable-roofed market buildings and a greenhouse, as well as an open area containing the Blashfield fountain. The Landmarks Preservation Commission approved HHPA's concepts for both interior and exterior renovation. The Board of Estimate and the City Council also approved the proposal, but progress was stymied by the New York State Assembly Committee on Cities, which argued that the city was getting a raw deal in its leasing agreement with Harley Baldwin.

1976–1996

In 1983 Baldwin established a partnership, Bridgemarket Associates, with Sheldon M. Gordon, who later stated that he immediately "fell in love with the space." The developers secured a contract with the PDC and sought to establish a marketplace for 50 to 60 independent food purveyors, modeled on the great food market in Lyon, France. The city granted a lease and subsequently altered it, potentially allowing the project to increase in size from 64,000 to 132,000 square feet. On July 8, 1986, the Landmarks Preservation Commission unanimously approved an enlarged scheme by HHPA. Less than a year later—and 14 years after the city first approved leasing the space to a commercial enterprise—ground was finally broken.

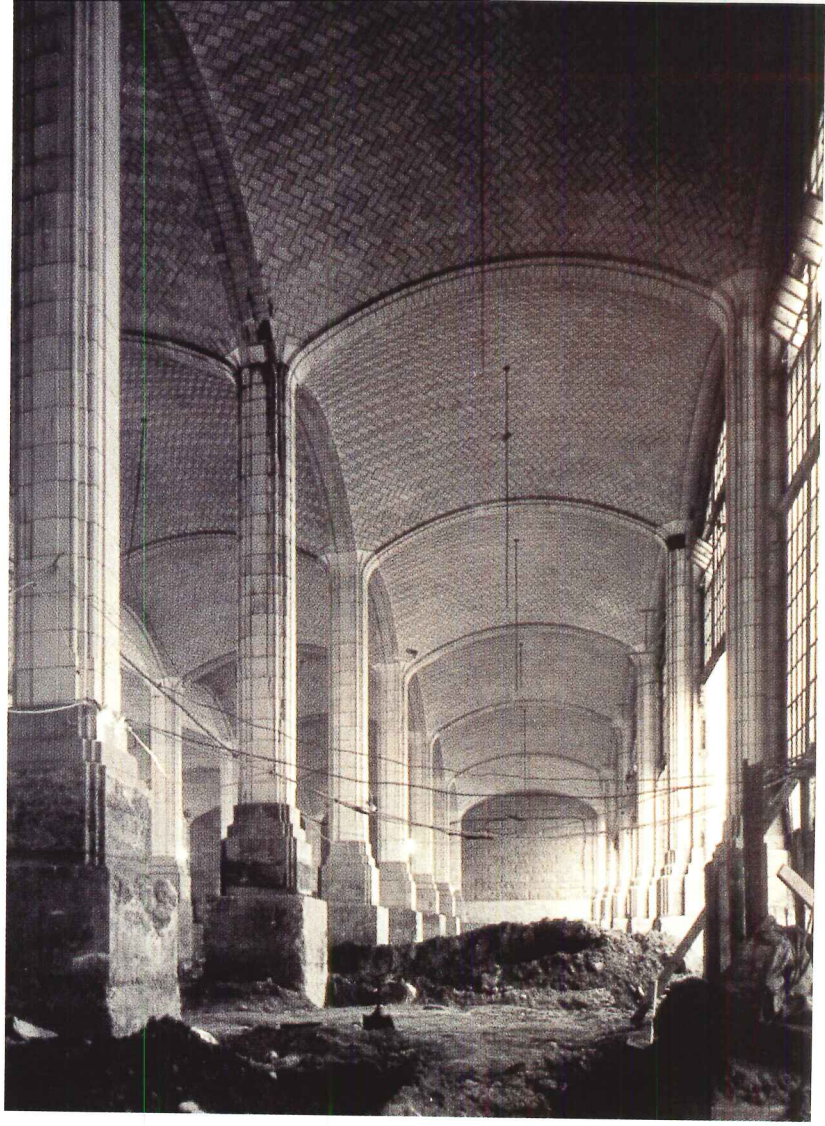
After only 10 months, construction was halted by a lawsuit brought by the Sutton Area Community, Inc., representing an affluent neighborhood just south of Bridgemarket, which sought to block the enlarged project. The group feared the project's impact on the area and charged that the city and Bridgemarket Associates could not legally proceed without additional approval from the Board of Estimate. The developers lost their title insurance and Bridgemarket's lenders suspended their financial commitments. Other suits, countersuits, negotiations, compromises, and two court rulings in favor of the community group followed, almost burying the project forever.

In 1993, while awaiting a third court ruling, the community group proposed new uses for the site, including a museum of transportation, sculpture garden, or sports center. In 1994 New York State's highest court, the Court of Appeals, ruled against the Sutton Area Community, Inc., arguing that the city and developers had received all necessary approvals, and Bridgemarket went forward.

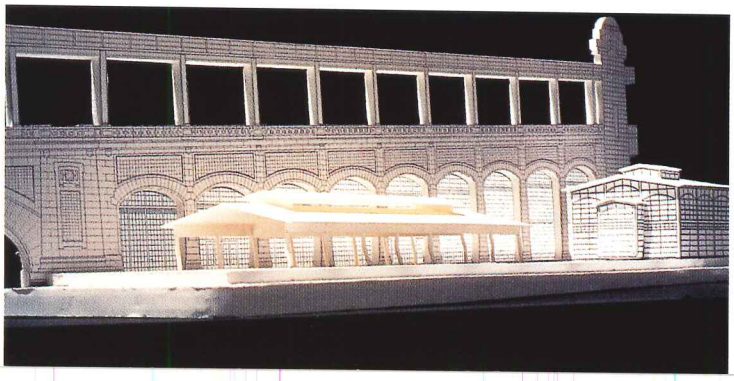
1996–2000

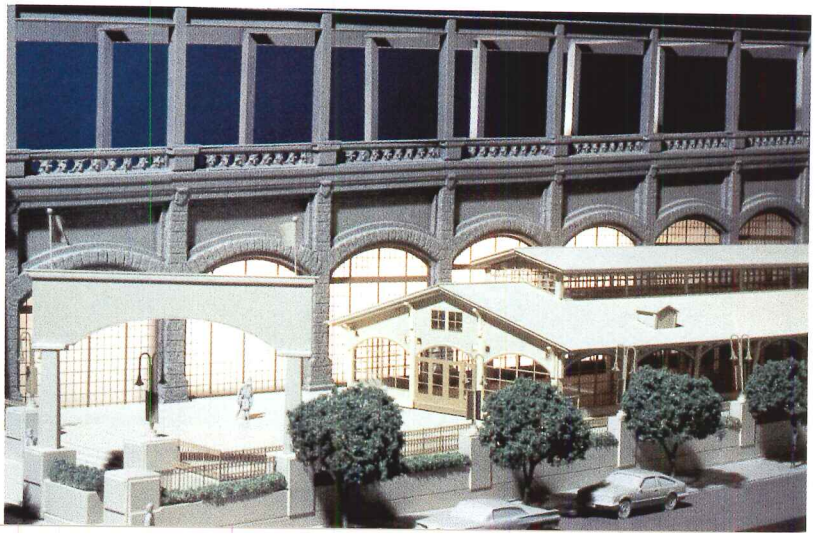
In 1996, as part of a $42 million government-funded restoration of the bridge, the DOT began to restore the Guastavino tiles, many of which were in excellent condition, despite the vibrations and severe weather endured by the bridge for nearly 90 years. Still, around half of the face tiles had to be replaced and four vaults at the eastern end of the hall completely rebuilt. The DOT also began replacing the former marketplace's exterior industrial sash with specially designed frames containing double-pane glass panels that are both energy-efficient and stylistically appropriate to the landmark structure.

By this time, Bridgemarket's leases with individual tenants had expired, and dramatic downshifts in the real-estate market led to a restructuring of the project to involve only two tenants. Bread and Circus, a chain of food stores, leased 38,000 square feet, occupying six vaults. Conran Holdings—the London-based operation of retailer, restaurateur, and designer Sir Terence Conran—had been looking to open a Terence Conran Shop, featuring furniture and housewares, in New York. The Terence Conran Shop (Manhattan) leased 35,000 square feet at

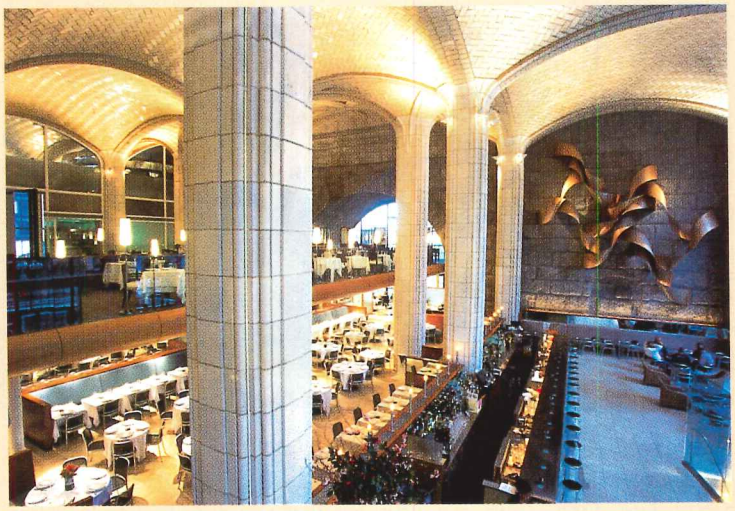


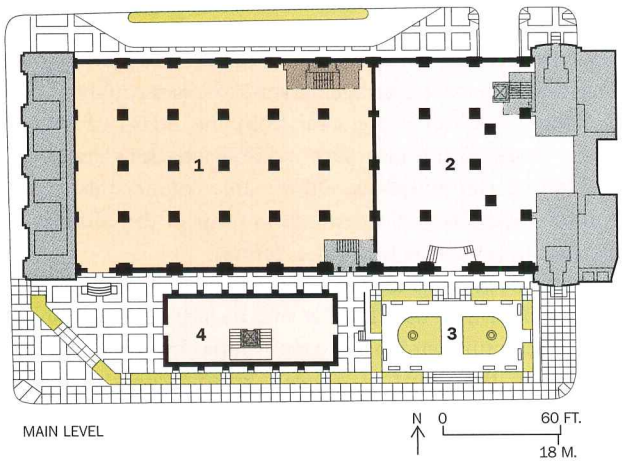
In time, the bridge physically deteriorated and the area around it was degraded as a parking lot (opposite, top right). Excavation for Bridgemarket (above right) began in 1987 but was halted the following year. Hardy Holzman Pfeiffer Associates' early plans called for historically referential market buildings (below and right).



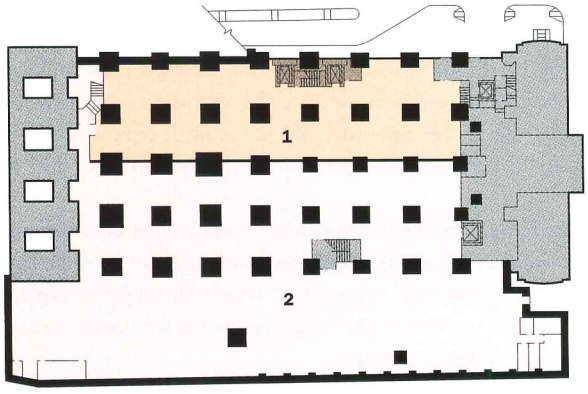


Guastavino's Restaurant: Ever since the restaurant opened in February, crowds have been flocking to Guastavino's voluminous recesses. The bar in front soars to a dramatic 44-foot height (below); behind it, an independent steel frame structure allows double-decker dining with a brasserie on the ground floor and a posh club-type restaurant above (bottom). A spiral stair, clad in off-white marble, sweeps up to the hull-shaped mezzanine faced in cherry wood. Other than those stunning moments, the interior fittings are bland; Conran & Partners opted for a non-design look with metal chairs and banquettes on the ground floor, and wood chairs and carpeting above. There is Space. Heightening the architectonic quality of the interior is halogen uplighting attached to piers. In contrast, downlighting with two-inch apertures in the soffit of the brasserie ceiling gives that space a sense of intimacy. A striking effect (when crowds thin out enough to see it) is the laminated glass bar siding with fiber-optic lighting, which also emits a glow through glass rondels in the aluminum counter. The most unfortunate lighting comes from the aggressively harsh glare of the metal halide streetlamps in the courtyard. Evidently, the lamps, very visible through the glazed arches, were installed with the wrong color. But reportedly this is being corrected. *S.S.*





MAIN LEVEL

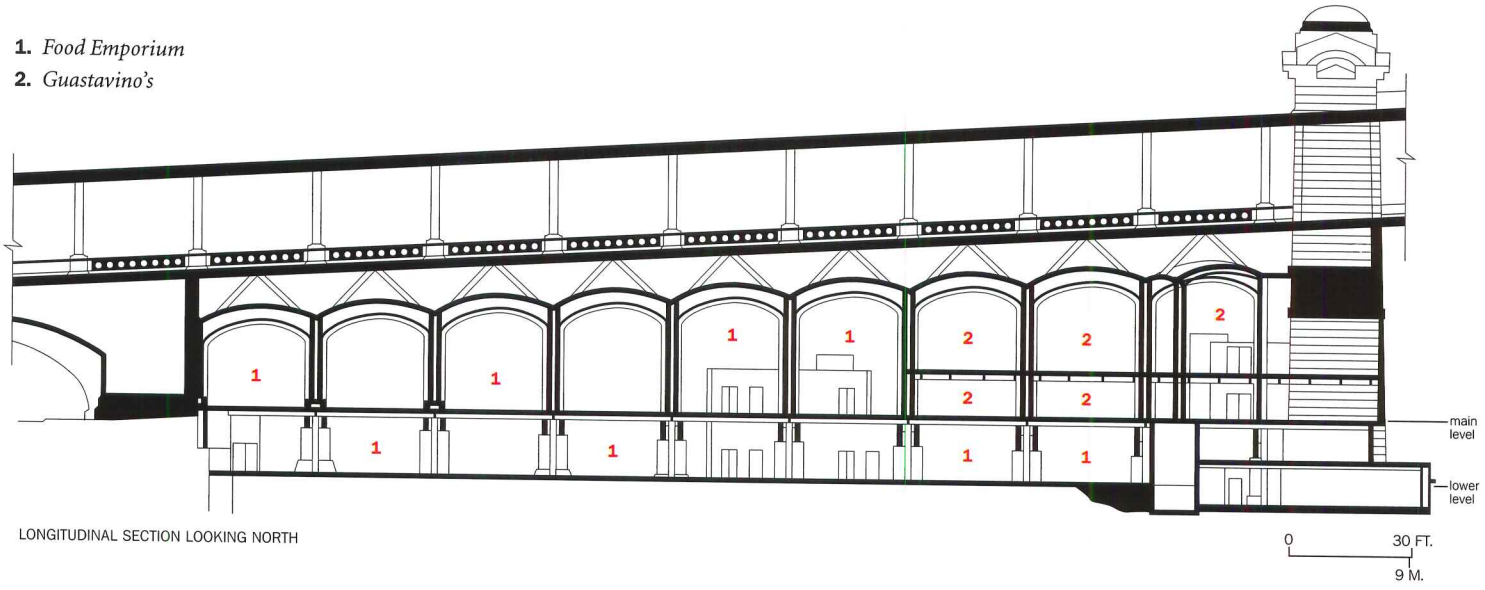


LOWER LEVEL

1. *Food Emporium*
2. *Guastavino's*
3. *Landscaped plaza*
4. *The Terence Conran Shop*

As realized, the elegantly articulated Modernist forms of the Terence Conran Shop (above top and bottom) provide a striking contrast to the muscular 19th-century bridge. Landscaped open areas (opposite, top right) play an important role in the overall project. Incorporating all the requisite features of an up-to-date supermarket, the Food Emporium respects the existing architecture and leaves the soaring vaults clearly visible throughout the space (above).

1. *Food Emporium*
2. *Guastavino's*

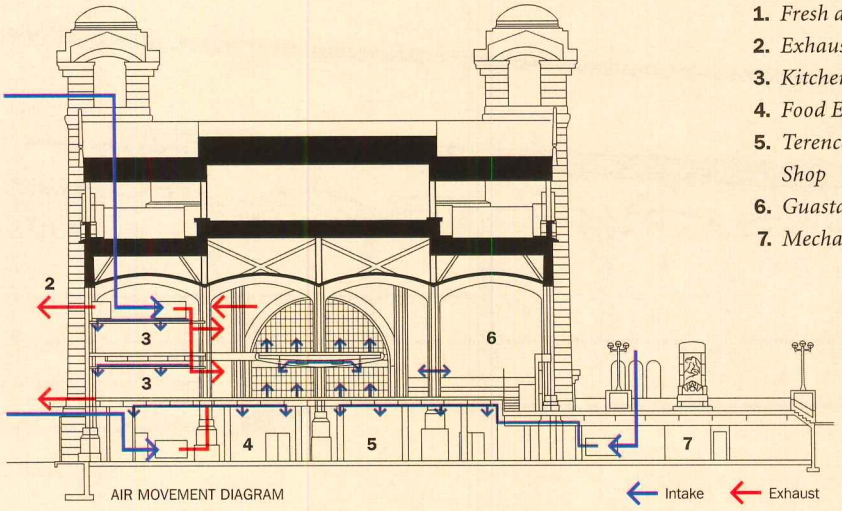


LONGITUDINAL SECTION LOOKING NORTH

At night, Bridgemarket serves as a beacon and a destination within a rapidly redeveloping section of the city (this page and opposite).

Technical Challenges: Building beneath the Queensboro Bridge presented significant technical challenges. Landmark guidelines barred any new penetrations in the existing structure. Furthermore, no additional loads could be placed on the bridge. All new columns and slabs, including the level floor that replaced the sloping, unpaved ground of the former marketplace, required complete structural independence from the bridge. Imposed by necessity, this feature had an advantage: It obviated the potential problem of vibrations from overhead traffic disrupting diners below.

Integrating the mechanical systems of the restaurant and market was particularly difficult. The north and south facades have glass curtain walls with limited louvers, and because the bridge's roadways are located directly above, no usable space exists above the vaulted ceiling. Ducting could not be embedded in the walls or hung from the ceiling, so how could the architects provide the modern infrastructure necessary for large-scale commercial operations? All mechanical systems rise from beneath the floor slab with services grouped together as much as possible. The architects threaded ductwork through available interstices: inside the restaurant's new mezzanine, in the casework between the supermarket aisles, and in a former elevator shaft within one the bridge's stone piers (once used to transport pedestrians to the marketplace). In the Terence Conran Shop, glass walls and an extensively glazed ceiling presented similar problems; there, ducting was clustered around the elevator shaft and the vestibules. The ingenuity is impressive. Despite the complexity of the problem, as HHPA senior associate Pam Loeffelman, AIA, puts it, "Bridgemarket has a certain 'Look Ma, no hands!' quality to it."



1. *Fresh air intake*
2. *Exhaust*
3. *Kitchen*
4. *Food Emporium*
5. *Terence Conran Shop*
6. *Guastavino's*
7. *Mechanical rooms*

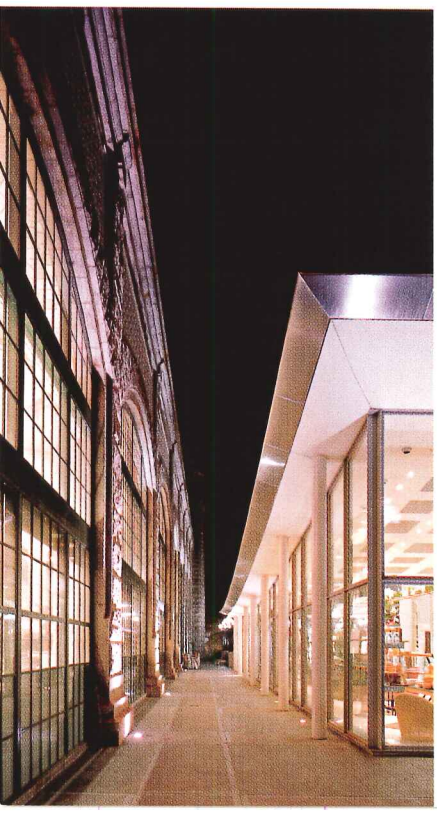
Bridgemarket, 32,000 square feet of it below grade. Additionally, Guastavino's Inc., owned by Conran Holdings and Joel Kissin, leased, for a restaurant, 26,000 square feet beneath the three tallest bays at the eastern end of the vaulted space.

Conran & Partners was particularly excited about the historic, vaulted space, and confident that it could be transformed into a visually dynamic and functionally effective restaurant. This sense of assurance was in part based on previous experience; the firm had turned several architecturally significant, but neglected, spaces into some of London's leading restaurants, hotels, and shops. Conran & Partners, working with HHPA, planned to slip a mezzanine into the restaurant space and add a glass-and-steel partition between the market and the restaurant, as well as one between the restaurant's dining areas and kitchens. Additionally, the earlier scheme for historicizing market buildings on the plaza was replaced with a proposal for a Modernist, glass-walled pavilion to serve as the entrance to the Terence Conran Shop.

The New York City Landmarks Preservation Commission gave its third and final approval to the long-evolving project.

As built, the Terence Conran Shop has a concave, curved, metal-edged roof, perforated with a grid of glass-block skylights, providing a visual foil to the monumental bridge. Below grade, the extensive selling area is punctuated by the bridge's massive footings, a powerful reminder of the landmark's presence. To James Soane, Conran & Partners' project director for Bridgemarket, the "archaeology of the piers makes being underground much more interesting and enjoyable."

Inside Guastavino's, the space has been transformed to meet the functional requirements of a restaurant, without diminishing the feel of the existing architecture. The restaurant has three distinct areas, each with a different program: a bar near the entrance, an informal bistro on the same level, and a more formal restaurant on the mezzanine. Separate kitchens service each level. The bar area includes a striking wall sculpture, made by the artist Thomas Heatherwick of twisting strips of birch plywood. Modernist in style, the architectural interventions complement, rather than mimic, the vaulted space, though custom-designed carpet on the mezzanine level wittily adopts the basket-weave pattern of the tiles overhead. The mezzanine, as HHPA founding partner Hugh Hardy, FAIA, puts it, was "designed and detailed as if it were a piece of fine furniture." Soane also discerns in the design of this riverside restaurant a subtle narrative aspect: The mezzanine, with its sensuously curved, timbered underbelly, abstractly evokes a boat form, while the colors and textures of the dining space below suggest an urban beach.



At its eastern end, the mezzanine terminates in a dining area, ingeniously nestled within an arch of one of the bridge's stone piers. The room provides breathtaking views both indoors and out. To the west, one can survey the forest of columns and vaults not only in the restaurant but also through glass walls above the kitchen and the market. To the east, the great bridge's underside is visible. The thoroughly unexpected vistas, according to Hardy, "beat Piranesi." The entire interior's architectural qualities are enhanced by a key intervention: a lighting scheme by Fisher Marantz Stone Inc.

In 1998 The Great Atlantic & Pacific Tea Company (part of A&P supermarkets) was successful in finalizing lease negotiations for the major portion of the vaulted space adjacent to Guastavino's to house a Food Emporium supermarket.

Essential to the design of the Food Emporium, as well as that of Guastavino's, is the overall sense of spatial volume and the drama of columns and vaults. Additionally, as Sam Burman, Vice President of Planning and Design for A & P, points out, preserving transparency to allow for vault views, particularly from the plaza, was paramount. This goal was achieved even though wall space is a highly valued commodity in retail operations.

Throughout the project's long evolution, the issue of public space remained central. Public park designer Lynden B. Miller's plaza steps down to meet 59th Street with a sensitively designed wall of varying heights that not only borders planting beds but also invites passersby to sit, lean, and linger. A formal garden incorporating the Blashfield fountain functions as an entrance court to the restaurant and as a quiet neighborhood oasis.

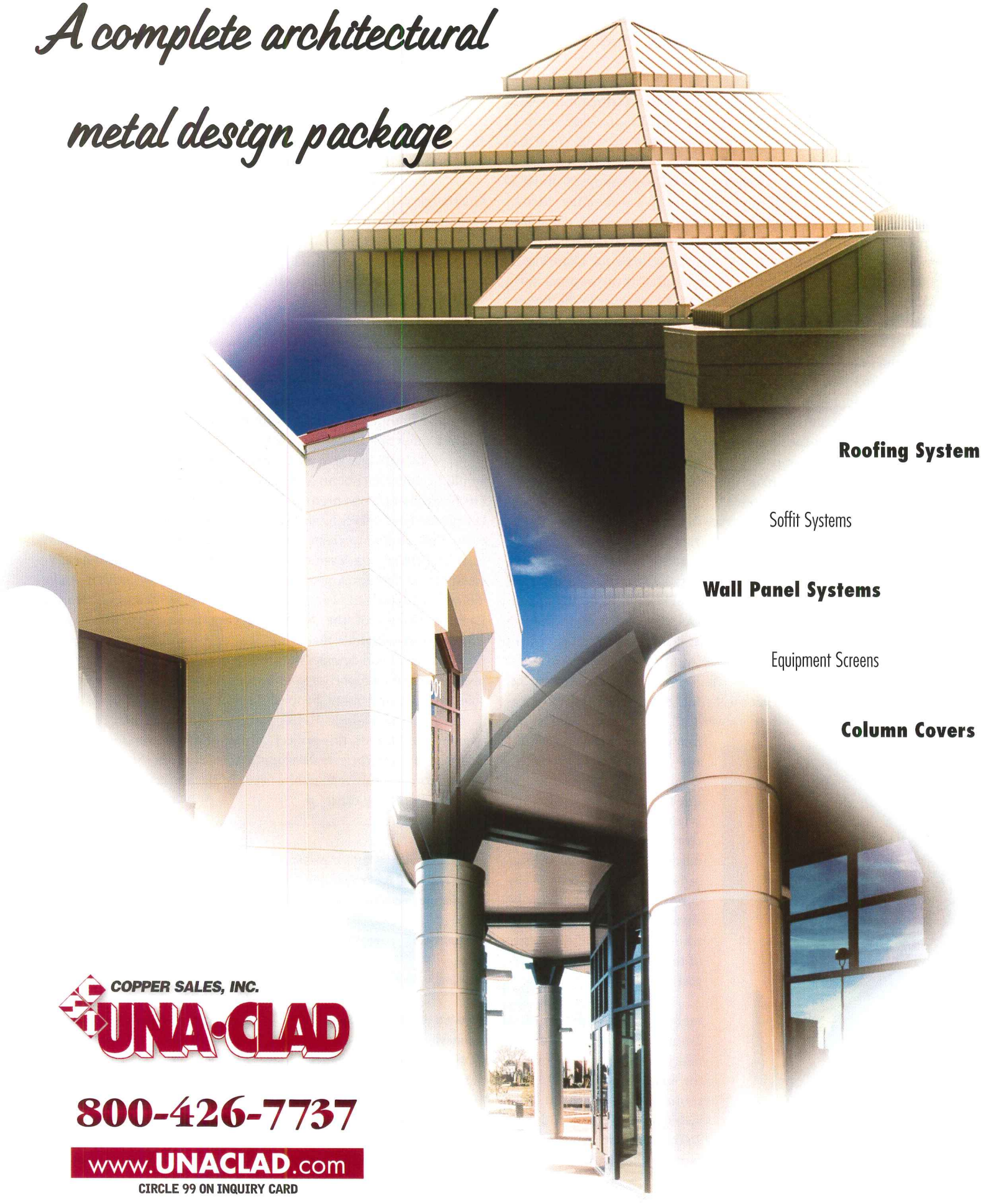
To call Bridgemarket's path to completion vicissitudinous would be understatement. As Kissin puts it, "Every project is a journey, but Bridgemarket was more of a journey." Amid ups and downs, some key players kept all eyes focused on the bridge and its Guastavino vaults, even while aiming to create effective commercial and civic spaces. As Pam Loeffelman, AIA, a senior associate at HHPA, succinctly states, "We stuck with it. The developers stuck with it. The city stuck with it. And in the end, the landmark won. It got to be what it wanted to be." Jennifer Raab, chairman of the New York City Landmarks Preservation Commission, contends that while friction historically exists between preservationists and developers, "preservationists need sponsors who will invest in historic properties to ultimately make great architecture available to more and more people." Realization of the project seemed daunting at times, admits HHPA partner Hugh Hardy after 23 years on the job. But, he adds, this project is "part of a great and long-standing tradition of public/private development in New York City, which makes design more responsive to public need. Bridgemarket is truly an urban amenity unlike any other." ■

Sources

Pavilion curtain wall: *Bliss-Noram*
Stainless-steel roof edge: *ASF Glass*
Exterior curtain wall: *Hopes' Curtain wall*
Fountain restoration: *Petrillo Stone Corp.*
Decorative fence and rails: *Burgess Steel*
Glass block: *Circle Redmont*
Guastavino's:
Kitchen curtain wall: *Fox Steel, Floral Glass, Tower Glass, ICD*
Wood floating ceiling: *Rulon*
Door hardware: *D-Line*
Vault uplights: *Edison Price*
Bar fiber-optic lighting: *Fiberstars*
Crustacea mosaic tiles: *Bisazza*
Drapery: *Bute Fabrics, Ltd., Kvadrat*
Other lighting: *Bartco, Edison Price, RSA Lighting, Winona Lighting, Luminary Tools*
The Terence Conran Shop:
Display fixtures: *Bench Mark*
Stone flooring: *Granitello Agglomerate Marble*
Lighting: *Bartco, Edison Price, RSA Lighting, Winona Lighting, Luminary Tools*

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

A complete architectural metal design package



Roofing Systems

Soffit Systems

Wall Panel Systems

Equipment Screens

Column Covers

COPPER SALES, INC.

UNA-CLAD

800-426-7737

www.UNACLAD.com

CIRCLE 99 ON INQUIRY CARD

TEC offers you 18 new, up-to-the-minute shades of ***AccuColor***® sanded and unsanded grouts and caulks. Tastefully blended to coordinate with today's tiles.

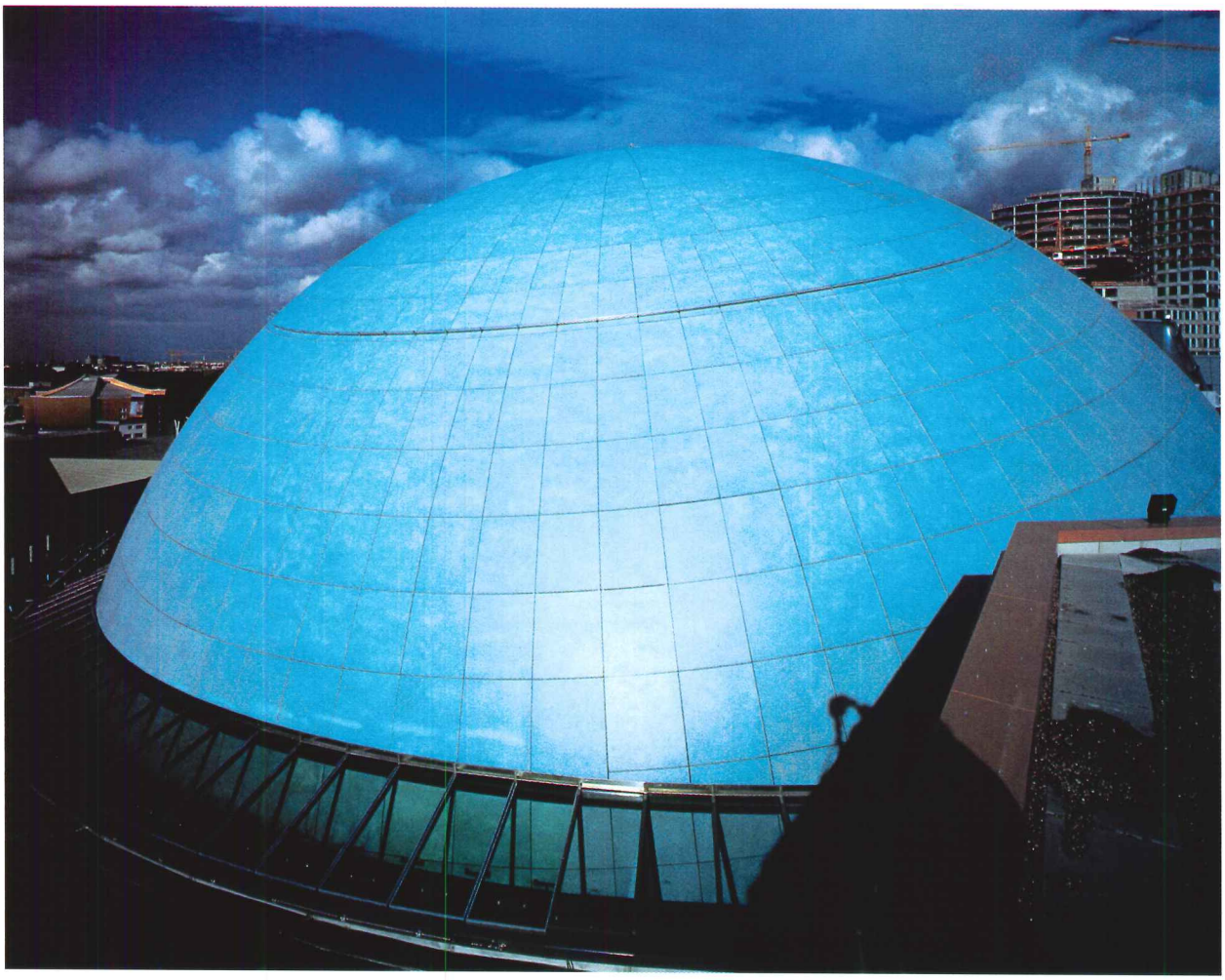
Call ***1-800-323-7407*** today for a free color selection guide.

TEC®

an H.B. Fuller company

CIRCLE 360 ON INQUIRY CARD

Michelangelo's work is without equal on the inside but look what Buchtal can do on the outside !!!



When the renowned European architect, Renzo Piano, was asked to create a very special look for the new IMAX theater in Berlin, he turned to Buchtal - the only ceramic manufacturer able to produce what he wanted. The 20,000 s.ft. surface of the dome is now covered by ceramic panels, curved in two directions and some as large as 4 ft. in height, giving the impression of a globe, glittering at night and reflecting the sun and clouds by day.
This unique project clearly demonstrates that Buchtal continues to be the industry leader in project ceramics. Whether it's a special size or a particular color you want, Buchtal should be your first call. You can find us on the web at www.buchtalusa.com or call us at 800-584-5501

BUCHTAL
Corporation USA

The leader in architectural ceramics

CIRCLE 361 ON INQUIRY CARD

RESTAURANTS

Dining on Design

SOME PEOPLE GO TO RESTAURANTS FOR THE FOOD; WE GO FOR ARRESTING SETTINGS THAT RESULT FROM THOUGHTFUL SOLUTIONS TO UNCONVENTIONAL SPACES.

1.

New York City

For Métrazur, in Grand Central Station, Tsao McKown Architects create an understated, modern look that still reinforces the architecture of the Beaux Arts enclosure.

2.

Chicago

Blackbird restaurant attracts the dressed-in-black crowd with an astringently and surreally minimal setting conceived by Tom Schlesser.

3.

New York City

At Danube, chef David Bouley, Kevin White, AIA, and decorator Jacques Garcia reprise the Vienna Secession as an architectural correlative for Austrian cuisine.

4.

London

Rick Mather, an American architect who has had an office in London since 1973, specializes in spatially expressive interiors with a modernist vocabulary.

By Suzanne Stephens

The public seems to be more intrigued than ever with design these days, judging from incidental observations of restaurant-goers, especially in New York during the last few months. Crowds are thronging to hang out in Diller and Scofidio's aerodynamic Brasserie in the Seagram Building [March, page 29] and Conran Design and HHPA's robust Guastavino's at Bridgemarket [this issue, page 240]. Wandering about these environs are also architects, who debate strengths and weaknesses of one restaurant in adjusting to the basement space of Mies' landmark, or the other in fitting in the undercroft of the Queensborough Bridge.

These eateries are not alone in imaginatively solving thorny architectural issues. A selection of restaurants on the following pages address other spatial problems in inventive ways. Métrazur in New York, a restaurant by Tsao and McKown, creates a distinct environment inside a very distracting and famous work of architecture, Grand Central Station.

Blackbird, in a once-scuzzy, freestanding building in an up-and-coming industrial zone of Chicago, has been transformed by Thomas Schlesser, and later finished by Demian Repucci, into a hyper-clean, pared-down restaurant with an eerily luminous facade.

At Danube, in New York City's Tribeca, the thick atmosphere of Vienna in 1900 has been reconstituted by architect Kevin White, AIA, and decorator Jacques Garcia. Remarkably, they did so within the confines of a triangular floor plan in a 19th-century loft building.

Finally, with Avenue, in London, Rick Mather has made the most of an impossibly long, narrow space by emphasizing its idiosyncrasies with a modernist vocabulary.

Spatial ingenuity and the adroit use of an architectural vocabulary are well and good, but specific factors, both functional and aesthetic, determine the success of a restaurant as much as its overall concept. Two food critics with a strong design sensibility, William Grimes of the *New York Times,* and Peter Elliot, radio host of the *Bloomberg Executive Dining Guide,* are adamant about the importance of traffic flow, lighting, color, acoustics, and kitchen placement to the dining experience.

Such concerns may sound basic, but the two critics argue that many architects are clueless about solving them. They remind us that nonarchitects can seize the day, generating atmosphere and intimacy with just banquettes and booths, soft lighting and color. Since architecture does offer so much more, heed needs be paid to such details. ■

Métrazur
New York City

1 **TSAO AND MCKOWN DEFINE A SUBTLE NEW RESTAURANT AND LOUNGE IN THE SHADOW OF GRAND CENTRAL'S HISTORIC SKY CEILING.**

By Craig Kellogg

Architect: *Tsao and McKown Architects—Calvin Tsao, AIA, principal; William P. Bowick, Sam Bargetz, Aaron Brumer, Sebastien Boissard, Walter Froetsher, Neil Garrioch, Phillip Gulotta, Dana Kozar, Daniel LaPorte, Paul Lee, Zack McKown, AIA, Randy Pregibon, Erika Ratvay, Neil Troiano, Eric Tsay, Lily Wan, Raymond Wobbe, design team*
Client: *East Balcony Restaurant Associates (Charlie Palmer and Tony Fortuna)*
Engineers: *Goldstein Associates (structural), Cosentini Associates*
Consultants: *Louise Fili, Ltd. (graphics), Domingo Gonzales Design (lighting), Shen, Milsom and Wilke (acoustical), American Kitchen Consultants*
Contractor: *Sweet Construction*
Size: *8,000 square feet*
Cost: *$2.8 million total*

Sources:
Onyx wall: *Stoneworks—Vladimir Obrevko (fabricator)*
Terrazzo: *D. Magnon Co. (fabricator)*
Wood floor: *Haywood-Berk Floor*
Paint: *Benjamin Moore; Pratt and Lambert*
Carpet: *Patterson Flynn & Martin; ABC Carpet*

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

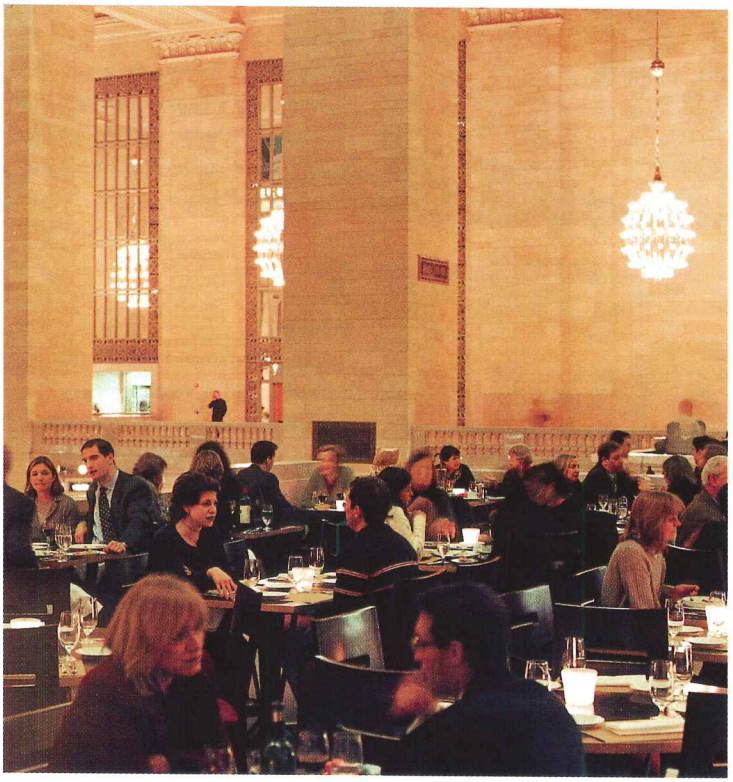
Program

Though it has always been crowded with white-collar Midtown commuters, Manhattan's Grand Central Terminal once seemed an unlikely place for a glamorous restaurant. But during the building's lavish renovation by Beyer Blinder Belle, [February 1999, page 84] a new bifurcated stone stair—originally planned but not realized—was built to link the station's concourse level with the East Balcony. Knowing it would be perfect for people-watching and dining, the building's landlord, the Metropolitan Transportation Authority, seized the chance to install an eatery similar to the upscale Michael Jordan's—The Steakhouse NYC, which is visible on the West Balcony.

To succeed, the new restaurant would have to establish an identity and intimacy within the vast open space. For Michael Jordan's, the Rockwell Group created a distinctly themed presence—where amber-toned lighting and floating wood walls recall deco-era streamlined trains. But the new East Balcony restaurant was not to be such a world-within-a-world. In order to preserve existing sightlines, the MTA prohibited any structures or additions that could be seen from the midpoint of the vast, historic room.

Solution

Tsao and McKown Architects, who had inserted chic restaurants within department stores in Asia, came up with a no-nonsense plan. On one side of the stair is a bar with a nearby lounge under a terminal arch; on the other side of the stair is a sit-down dining area accommodating 90, with a presentation kitchen under an arch. The main kitchen is out of sight, as is a private dining room adjoining the south terrace, which seats 30.

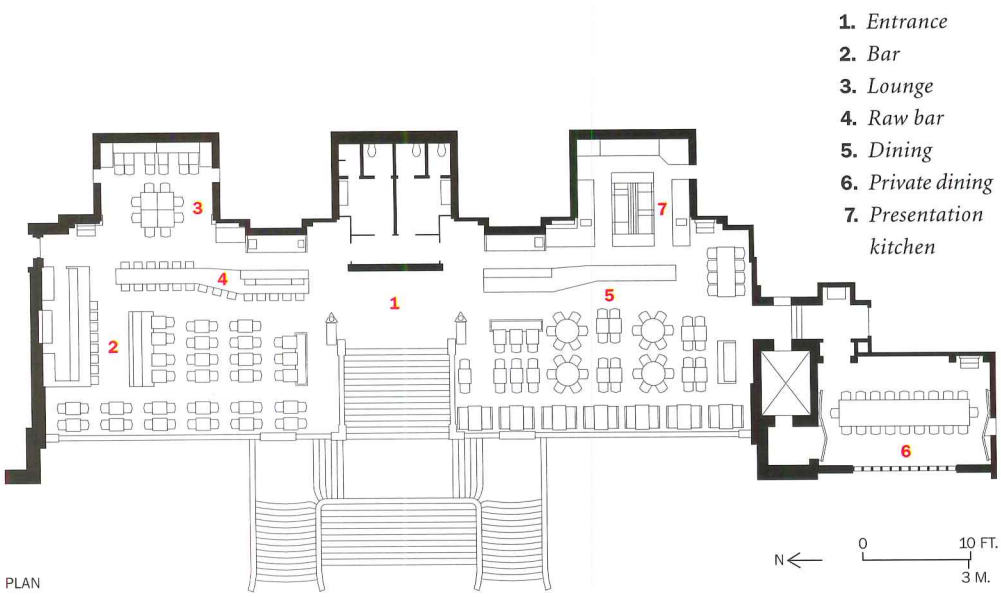


Materials/Lighting

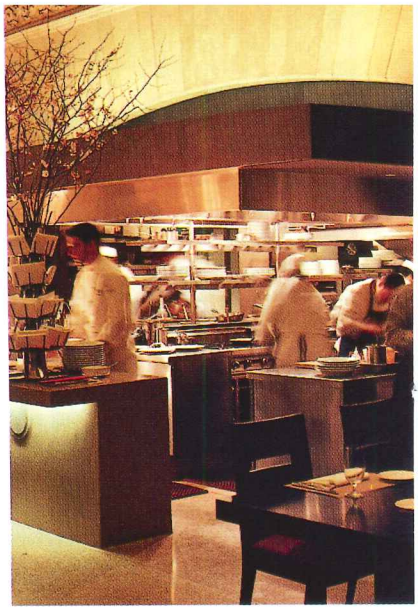
A backlighted beacon greets diners at the top of the central stair, where the veins of book-matched onyx panels subtly form the letter M, for Métrazur. Dark Honduran mahogany chairs and banquettes were designed by Calvin Tsao, AIA, who edged the tabletops in a satiny raw bronze, a reference to the original metal detailing of the 1913 terminal building. Similarly, the balcony's tan terrazzo floor inspired the new terrazzo countertops for the raw bar and the presentation kitchen.

Fluorescent fixtures under these counters provide some of the only highlighting installed at

An originally planned stair, only recently built in Grand Central, now divides the balcony into the bar and lounge on the north side, and the sit-down dining area and kitchen on the south. Initially, a pair of candelabra marked the entrance; owing to their price and a strict interpretation of the fire code, they have been replaced by artificial lemon trees.



PLAN



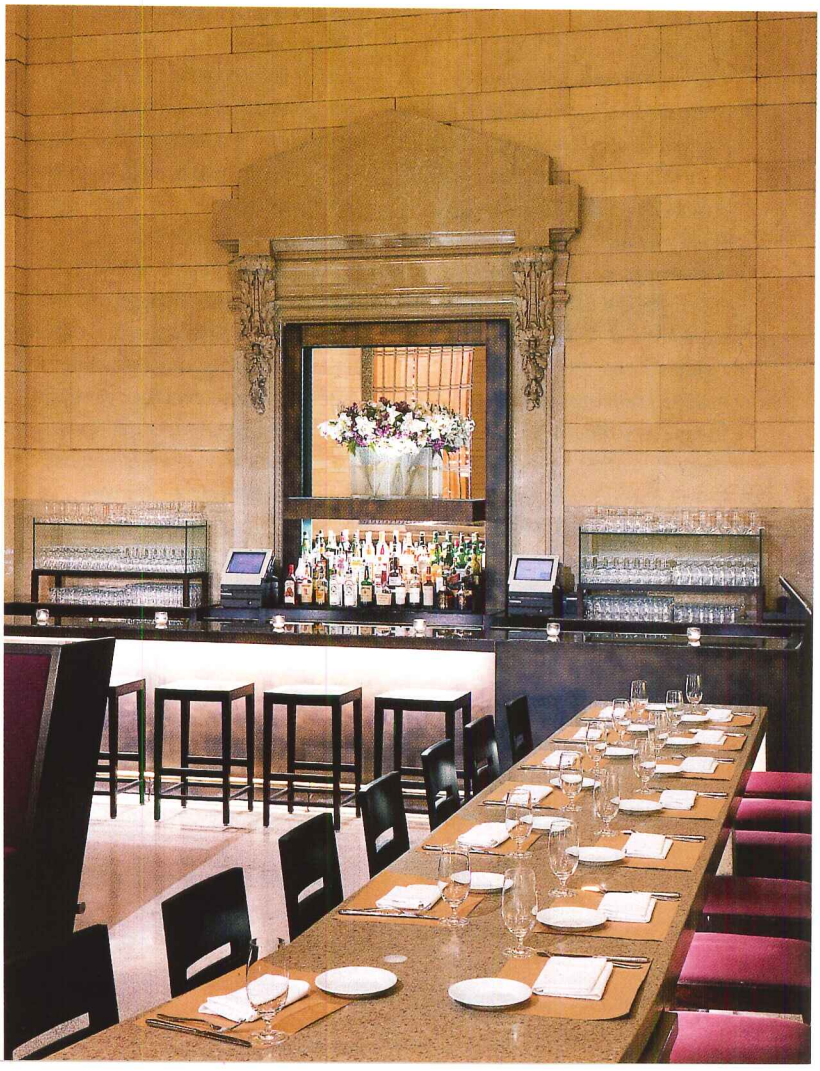
Métrazur. Supplementing the fairly bright ambient light that originates beyond the limits of the restaurant was especially difficult. Owing to the extreme height of the ceiling, spotlighting individual tables proved impossible. Instead, the architects specified large Fresnel lens-style votive candleholders for nighttime dining. A pair of $35,000 seven-light Italian Renaissance-style candelabra initially marked the summit of the stair. They were banished, however, in favor of two artificial lemon trees. "Once the candelabra were gone, they were missed," remarks Zack McKown, AIA. "The trees are the owners' attempt to fill the void."

Commentary

Métrazur offers a low-key, quietly elegant (perhaps too quiet) alternative for New Yorkers weary of aggressively themed eateries. Silhouetted against the luminous onyx wall, guests and staff discreetly advertise the restaurant. On the terraces, the architects were limited to low, movable furniture, so the scale and grandeur of the Beaux Arts terminal threatens to overwhelm any sense of intimacy. More comfortable and soigné is the private dining room, where the architects controlled the lighting and the view. But the variety of spaces at Métrazur—from large and very public to insular and private—offers a range of settings. ■

The presentation kitchen (left) supplements the hidden one; a recessed alcove (right) has become a lounge adjoining the bar.

The private dining room (above) reveals a glimpse of a chandelier beyond the large interior window framed by cotton-silk curtains.



A gleaming Honduran mahogany mirror (right) and 36-inch-high terrazzo bars add elegant notes.

Blackbird
Chicago

2 **THOMAS SCHLESSER COMES UP WITH A CLEAN AND LEAN SCHEME FOR RENOVATING A SMALL BRICK BUILDING IN A FRINGE AREA WEST OF THE LOOP.**

By Cheryl Kent

Architect: *Thomas Schlesser, design (phase 1 and 2); Demian Repucci, design (phase 2)*
Client: *Rick Diarmit, Paul Kahan, Donald J. Madia, Eduard Seitan*
Consultants: *Sound Investments (acoustical)*
Contractor: *Novelli Builders*
Size: *6,000 square feet, two stories*
Cost: *$600,000*

Sources
Custom furnishings: *Thomas Schlesser (design, chairs, first-floor bar and stools), Kinsel Design (manufacturing); Demian Repucci (design, second-floor bar), Kinsel Design (manufacturing)*
Storefront: *Kawneer*
Glazing: *LOF; Polygal (plastic)*
Hardware: *D-Line, Modric*
Paint: *Pittsburg Paint*
Plastic laminate: *Corian*
Upholstery: *Knoll*
Carpet: *Bentley*
Downlighting: *Halo*
Plumbing fixtures: *Porchere (lavatories), Grohe (faucets), Toto (water closets)*
Computer software: *All Plan*

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

Program

By day, Randolph Street is a scruffy market street; at night, its other personality emerges, as a home to hip restaurants. Blackbird alighted at the edge of this changing strip in 1997 with ambitions of attracting a flock of the city's most discerning and chic diners. The owners, who had found a conventional two-story brick building that was all but abandoned, hired Thomas Schlesser, a young architecture-trained designer, to create an understated place that would not overwhelm the experience of eating. "The color in here is the people and the food," says Donald Madia, one of Blackbird's four partners.

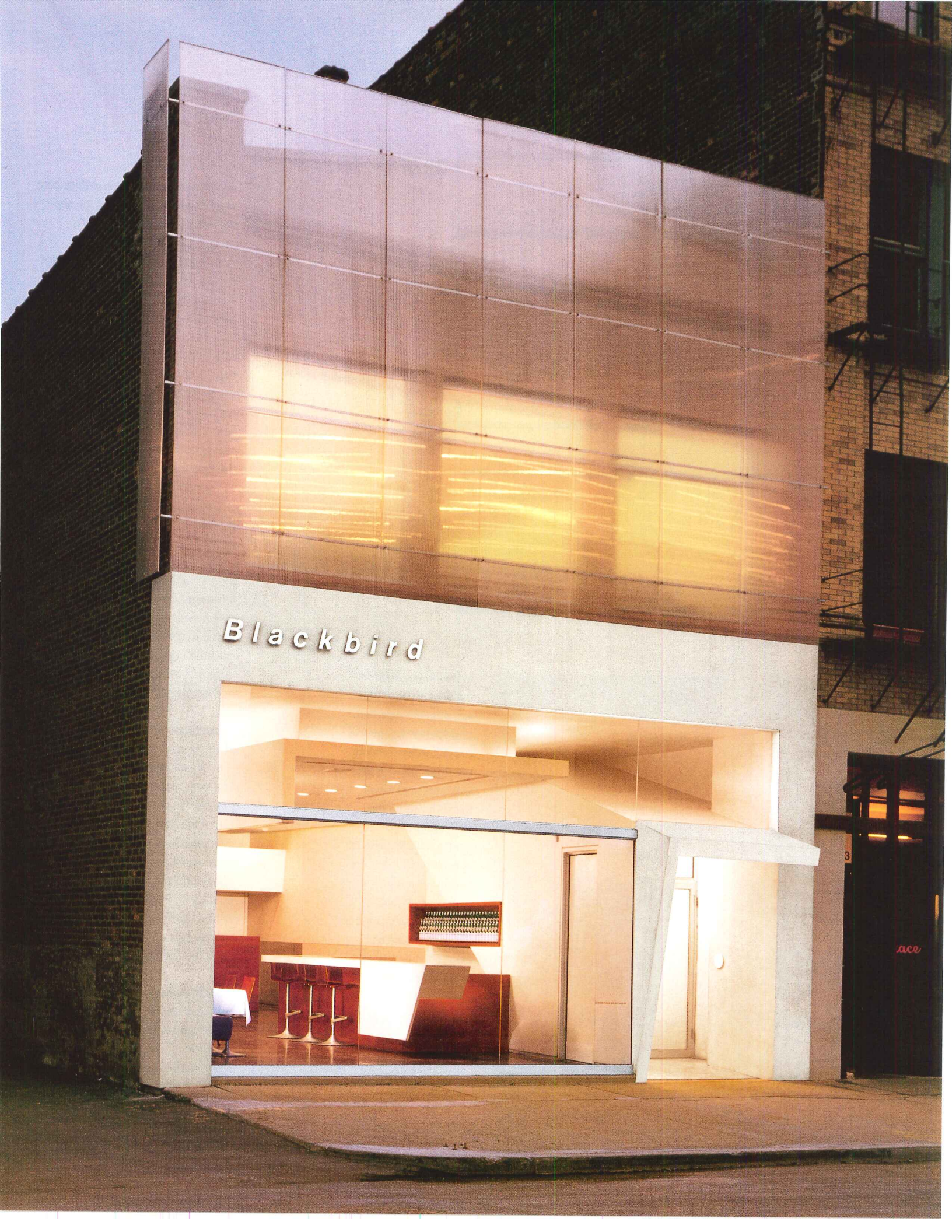
Schlesser came up with the general concept, although only the first floor was finished for the opening in 1997. Eighteen months later, his plans for the second floor were activated. Since Schlesser had joined KPF in New York, another architecture-trained designer, Demian Repucci, was brought in to execute the design's final phase.

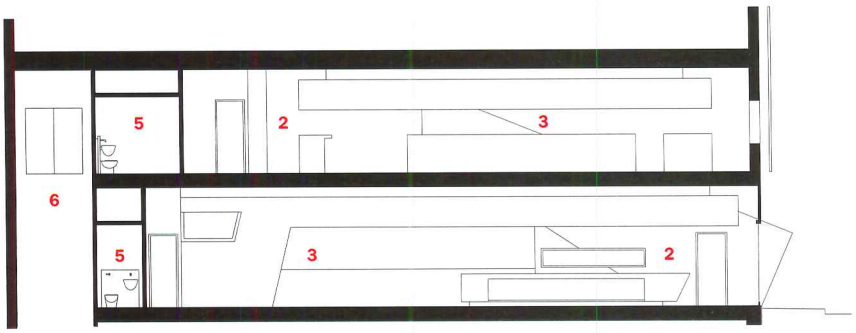
Solution

Schlesser began by breaking open the brick box and glazing the front of the first floor to cover all but the entry at the street level. He then framed the entirety in white artificial stucco, so the restaurant appears to levitate

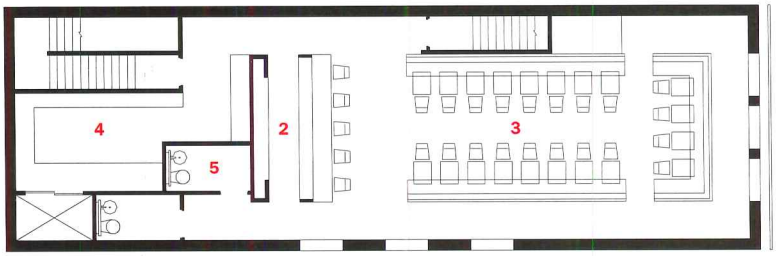
Cheryl Kent, a Chicago-based architectural writer, is a regular contributor to the New York Times.

On the first level (above), oak is used liberally; a solid surfacing material forms a continuous apron on the bar. Glass and plastic create a luminous facade (opposite).


Blackbird

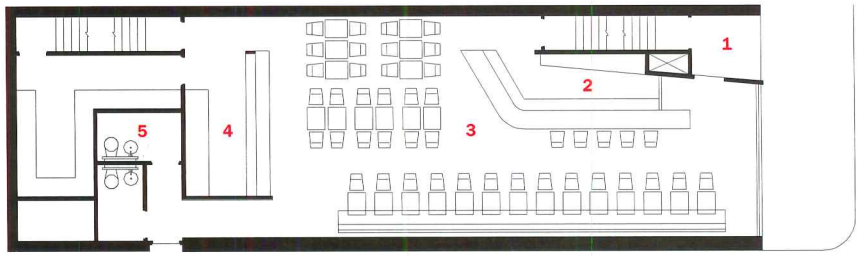


SECTION



SECOND FLOOR

1. *Entry*
2. *Bar*
3. *Dining room*
4. *Kitchen*
5. *Rest rooms*
6. *Elevator*



GROUND FLOOR

0 10 FT.
3 M.

In the dining area on the second floor (left and opposite bottom), gray mohair banquette seating wraps around the three sides of the gray carpeted room. Space between the wall and the banquettes allows waiters access to patrons. The surreally minimal bar (opposite top) is finished in stainless steel with a translucent acrylic top that is lit from underneath.

within its brick shell. Later, translucent white plastic was added to the second story, giving the facade the aspect of a screen.

Schlesser looked on the interior as "a box inside a box" and designed the seating and the bar as architectonic elements within the enclosure.

The detailing contributes to the simplicity and sense of weightlessness. A suspended ceiling plane conceals the air intake above, and perimeter lighting makes the ceiling seem to float. The kitchen at the rear is open, although a soffit hides the cooking surface's hood.

Upstairs, Schlesser planned the dining to be anchored at the restaurant's front, where a large three-sided inward-facing banquette delineates its own space. In following through with this phase, Repucci left the narrow enclosed stair in place, even though it brings people to the middle of the second floor. To create a sense of arrival, he designed a dramatic stainless-steel-and-acrylic bar near the stair.

Structure and materials

The brick structure is surfaced inside with drywall. Floors are oak; on the first level, oak faces the bar and the low wall separating the kitchen from the dining area. A solid surface counter covers the first-floor bar, clear acrylic the second. Like the rest of the furniture, the gray mohair banquettes were custom-designed by Schlesser. The chairs and stools are molded plywood, stained to complement the flooring.

Commentary

Blackbird's spare quality does permit the environment to recede and the people in it to come forward. Yet it is a space that rewards the eye with richness wherever it rests. On this eclectic street, the minimal white box is as simple, radiant, and beckoning as a Japanese paper lantern. ■

Danube
New York City

3

KEVIN WHITE, AIA, AND JACQUES GARCIA BRING BACK THE LUSCIOUS DESIGN, DECORATING, AND ARCHITECTURAL MOTIFS OF VIENNA CIRCA 1900 FOR A RESTAURANT WITH A TRIANGULAR FLOOR PLAN.

By Suzanne Stephens

Architect: *Kevin C. White, AIA*
Interior Designer: *Jacques Garcia*
Client: *David Bouley*
Engineers: *Robert Silman Associates (structural); Goldman, Copeland Associates (mechanical)*
Size: *2,470 square feet total (including a 910-square-foot dining room and a 350-square-foot private dining room)*
Cost: *$1.7 million*

Sources
Windows, storefront, doors: *Browne & Co.*
Cabinetry and millwork: *Browne & Co.*
Art and finishes: *Gerard Coltat (Klimt-style paintings, decorative canvas); Price Thomas Studios (decorative painting for ceilings and wood staining); Hollander glass (decorative glass); Kevin Rabu (decorative metal)*
Carpet: *Breton's (for design by Jacques Garcia)*
Furniture: *Munrod (for designs by Jacques Garcia)*

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

Program

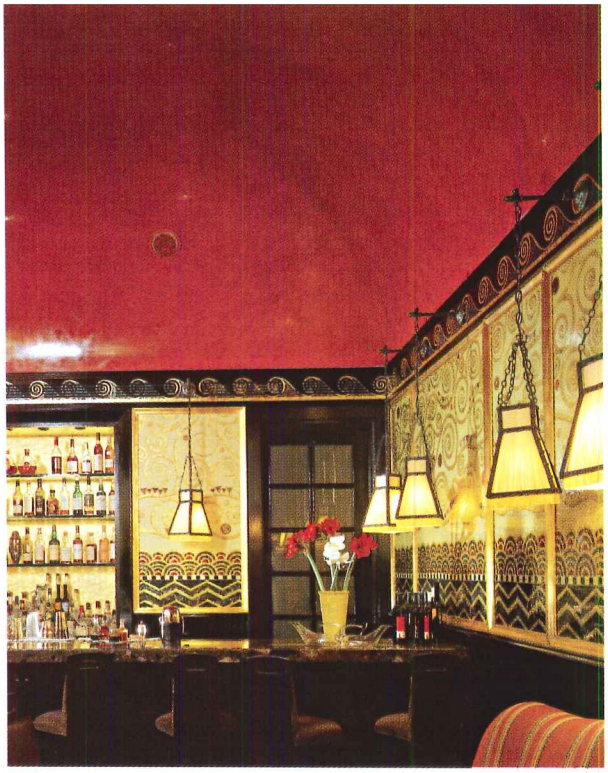
With his new restaurant specializing in middle-European haute cuisine, chef David Bouley sought the right setting for beef cheeks and chive spaetzle executed with a light touch. He knowingly looked to the Viennese Secession, the 1900s version of light, modern design. The result is a rich *gesamtkunstwerk* that includes food in its definition of total work of art.

Bouley brought in his architect, Kevin White, AIA, who had worked with him on the Bouley restaurant in 1986 and on the Bouley Bakery in 1996. "Too many restaurants have been opening that are stark and cold," notes White. "We just decided to go over the top." So Bouley also turned to Jacques Garcia, the Parisian decorator well versed in Le Style OTT (Over-The-Top), whose hothouse interiors for Paris' Hotel Costes had caught Bouley's eye.

Solution

Located on the ground floor of a late-19th-century redbrick building in the heart of Tribeca, Danube's 75-seat dining room and its bar for 25 conform in plan to the triangular site at Hudson and Duane Streets. "Nothing was there except the wedge shape and the cast-iron columns," says Bouley. By making the narrow end of the triangle the entrance vestibule, White established a natural progression through the bar, then a hinge space leading to the kitchens and a downstairs

Furnishings and fabrics in the bar (above and right) are inspired by Wiener Werkstätte designs; the entrance hall next to the bar is surfaced in Brazilian polychrome granite. The pattern of the decorative art on the walls owes much to Gustav Klimt's mosaics at Palais Stoclet.



Poplar wood, ribbed and stained black, was used for wainscoting and bar siding (left), while the draperies are cut velvet. The cast-iron columns were sandblasted, recovered with wood putty and plaster, then sanded and painted to look like solid lacquered wood.

private dining room, and finally the triangular dining room ahead.

The team carefully studied the lush colors, decorative patterns, and gleaming metal, glass, and wood surfaces characteristic of the Secession. They enlisted artists and artisans to recreate Klimt-style paintings and various lapidary finishes for the walls and ceiling, while Garcia offered up his own renditions of period furniture.

Materials and lighting

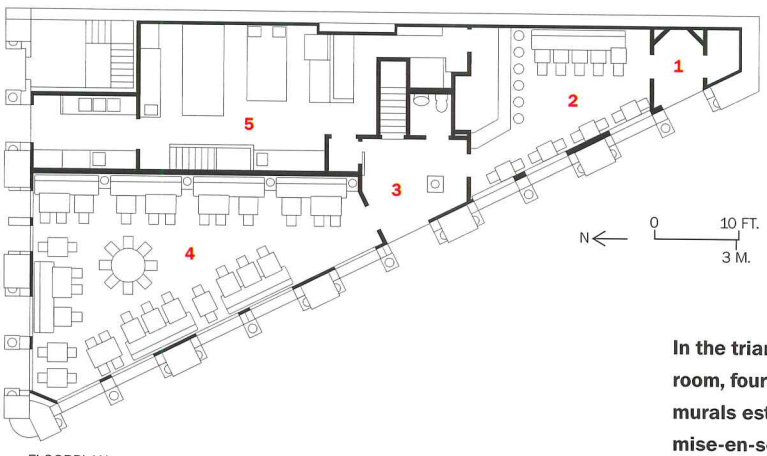
A burnished look permeates throughout, beginning with the small entrance hall's ceiling of copper leaves and the bar's deep red vaults, plastered and applied with stucco Veneziano. This encaustic finish, in which pigment is mixed with soft wax, receives additional sparkle in the dining-room ceiling, where gold mica was added to the wax.

The wall panels around the bar were painted on one piece of canvas (with ample gold pigment), then cut and mounted behind glass. The bar's vitrine is a patterned decorative glass with gold leaf on the back.

There is no overhead lighting. None. Suspended lamps, designed by Garcia and covered with silk-pleated shades, are supplemented at lunch by daylight and at dinner by candles.

Commentary

If you could gain weight by just sitting inside a restaurant, you would be in trouble at Danube. The count is about 3,000 visual calories per square inch. Fortunately, such opulence, luxury, and effulgence are not fattening. And the scale and layering of decorative art and objects work with the odd dimensions of the rooms to enhance the spatial interplay of two-dimensional patterns and three-dimensional forms. The entire effect is enriched by the lustrous, coved and contoured ceilings, soft amber lighting, plush curtains, the gleam of hard surfaces, and the glint of gold leaf. Even if the look is themed, the contours of the furniture more exaggerated than the original, or the Klimts an easy choice, so what? You can always go back to reading Adolf Loos when you get home. ■



FLOORPLAN

1. *Entrance and coat check*
2. *Bar*
3. *Vestibule*
4. *Dining room*
5. *Kitchen*

In the triangular dining room, four Klimt-style murals establish the mise-en-scène. The shallow reveals of the ceiling are outlined by rows of gold-leaf knobs (above); the private dining room downstairs has vitrines for the display of old glass.

Avenue
London

4 **RICK MATHER EMPHASIZES THE CHARACTER OF A NARROW, HIGH SPACE WITH A SPARE, WHITE, MODERNIST VOCABULARY.**

By Suzanne Stephens

Architect: *Rick Mather Architects—Rick Mather, principal; Douglas McIntosh, Chris Bagot, Uli Blum, design team*
Client: *Moving Images Restaurant (Chris Bodker)*
Engineers: *Dewhurst MacFarlane and Partners (structural), Atelier 10 (mechanical and electrical)*
Consultants: *Rick Mather Architects and Atelier 10 (lighting)*
Contractor: *Pat Carter Shopfitting*
Size: *Approximately 4,015 square feet*
Cost: *$1.4 million*

Sources
Glazing: *Firmans*
Doors: *Dorma Ironmongery*
Floor tile: *Pietro Lara limestone by Stoneage*
Chairs: John Coleman

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

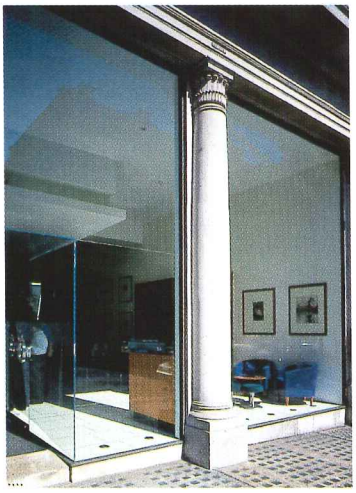
Program

The American-born architect Rick Mather has been making news with his current commission to conceive the master plan and urban design strategy for the South Bank arts complex. He is also known for a culinary sideline—designing restaurants such as ZenW3, Zen Central, Now and Zen, and, most recently, Yoshino. One of Mather's most striking efforts in this genre has been Avenue, which specializes in Western cuisine. Here the architect successfully revamped an old bank space in one of London's tonier areas for a sophisticated professional clientele.

Solution and intention

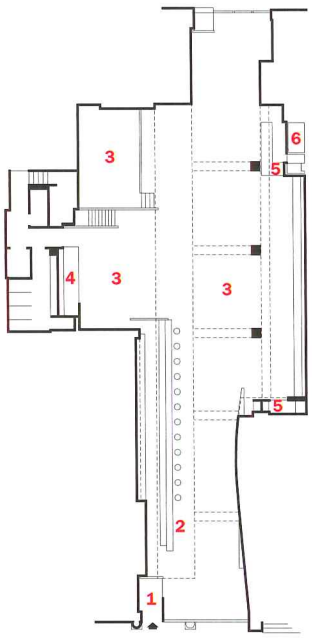
Because the former ground floor of the bank was long (about 108 feet), Mather glazed the entire front and installed clear and translucent glass at the back, where a pedestrian alley cuts through the block. Then he discovered a roofed-over skylight running along the south wall of the room. By inserting butt-jointed glass, he was able to suffuse the middle of the once dark restaurant with daylight. The 1920s structure—concrete-covered steel columns and beams—was exposed and finished in a white plaster to emphasize the 20-foot height of the original ceiling. "This gave the place an architectonic feel," Mather says, "and became its design identity."

Instead of fighting the long, high, narrow space, Mather drama-



The ground floor of a 1920s building was transformed into a restaurant on the generous thoroughfare of St. James off Piccadilly, near the Ritz Hotel. Inside (opposite and below) a skylight was reinstated and the structure exposed.

A concealed yellow light fixture below the glass surface of the bar creates a luminous glow and accentuates the bar's length.



1. *Entrance*
2. *Bar*
3. *Dining room*
4. *Wine storage*
5. *Waiters' stations*
6. *Dumbwaiter from kitchen*

tized its inherent characteristics. He extended the bar to over 45 feet and surfaced it with cast translucent glass. A dropped ceiling hiding HVAC equipment reinforces the pull of the space from the front, past the bar, to the dining area. In addition, a large mirror, placed at the end of the lowered soffit, reflects the long lines of the bar and ceiling, giving the illusion of extending to infinity.

A walk-in wine cellar of cherry wood and glass backs a dining alcove in the restaurant's widened midsection. "You don't need to add decoration to a restaurant," says Mather. "Just use what needs to be there." A carved-out corner of drywall construction on the opposite side creates a waiters' station. "This design is not about minimalism," adds Mather. "I am not ironing out all the quirky things or flattening out the ceiling. I like to make the most of the existing conditions."

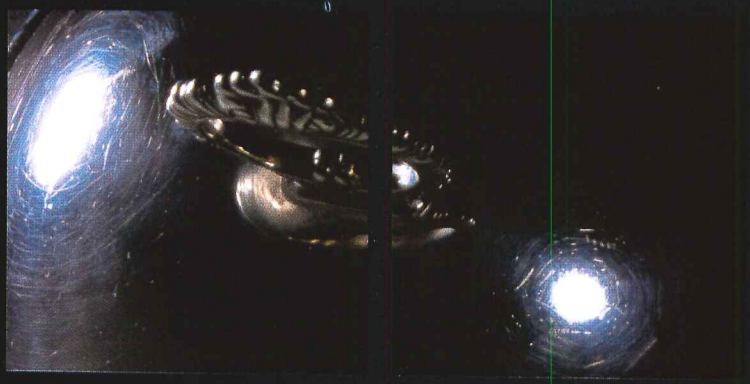
Materials and lighting

The American cherry furniture and bar siding offer a strong, warm antidote to the cool aura of the white plastered interior. The mottled tone of the off-white Spanish limestone floor camouflages spills.

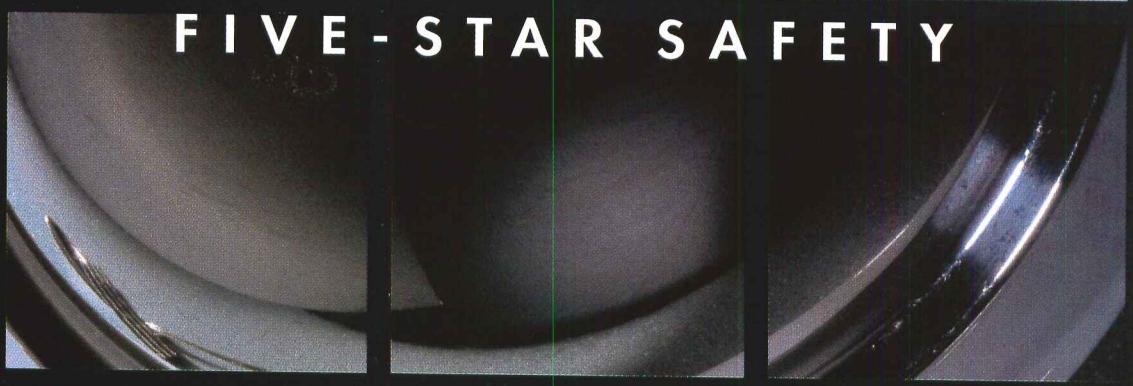
Artificial lighting is subtle by day: In addition to the fiber-optic lights in the lowered ceiling, indirect fluorescent lighting with a warm filter along its sides balances natural light. At night, the skylight wall is washed with fluorescent uplighting behind the banquettes, and the bar counter turns into a glowing yellow strip of glass.

Commentary

The pull of the long, attenuated lines through the restaurant, punctuated by a series of exposed columns and beams, gives the place spatial and structural oomph. Because the architect (and client) wisely left the expansive white wall under the skylight bare, it becomes its own light-art piece. The serenity is not disrupted by swinging kitchen doors, owing to the placement of the kitchen in the basement and the use of dumbwaiters. And, in spite of the hard surfaces, the spatial division keeps the din down. ■



FIVE-STAR SAFETY



[PHOTOS] Bellagio Horticultural Design Center, Las Vegas - Jeffrey Green / Peter Kump's Cooking School, New York - Andrea Brizzi

Safety flooring is Altro's specialty. ■ In 1947, we led the way to reducing slips and falls in the workplace by creating the world's first slip resistant sheet vinyl flooring. ■ Today, risk management and liability issues make Altro an even more appropriate choice. ■ Altro manufactures superior safety flooring with exceptional slip resistance, long-term durability, underfoot comfort, Easyclean Technology™ and great aesthetic appeal. ■ Altro — five-star safety — for over fifty years. ■

ALTRO® SAFETY FLOORS

Toll-free: 1-800-565-4658 Web site: www.altrofloors.com E-mail: info@altrofloors.com

CIRCLE 102 ON INQUIRY CARD

© 2000. All rights reserved. Bidcom and the Bidcom logo are trademarks of Bidcom, Inc.

www.bidcom.com

"Beautiful buildings are...
works of art using the best technology."

Frank Lloyd Wright

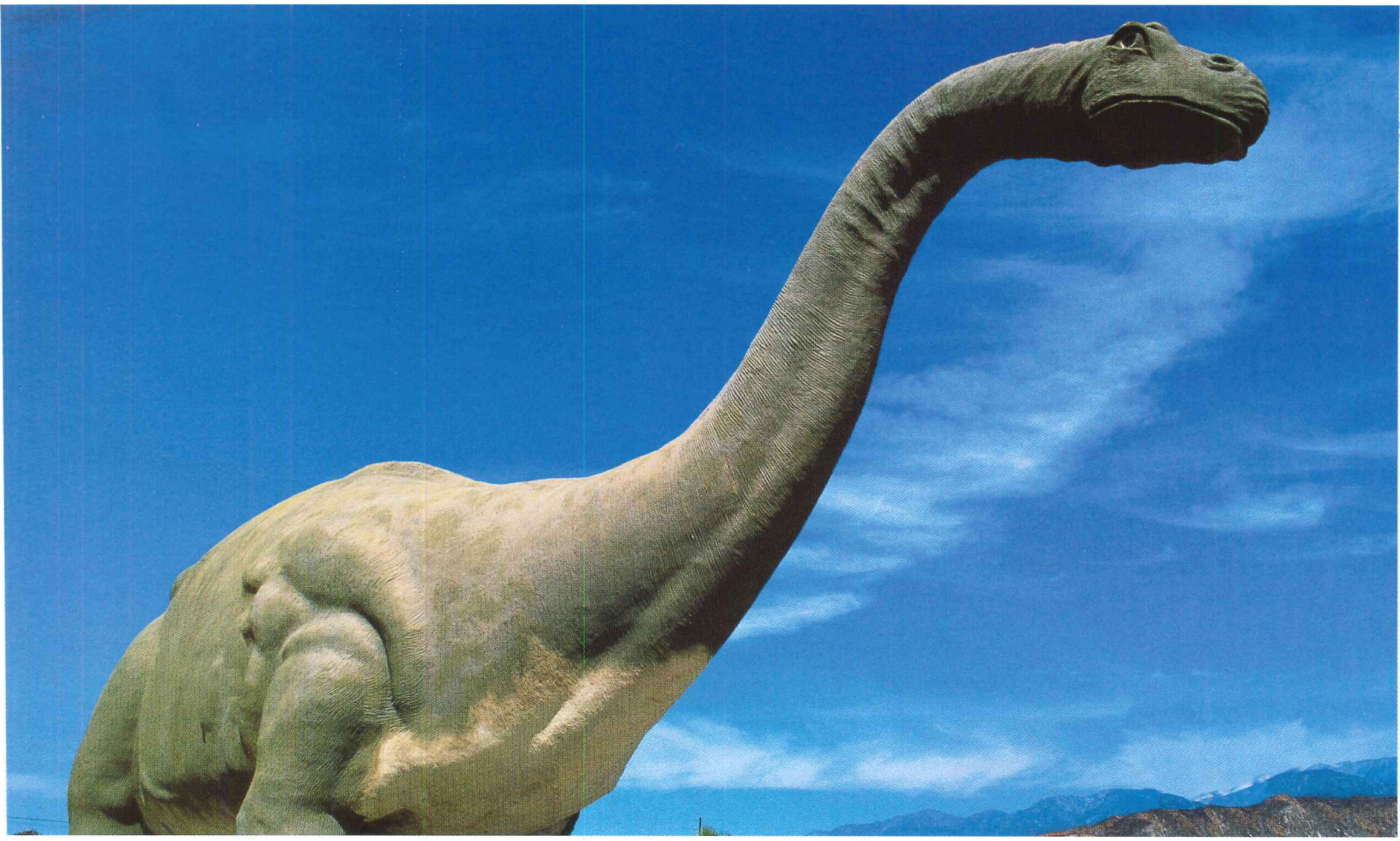
Bidcom

Build Better.

Bidcom, Inc. helps companies manage risk, drive down costs and complete building projects on time. Bidcom's services — delivered through the Bidcom e-Marketplace — allow building industry professionals to communicate, collaborate, manage business processes, conduct bidding and procurement, and access valuable industry information. Bidcom's easy-to-use services support owners, real estate developers, architects and design professionals, general contractors, subcontractors, suppliers, and facilities managers throughout the lifecycle of multiple building projects.

CIRCLE 363 ON INQUIRY CARD

It's big. It's clumsy. And it's not too bright.



Sound like your architectural software?

You can continue plodding along with your current CAD software, or you can make the smart move to ArchiCAD. It can be mastered surprisingly fast, and only ArchiCAD has been designed specifically for architects. Really, isn't it time you raised your standards and let go of the past? Embrace the intelligent and integrated approach to building design and documentation.

SEVEN REASONS TO SWITCH

- Intuitive commands easy to master
- Fully AutoCAD compatible
- Remarkable efficiency gains and ROI
- Cutting edge presentation features
- Fully parametric objects
- Time-saving automatic documentation
- 30-day money back guarantee

GRAPHISOFT®

Graphisoft and ArchiCAD are registered trademarks of Graphisoft R&D Rt.

ArchiCAD®

www.graphisoft.com/ArchiCAD 800.344.3468

Visit or call for a FREE Presentation CD and the location of an ArchiCAD dealer near you.

CIRCLE 103 ON INQUIRY CARD

Digital Architect

The design implications of technology

By Jerry Laiserin, FAIA

The pervasive use of networked computers and multimedia equipment in the work environment adds a new element of complexity to the architect's job. While designers typically possess a working familiarity with building services and physical infrastructure, few have comparable mastery over the requirements of information services and technology infrastructure. But understanding the space-planning requirements and design implications of computer communications and multimedia environments is rapidly becoming an essential part of everyone's practice.

Getting informed

It's difficult to get practical information about emerging technologies. New subjects, not yet included in the registration exam, may not be offered at architecture schools. So some architects turn to their peers for practical information. The Computer Applications Committee of the AIA/New York Chapter, for example, which previously focused on CAD and other tools, has broadened its focus to include information technology systems and changed its name to the Information Technology Committee (ITC).

John Howell, AIA, chairman of the ITC and a technologist at financial services giant J.P. Morgan, says architects must "learn to get comfortable designing for technology, not just with technology." To further that objective for the ITC's hundreds of participating architects, Howell organizes committee seminars on subjects like virtual private networks, riser management, and structured cabling. The ITC arranges "backstage tours" of communications-intensive facilities like Four Times Square [March, page 91] in New York City. Consistent with his duties at J.P. Morgan, Howell is certified as a network equipment specialist by the Building Information Consulting Services International, an industry standards group. He believes, however, that "most architects won't need to become network equipment specialists themselves, but will need to know who the experts are and how to work with them."

Electronic Systems Associates (ESA) is one of a new breed of consulting firms that is helping architects integrate computers and media into buildings. The company has 10 offices around the country, located with those of its corporate parent, engineering firm Syska & Hennessy. ESA president Stephen Fredette, who has prior experience as a systems integrator, says architects must be aware of planning issues to accommodate wiring in new or renovated spaces. Just providing adequate room, appropriately located, for network communications equipment is significant, he says.

For example, when designing rooms to house servers there must be enough space in front of and behind the equipment racks to allow access for maintenance. High-speed network equipment requires ample, round-the-clock ventilation and cooling. All digital electronics depend on clean electrical power and an uninterruptible back-up supply. The location and path of power wiring in walls, above ceilings, or under floors should be separated from communications cables to reduce electrical interference.

Contributing Editor Jerry Laiserin, FAIA, develops collaborative strategies for architects and their technology providers.

Cox Enterprise's newspaper and broadcast bureau has monitor banks with live feeds in the reception area (top) and at the entry to the TV studio (bottom).

Digital Architect

The World Bank InfoShop & Public Information Center entry in Washington, D.C., features a curved screen with alternating multimedia displays.

Distribution closets, which house hubs and patch panels for LANs, should be spaced in a pattern on each floor that minimizes extreme differences in the length of cable runs, and they should also be vertically aligned from floor to floor to minimize signal-degrading kinks and offsets in risers.

Eric Rochelson, ESA's director of audiovisual systems, points out other considerations for media-intensive spaces, such as boardrooms, video-conference centers, and training facilities. Rochelson highlights issues such as clearances required for rear-screen video projection equipment (6 to 10 feet behind the screen); the need to conceal in-room, half-height equipment racks within custom millwork enclosures; and the requirement for network and power connections to be directly integrated into conference tables and desktops.

Display systems and networking equipment typically are linked with the building's HVAC and security-control systems. Security for boardrooms, where confidential matters are discussed and transmitted electronically, demands space-consuming countermeasures against espionage—installing layers of electromagnetic shielding in the walls to prevent digital eavesdropping, for example. Another strategy is to introduce masking noise in the room's enclosure and ductwork to deter acoustical eavesdropping.

The router's connected to the backbone

Even with the help of consultants, architects still must take responsibility for their own work. And a consultant may not always be available for critical planning meetings. James Greenwell, AIA, of Greenwell Goetz Architects in Washington, D.C., often works with technology infrastructure consultants but says that his firm's guiding objective is to ensure that the architectural solution is driven by the client's workflow, not by the flow of electrons from building backbone to workstation. Ideally, the design process should be client-centric and not technology-centric.

"We first ask clients, 'How do you get your work done?' and 'What kinds of spaces do you need to support that?'" Greenwell says. "Then we ask, 'How do you use technology in the work product?'"

As clients move to a more flexible mix of private versus community workspaces with fewer floor-to-ceiling partitions and fewer systems furniture "cubes," getting LAN cabling from the desktop to the server is an issue. Raised floors (or depressed slabs) and poke-through access systems, in which power and communications connections emerge from under floor decking, address this need, but add yet another dimension to the impact of technology on space planning.

To be sure that project architects can knowledgeably and simultaneously address aesthetic, functional, and technological issues with clients, Greenwell Goetz encourages professional development within their firm. "All other factors being equal, the company's hiring policies favor applicants with technological expertise," Greenwell says. The firm invites technology consultants and engineers to conduct formal staff-training sessions on new and emerging infrastructure issues. Less formal lunchtime seminars are held at the firm to share "lessons learned" and "best practices" from the firm's many projects for high-tech, communications, and financial clients.

Finally, Greenwell Goetz has two full-time information technology staffers who are required to stay current with developing technology and are available as in-house consultants for project teams. Ultimately, in Greenwell's view, every architect in his 60-person firm should know at least as much about routers, hubs, and cable risers as they know about stacks, vents, and plumbing risers. ■

WWW *For a list of infrastructure technology product and service vendors, go to* ***Digital Architect*** *at:* ***www.architecturalrecord.com***

Technology terminology

Backbone: This is the major artery of networked systems. Smaller networks may be attached. Some companies and owners prefer multiple backbone connections to foster competition and to create redundancy in the event of failure.

Conditioned Power: Electrical service that is protected from line noise, voltage surges and spikes, brownouts, and blackouts.

Distribution Closet: A room containing equipment racks filled with hubs and patch panels for arranging LAN connections.

Hub: A passive device for splitting LAN signals and distributing them among multiple computers, servers, and other network-attached devices.

LAN: A Local Area Network, or collection of interconnected computers, servers, and hubs within a company. Multiple LANs linked together form a WAN, or Wide Area Network.

Premises Wiring: The communications cabling within a building or individual tenant space, usually provided as part of tenant fitout, not as part of the base building.

Riser (Management): Connections from the building backbone to separate tenancies or multiple departments, typically in multistory buildings. Leading vendors include Allied Riser, Intellispace, and OnSite Access.

Router: A special-purpose, active switching device that links a LAN to a backbone or links multiple LANs to a WAN. Vendors include Cisco, Nortel, and 3Com.

Server: A computer designated as a shared resource on a LAN. Leading vendors include IBM, Compaq, Dell, and Hewlett-Packard.

Structured Cabling: A complete system of wiring, connecting devices, and installation standards certified to deliver a specified data-transmission speed over a LAN.

Systems Integrator (SI): Like a general contractor for computer systems, an SI procures and installs all the structured cabling, servers, computers, and software for a LAN.

Virtual Private Network (VPN): A private network built within a public network.

WAN: Multiple LANs linked together by physical or virtual connections.

Wire Management: A system of raceways, cable trays, and/or ducts to consolidate and organize cables within and between equipment racks or office furniture.

BUILD SMART.

One click away from genius.

The brilliance of CAD software is that it can let you move a wall in seconds. But if it still takes you hours to make revisions to the rest of the model, are you really getting what you paid for?

Introducing Bricsnet Architecturals. The first 3D modeling software for AutoCAD or IntelliCAD 2000 to outsmart the typical obstacles in the design process. Its native DWG format ensures a seamless exchange of models between you and your co-workers, so there is no risk of losing mission-critical information.

Because your first draft is rarely your last, Bricsnet Architecturals not only lets you create complex models quickly, but can completely alter them with the simple click of a mouse. Drawings, quantities and reports are automatically generated and updated the minute you make your change, giving you more time to spend on creative design.

Bricsnet Architecturals is one of the many services of Bricsnet.com designed to make the building industry more efficient. And because it is available for only $995 (or $395 for an annual subscription), it really is a smart way to build. To purchase or find out more about it, visit www.bricsnet.com today.

bricsnet.com

Bricsnet.com is the most comprehensive e-marketplace for the building industry. A place where every part of the building process gets equal attention, so that someday the world's second largest economy will also be the world's most efficient.

BUILD on

CIRCLE 104 ON INQUIRY CARD

PLEASE COME VISIT US AT THE A/E/C SYSTEMS 2000 TRADESHOW AND CONFERENCE, BOOTH # 1827.

We do business better...

When you need to know the latest about building codes and codes enforcement, you want instant access to the most accurate information available. At SBCCI, you get the information you need in the format that's best for you.

At SBCCI you will speak with a real person. Our knowledgeable technical staff is waiting to assist you with free code interpretations. Just call our toll-free number for the information you need.

At SBCCI we use the latest technology to bring you the most recent information. Log onto our web site. You can access our web page at http://www.sbcci.org or contact us with comments or questions via e-mail at members@sbcci.org. We make the information you need easy to find and easy to use.

At SBCCI you don't have to thumb through a code book looking for the right information. We have developed innovative software called Standard Search™ which puts the information you need at your fingertips. Simply run a search for key words, and instantly the information you need appears in front of you.

At SBCCI we do business better because our dedication to member service is priority, guaranteed 100%. It's evident in the fact that our membership dues have not increased since 1972, even though we've grown to meet the needs of 16,000 members. With a team of knowledgeable individuals, edge-cutting technology and innovative ideas SBCCI brings you the best.

Southern Building Code Congress International, Inc.
900 Montclair Road • Birmingham, AL 35213-1206
Fax: 205-591-0775 • TTY: 205-599-9742

Toll free: 1 877 4 ICodes

CIRCLE 105 ON INQUIRY CARD

Tech Briefs

What's happening with brownfield development and how it's affecting architects • Conflicting evidence about natural ventilation and keeping cool in the office

ARCHITECTS AMONG THOSE WHO BRING HELP TO "ENVIRONMENTALLY IMPAIRED" PROPERTIES

Brownfields aren't what they used to be. For years, brownfields meant urban properties plagued by environmental pollution—sites dripping with dangerous chemicals. But the Environmental Protection Agency (EPA) has now broadened this definition to include abandoned, idle, or underused industrial and commercial properties where redevelopment is complicated by "real or perceived" contamination. In short, brownfields include properties devalued by things other than chemicals.

Development of brownfields brings opportunities as well as hazards for architects. Formerly the bailiwick of developers, brownfields increasingly involve architects, who may be asked to rehab old buildings on a brownfield site. Architects also may commission site analyses and respond by designing new buildings that tiptoe over site hazards, seal those hazards in place, or sidestep them completely.

Working in Chicago

According to the federal government's General Accounting Office, there are at least 150,000 acres of idle industrial sites located in major cities throughout the U.S. Developing these sites used to be onerously expensive. But a number of factors have combined to make brownfield development less expensive and, as a result, more widespread.

While funding is available through federal agencies and the EPA, much of the responsibility for brownfield development has shifted to state and local governments. These efforts vary. About 30,000 sites were removed from the Superfund list, making development easier. Pilot projects allow localities to focus on regional issues. In Buffalo, N.Y., for example, a former steel mill site is being redeveloped into a greenhouse.

There are about 42 pilot projects in Chicago, which has its share of brownfields. Illinois EPA records indicate there are about 300 brownfield sites in the city. But developing those sites has become much easier in recent years, says David Kahnweiler, president of real estate firm Colliers, Bennett & Kahnweiler. "There are two routes you can take with a site: clean it up or put an engineered barrier over it," he says. Doing the latter is easiest. "The state regulatory agencies want only to make sure there is no human access or threat to safety," he says. He also finds that brownfields cost less than greenfields to develop, due to the economic support from the city.

Kahnweiler's company is partnering with businesses and developers to clean up 140-acre Goose Island (above), located in the north branch of the Chicago River, about one mile from downtown Chicago. The company is working with architects primarily on some of the island's adaptive reuse projects—gritty buildings that may themselves be contaminated.

Now we're in trouble

As every architect knows, money spent on the site means less of a budget for building design and construction. Developing brownfields brings additional costs and liabilities as compared to working on greenfields. For example, according to *Brownfield News* magazine, conducting an ASTM phase-one site assessment, a document which includes a site history, samplings of soil and groundwater, and an analysis of any structures on the site, can cost as much as $200,000, depending on the size of the parcel and its contents.

There are other costs as well, including environmental engineering fees, cleaning up pollutants or hazards—such as asbestos—in rehab buildings, and worker safety plans.

Environmental insurance, offered by some commercial insurance companies, can help mitigate costs and may even be required by some lenders. The insurance can cover surprises—finding pollution on the site that was unexpected, and mistakes—not getting the property as clean as expected.

Wendy Talarico

ENGINEERING FEATS OF THE LAST CENTURY

The National Academy of Engineering recently announced its list of the 20 engineering achievements that had the greatest impact on the quality of life in the 20th century. The list was compiled from more than 100 nominations.

Top-ranked was electrification, followed by the automobile, the airplane, safe and abundant water, electronics, radio and television, agricultural mechanization, computers, the telephone, air conditioning and refrigeration, interstate highways, space exploration, the Internet, medical imaging, household appliances, health technologies (including antibiotics and artificial implants), petroleum technologies, lasers and fiber optics, nuclear technology, and high performance materials (plastics, ceramics).

Tech Briefs

KEEPING COOL IN THE OFFICE IS NOT SO EASY AFTER ALL

Studies conducted in the United States on the subject of natural ventilation in office buildings show that office workers are likely to tolerate a wider range of temperatures if they have access to a window or other source for providing moving air within 8 to 12 feet of their workspace [see article page 281]. The research also says workers are happier if the temperatures are somewhat appropriate to the season. But recent research in Germany contradicts this theory and says office workers are not so tolerant after all, and that their level of productivity is affected greatly by the temperature in their work environment.

Workers are at peak productivity when the temperature within the office environment is 68 degrees Fahrenheit, the research says. That performance level declines to 50 percent when the temperature goes up to a steamy and uncomfortable 92 degrees Fahrenheit. For this reason, workplace guidelines in many German office buildings dictate that temperatures may not exceed 78 degrees Fahrenheit.

Additionally, research conducted in Germany's principal cities, including Munich, Frankfurt, and Dusseldorf, shows that natural ventilation cannot provide sufficient dehumidification to keep workers comfortable, even if the air is moving with sufficient velocity to evaporate sweat. Air conditioning is vital to reduce temperatures in these cities only 25 days per year, while it is necessary for reducing humidity 100 days per year.

The study also found that a temperature of 80 degrees Fahrenheit with 40 percent relative humidity is better for comfort and productivity than a temperature of 75 degrees Fahrenheit with 60 percent relative humidity.

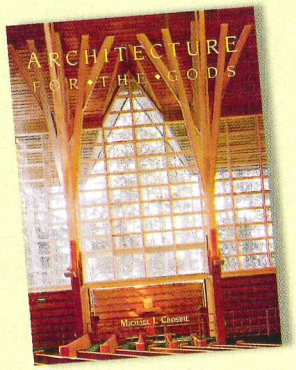
IT'S FREE, IT'S GREEN, IT'S AVAILABLE ONLINE

GreenClips is an E-mail clipping service that summarizes articles on sustainable architecture, including energy efficiency, construction, and operation of buildings. It covers other sustainable design issues as well, such as water conservation, environmentally responsible building materials, waste reduction, and urban design. Its target audience is architects, engineers, urban planners, facility managers, builders, professors, students, and politicians.

Publisher Chris Hammer, an architectural researcher and environmental consultant, scans about 60 publications including specialty newsletters, professional journals, and dailies. *GreenClips* is published every two weeks, and each issue contains five to six clips which include the publication name, date, page number, and byline. To subscribe free of charge visit: http://listserv.energy.wsu.edu/guest/RemoteListSummary/GreenClips.

A BOOK FOR THE GODS

A compendium of recent religious structures, *Architecture for the Gods*, by Michael J Crosbie (192 pgs.) proves that religious buildings are a genre all by themselves. It also shows how incredibly different these divine structures can be—from North Dakota's traditional Gethsemane Episcopal Cathedral by Moore/Andersson Architects, to the bubble-topped Metropolitan Cathedral of Managua, Nicaragua, by Legorreta Arquitectos.



COMPUTER TECHNOLOGY AND HOW IT HAS CHANGED US

Computers and software used for architecture changed drastically within the past decade. As they evolved, their use increased; nowadays virtually no architects' offices are without a computer system or a CAD package. In one of its recent monthly issues, *A/E/C Automation* newsletter summarized the evolution and impact of the computer in eight points.

1. Computing is cheap. For about one-tenth of the cost of the early UNIX workstations, which ranged in cost from $20,000 to $50,000, users access about 100 times the power. Those early systems offered two to eight MB of memory and a 60 MB disk. Today, for a few thousand dollars, architects can buy a computer with 512 MB of memory and a 14 GB hard disk.

2. The decline of the turnkey system. At the start of the decade, there were two types of vendors: turnkey providers, such as Intergraph, and software providers, such as Autodesk. The first sold expensive systems that included all the hardware and software needed for a full-fledged system. The firms did all the training and technical support. As the decade progressed, however, users proved they were more interested in purchasing software alone and making their own choices for hardware. As a result, turnkey systems are, the newsletter says, "a thing of the past."

3. Bentley and Intergraph split. In 1989, Bentley Systems was a small software firm half-owned by Intergraph. Bentley developed MicroStation and Intergraph sold it. But as MicroStation's popularity grew, Bentley took over marketing responsibilities. The companies are still affiliated, but Bentley has further developed MicroStation while Intergraph has its own suite of applications. Bentley is planning a public offering in 2000, according to *A/E/C Automation*.

4. CAD goes mainstream. CAD is no longer used by teams of specialists; the "CAD Department" is no more. Everyone, it seems, has the software on their desktop. Part of the reason for this is that every student coming out of college was "weaned" on computers. "They see no reason to hand this work off to a group of specialists," the newsletter says.

5. Autodesk reinvents itself again. "There is no question that Autodesk created the mass market for CAD software," the article proclaims. Sales increased from less than 100,000 copies 10 years ago to more than three million copies of AutoCAD and AutoCAD LT. The company has since changed its emphasis from just AutoCAD to become a vendor of comprehensive design solutions, including Architectural Desktop, an architecture-specific version of AutoCAD, and Land Development Desktop.

6. Information management evolves. It used to be that data from completed projects was stored on a floppy disk or magnetic tape just in case it was ever needed. Now, with the growth of the database, past projects have become the starting point for future projects.

7. The Internet changes communication. In 1990, the Internet was a tool used by the academic community. Its explosive growth, fueled by commercialization, the development of the World Wide Web, and graphical Web browsers, is making access to the Internet as imperative as the telephone and the fax machine.

8. Project Web sites blossom. These Web sites, or extranets, are places where all project documentation is put so that it can be accessed by each of the project participants, based on their level of authorization. While not yet commonly used, these sites have incredible potential to foment further change for architects.

What? No Air Conditioning in this Building?

TAKING ADVANTAGE OF NATURAL VENTILATION REQUIRES SOME DESIGN COMPROMISES AS WELL AS BUILDING OWNERS AND OCCUPANTS WILLING TO TOLERATE TEMPERATURE FLUCTUATIONS.

By Nadav Malin

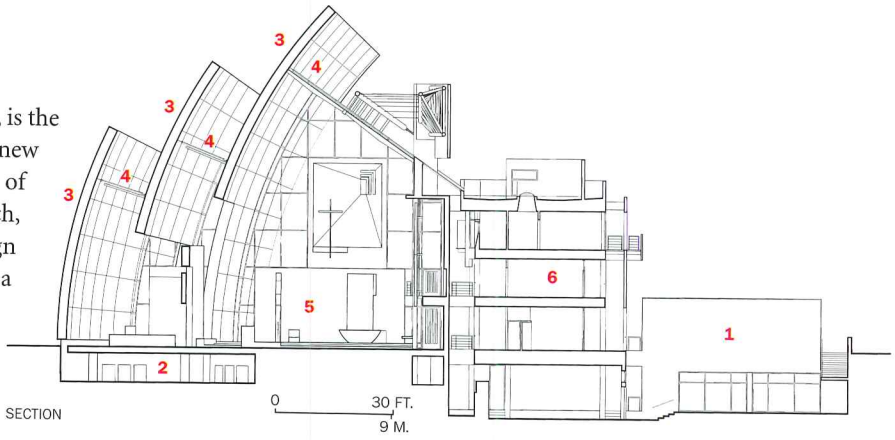
The Church of the Year 2000 in Tor Tre Teste, Italy, is the flagship project for a major initiative to build 50 new churches in the ecclesiastically bereft suburbs of Rome. In their winning proposal for the church, Richard Meier & Associates developed a dramatic design with large, upward-arching concrete shells—sections of a sphere—connected by glass walls that fill the space with soft, indirect light.

"The goal was to create a church that doesn't fight with the environment; the forms are closely related to that precept," says John Eisler, AIA, project architect. Minimizing mechanical equipment was a priority because the church, still under construction, will have no maintenance staff. "The parish priests who will maintain the church aren't trained in operating complex equipment," notes Eisler. Instead, the church will be cooled with natural ventilation.

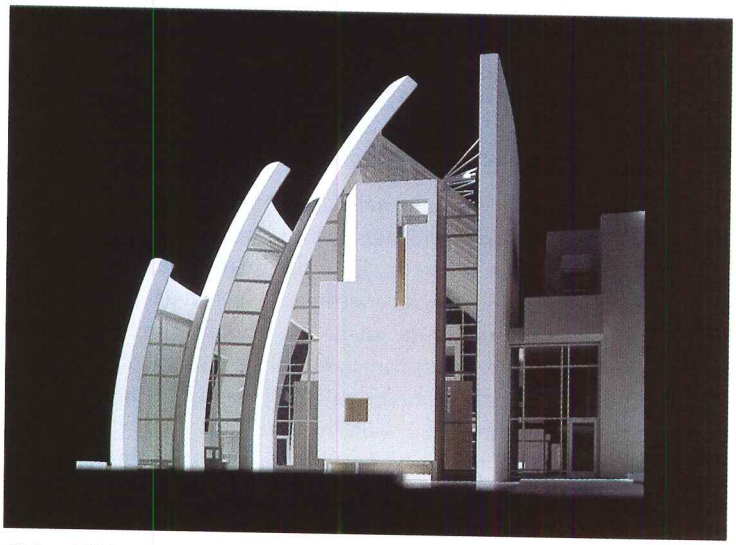
Of course, the comfort demands of the once-a-week occupants of a village church are fewer than those of the nine-to-five tenants of modern office buildings. Within the past 50 years, engineers have made heroic efforts to meet these greater demands by creating sealed boxes with air that's conditioned by fans, motors, and refrigerants. The occupants may be able to predict, within a few degrees, the temperature of their space, but they still long for fresh, moving air and for a connection to the daily and seasonal cycles. They also yearn for greater personal control over their space, the control that comes with being able to open and close a window.

Natural ventilation provides this control and is often a cost-saving feature of energy-efficient buildings, although in most cases the energy savings are due more to an overall climate-responsive design than to the natural ventilation alone. Overall, savings are in the range of 10 to 25 percent as compared to similar buildings without natural ventilation. Achieving these energy savings, along with the other benefits of natural ventilation, requires a careful assessment of climate, occupant expectations, and occupant behavior.

Solar shading, orientation for breezes, use of materials with high thermal mass, and other measures that might be recommended to conserve energy in some mechanically conditioned buildings become more critical in naturally ventilated buildings because they directly affect occupant comfort. For example, the large, curving concrete shells that shield the Church of the Year 2000 from the Mediterranean sun would be a good



1. *North courtyard*
2. *Basement airway*
3. *Concrete shells*
4. *Vented glass roof*
5. *Nave*
6. *Offices*



Richard Meier's Church of the Year 2000, outside Rome, uses air drawn through a crawl space on the north side of the building for cooling power.

Nadav Malin is editor of Environmental Building News *and a regular speaker and consultant on environmentally responsible construction practices.*

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 290 and follow the instructions.

LEARNING OBJECTIVES

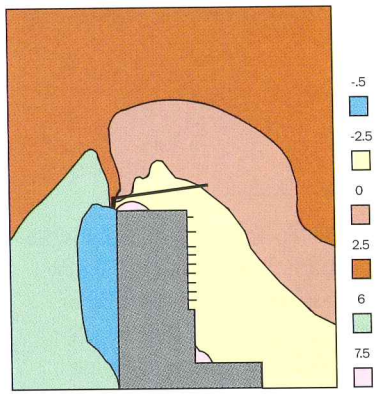
After reading this article, you should be able to:

1. Describe how building design can take advantage of natural cooling.

2. Explain how to control comfort with natural cooling.

3. Describe the benefits and disadvantages of using natural ventilation for cooling.

WWW *For this and more continuing education go to:* **www.architecturalrecord.com**



MENARA UMNO, PENANG, MALAYSIA. Though the average summer daily temperature in Penang (bottom) is close to 90 degrees Fahrenheit and humidity reaches 76 percent, occupants of the 21-story office building (below) can use natural ventilation or air conditioning to stay cool. Designed by Malaysian architects T.R. Hamzah & Yeang, the structure optimizes passive cooling strategies, including wing walls (short walls placed perpendicular to openings) to collect and direct air through the openings (left) and into the floor spaces. Using computer programs, wind flow around the building was measured (top). The building also uses solar shading devices (left) and daylighting to keep occupants cool.

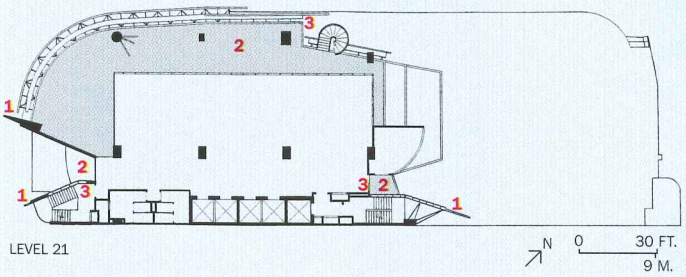
idea even if the building were air conditioned, but without air conditioning they are essential to keep the interior from overheating.

Meier's church brings air from the shaded north side of the building through an underground crawl space, where it will be tempered by the cooler temperatures of the earth. "On a hot summer day, the air coming from the underground intakes will be five to nine degrees Fahrenheit cooler than the outdoor air," Eisler says. The underground chambers through which the air will flow were needed anyway to post-tension the steel cables in the curved concrete elements, so this approach proved economical as well. Because air rises as it warms, a natural convection current is created in the church as fresh, cool air is drawn through this crawl space and hot air is exhausted through operable vents in the glass between the concrete shells and at the roof level.

How it works

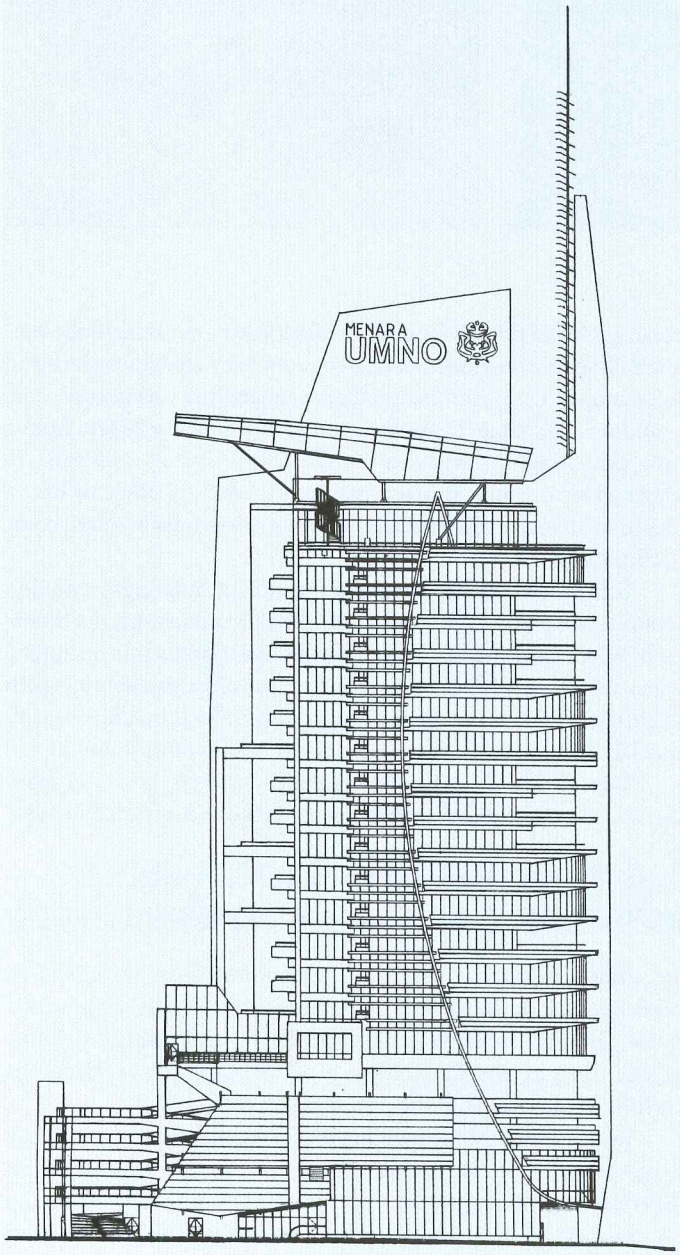
Natural ventilation may simply refer to operable windows within a building, or it may imply carefully engineered airflows driven through the building by wind and temperature differences or by fans. Natural ventilation may be intended to replace air conditioning entirely or, as is more often the case in large buildings, to coexist with mechanical systems in what is called "mixed mode."

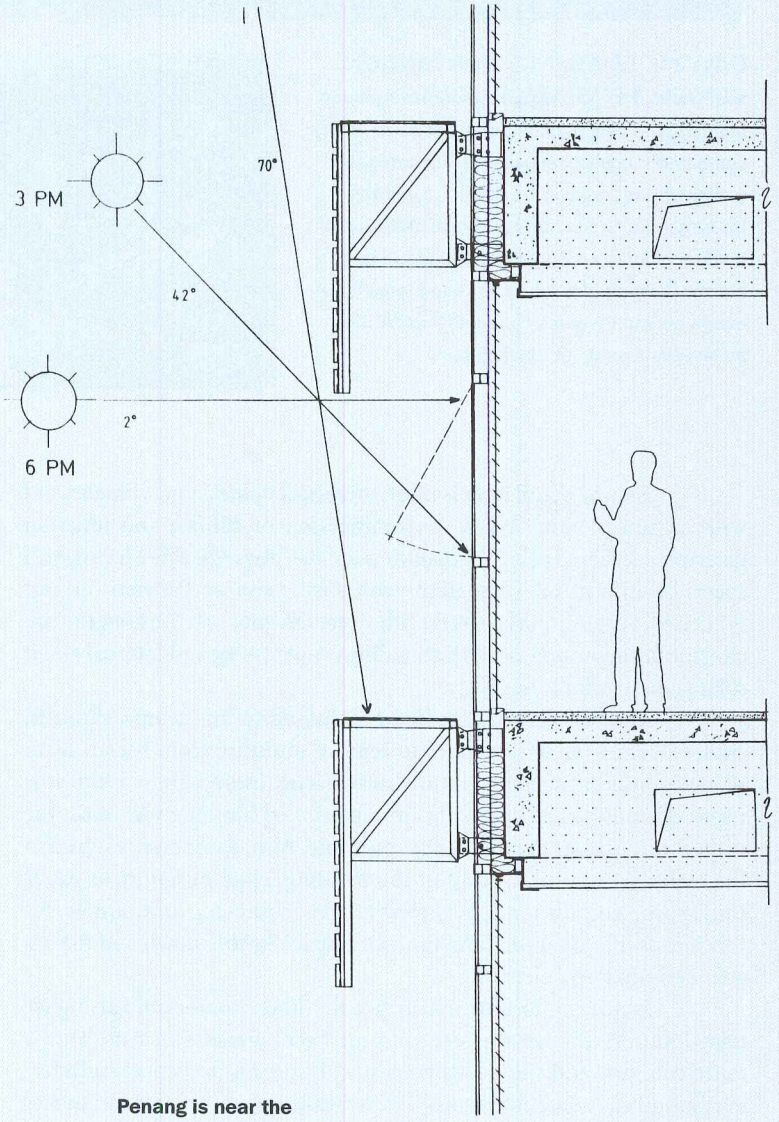
Buildings that rely on natural ventilation may be more expensive initially, due to the higher costs of operable windows and solar controls. But this is offset by avoiding expenditures on mechanical ventilation equipment and the energy it consumes. In mixed-mode buildings, which require operable windows and other natural-ventilation systems, as well as mechanical ventilation equipment, construction costs tend to be higher.



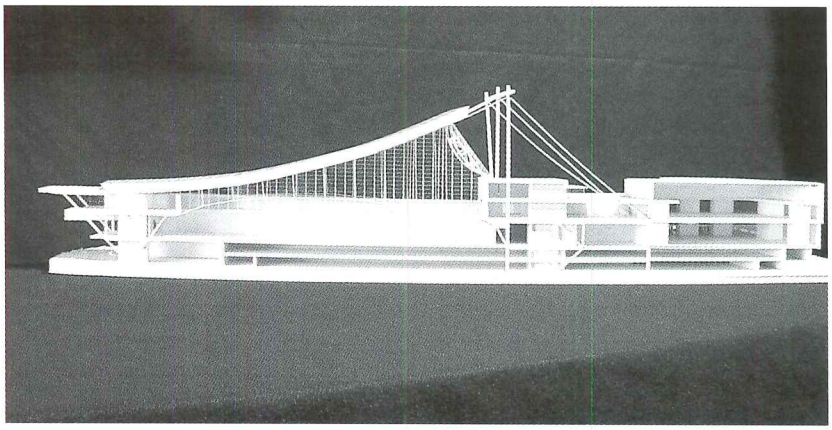
1. *Wing wall*
2. *Balcony*
3. *Operable door*
4. *Operable window*

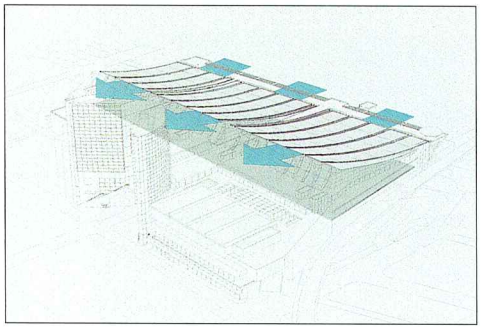
Multiple openings, including sliding doors and windows, allow cross ventilation. Shady balconies are a pleasant space for workers to take a break. Spiral stairs between the balconies offer a unique way to get from floor to floor and still take in the views.

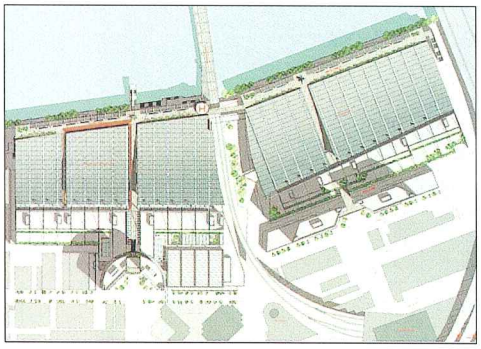




Penang is near the equator so the sun is almost directly overhead. Aluminum shading devices deflect direct sun. Operable windows provide office workers with a sense of control over their workspace (above).







DAVID L. LAWRENCE CONVENTION CENTER, PITTSBURGH £3A mixed-mode building, the convention center will be naturally ventilated much of the year, particularly the exhibition hall, which runs the length of the building, and circulation spaces (top). Strips of intakes along river and city sides of the long, narrow building (bottom photo and plans) introduce cool air. Plenums conduct it within the building and exhaust it at the roof.

Natural ventilation is more successful in moderate climates and with certain building types. "A combination of climate and function determines when passive ventilation is doable," says Alisdair McGregor, a specialist in natural ventilation with Ove Arup & Partners in San Francisco. For example, coastal California, Oregon, and Washington are climatically appropriate—if the building is not too big and internal and if solar gains are not too high.

Another controlling factor is humidity. In steamy climates, chillers work as much or more to remove moisture from the air as to reduce the actual air temperature. Introducing humid air—even if it is relatively cool—into a partially air-conditioned building will make the chiller work harder to remove that moisture. Also, dampness is stored in the materials and furnishings of the building. High humidity in paper causes problems for toner in copiers and laser printers, for example. All this means that it takes a long time for a space to cool down and dry up after an influx of moist air.

Increasing airflow makes people more comfortable at higher temperatures, whether the breezes come from windows or fans. This is called comfort ventilation. Higher indoor air speed is particularly effective in a humid environment because sweat evaporation from the skin makes occupants feel cooler.

Building design influences how much air enters a space and at what velocity. Natural-ventilation design requires a return to design principles that were commonplace before mechanical air conditioning took over in the post–World War II era. Kenneth Yeang, an architect with T.R. Hamzah & Yeang in Malaysia, together with Phil Jones, an architecture professor at the University of Cardiff in England, and Richard Aynsley, a wind consultant and professor at James Cook University in Queensland, Australia, researched the subject and developed techniques that boost natural cooling. One of these is building configuration—most naturally ventilated buildings are designed with narrow, unobstructed floor plans and windows or openings positioned so that occupants are within easy reach of an outdoor-air source. Desks are a maximum of 23 to 26 feet from a window. Erik Ring, a researcher at the University of California in Berkeley, says successful, naturally ventilated spaces typically only have a plan depth of 40 to 50 feet, quite a bit narrower than most modern commercial buildings.

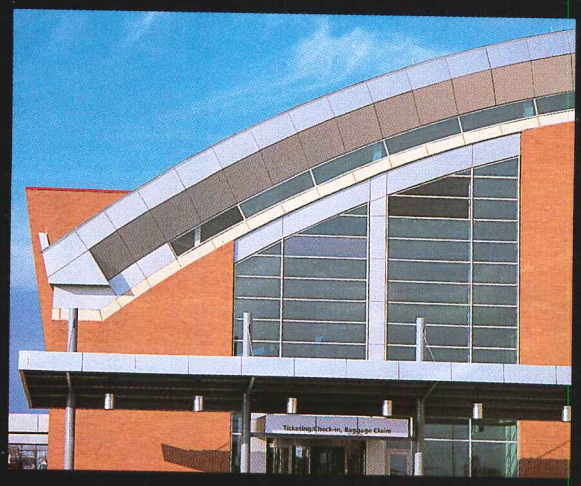
Other techniques to boost cooling include building orientation in relation to the path of the sun and the wind; facade design, including the use of balconies, windows, and air intakes; solar protection, including sunshades and other solar-deflection devices; use of passive lighting, such as skylights, which saves energy and lowers internal heat buildup; vegetation and landscaping to provide shade; and the color of the building.

One of Yeang's naturally ventilated projects is the 21-story Menara UMNO office building in Penang, Malaysia, completed in 1998.

INCREASING AIRFLOW MAKES PEOPLE COMFORTABLE AT HIGHER TEMPERATURES.

Penang, near the equator, is warm in the summer—an average of 90 degrees Fahrenheit during the day, with humidity levels hovering around 76 percent. Offices have a high internal heat load from lighting, machines, and people. Fortunately, the building is on an open site, which means there is little to interfere with the prevailing breezes.

Yeang positioned the building to "collect" the wind at an oblique angle—generally 30 to 60 degrees away from the direct impact. This angling creates a pressure gradient along the windward walls, increasing wind velocity. Wing walls, small projecting walls placed perpendicular to



A Panel Discussion

When you're talking design flexibility, contemporary appearance and affordability, you're talking Alucobond® Material.

Created 30 years ago as the first-ever aluminum composite material or ACM, Alucobond Material has contributed to the design excellence of more than 50,000 buildings worldwide. Alucobond Material's success is due in part to its network of distributors/fabricators–clearly the best in the industry. These partners offer unequaled knowledge and expertise regarding all aspects of fabricating and installing aluminum composite material.

And that translates into unequaled benefits for you.

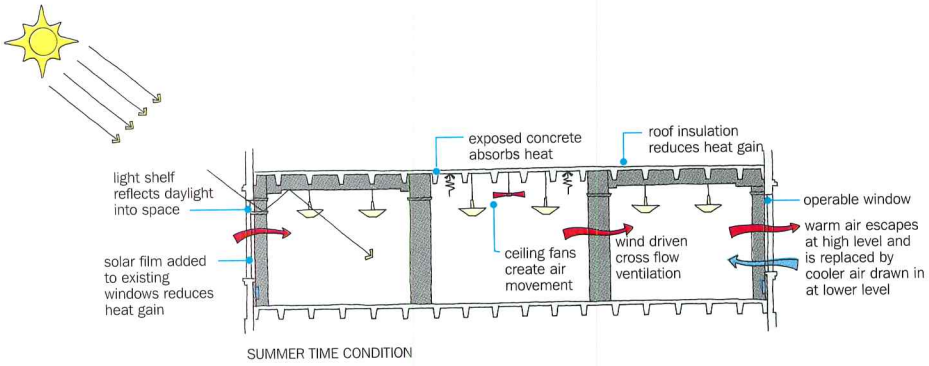
So consider Alucobond ALUCOBOND® MATERIAL Material for your next design challenge.

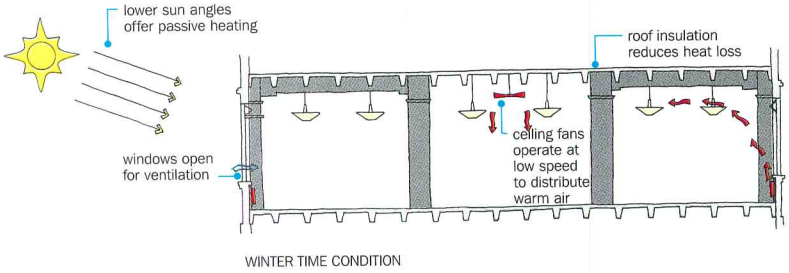
You'll experience the confidence that comes only with the best product and people in the industry.

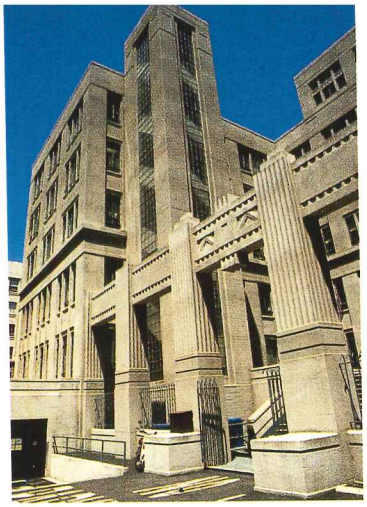
alusuisse composites

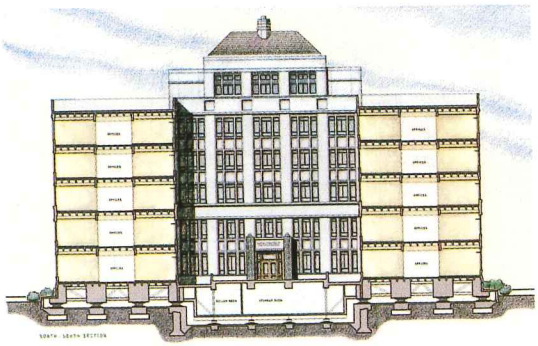
Alusuisse Composites, Inc.
P.O. Box 507 • 208 W. 5th Street • Benton, KY 42025•0507
800-382-6445 • 270-527-4200 • Fax 270-527-1552
www.alusuisse-comp.com

CIRCLE 108 ON INQUIRY CARD









MARTIN LUTHER KING, JR. CIVIC CENTER, BERKELEY

When this civic center (top right) was built in 1940, it relied on natural ventilation for cooling, like most pre-war buildings. In the recent renovation by Elbasani & Logan Architects, the flow of air, light infiltration, and passive solar gain, were carefully considered (left, bottom right). Operable windows and an open plan encourage air flow.

the major ventilation openings, act as pockets or scoops to collect the wind and further increase airflow in the floor spaces. The building also includes balconies at either end of each floor, with operable doors to allow cross ventilation. Windows opposite the balconies also admit breezes.

There is a limit, however, to how much air movement can be increased in office buildings. "If papers are not flying around, the comfort zone can be extended about two degrees Fahrenheit with extra air motion—using a ceiling or oscillating fan at low speeds, or strategically placed open windows with inlets directed at people," says Subrato Chandra, a researcher at the Florida Solar Energy Center. Windows are good for releasing heat when it is cooler outside than inside, but fans are a better way to create consistent airflow, Chandra says.

A combination of systems

Mixed-mode buildings are more common than naturally ventilated buildings; they are more practical in extreme climates and provide building owners with some backup in case occupants are uncomfortable. It's not easy to find mechanical engineers willing to work with mixed-mode systems, however. Integrating the passive and mechanical air-distribution systems is tricky, and most engineers prefer not to deal with the less-than-predictable variable of occupants who undermine the mechanical system by opening their windows when the equipment is operating.

Many mixed-mode spaces switch from natural to mechanical ventilation on a daily or seasonal basis. Rafael Viñoly's 1.3 million-square-foot David L. Lawrence Convention Center in Pittsburgh, to be completed in 2003, will switch to natural ventilation when outdoor conditions allow it. The large exhibit hall and circulation areas, for example, will be naturally ventilated much of the year, according to Dave Lineman, director of engineering for Burt Hill Kosar Rittleman, who's collaborating with Viñoly on the project. Cool air, conducted via plenums from openings along the river- and the city-end of the building, will be distributed to meeting rooms as well. This type of cooling is especially appropriate when convention displays are installed and dismantled, since little heat is generated during these times and comfort needs are fewer. The natural ventilation is likely to save about 25 percent in energy costs over comparable buildings, Lineman says.

The pros and cons

Because it fundamentally affects both building form and mechanical systems, natural ventilation requires extremely close collaboration between architects and engineers. "I can't think of anything, except possibly day-

MIXED-MODE BUILDINGS ARE MORE COMMON THAN FULL NATURAL VENTILATION.

lighting, for which design integration is more essential," says Harry Gordon, AIA, with Burt Hill Kosar Rittleman.

Close collaboration with clients, who must recognize that indoor climate conditions will be more variable than in a conventional air-conditioned building, is also needed. In specifying the allowable conditions, it is best not to set absolute limits on acceptable indoor temperatures, McGregor says. "Specify allowable variances instead, in terms of how many hours the space will be above a given temperature," he suggests. "Those terms are more acceptable to clients."

Designs for natural ventilation typically require open areas in which large volumes of air flow naturally through a building. This open-

More than 100% growth in the number of firms we insure
More experience
More than 40 years of service to the AE community
More professional liability policies in force
More local claims specialists
More pre-claims assistance
More ways to help you manage risk
More services that help your business grow
More coverage
More professional liability programs
More than $300 million in underwriting profits returned to insureds
More on-line information from our web site
More ways for you to save money
More premium credits for mediation
More design-build coverage
More international business consulting

Sometimes, more is more ...

More coverage available to design firms in all 50 states
More claims service
More programs for landscape architects
More property and casualty coverage
More circumstance reporting
More legal defense attorneys
More success in defending design professionals
More loss of earnings reimbursement
More and higher limits of liability
More premium credits for good claims experience
More regional risk management seminars
More voluntary education program services
More continuing education credit
More contract reviews
More professional liability newsletters
More legislative and regulatory updates
More joint venture coverage
More programs for specialty consultants
More pollution liability coverage
More worldwide coverage
More construction management coverage
More equity interest coverage
More programs for architects and engineers
More programs for land surveyors
More first dollar defense coverage
More programs for environmental consultants
More premium credits for longevity
More split limits
More and wider ranges of deductibles
More prior acts coverage
More employment practices liability coverage
More than a promise
More optional coverages
More multi-year policies
More guaranteed premiums
More premium credits
More simplified applications
More premium payment plans
More features that offer program flexibility
More premium credits for risk management
More reasons why we're the market leader
More financial strength
More professional society commendations

When someone tells you less is more, make sure they're not talking about your insurer's claims and risk management services.

For more information on our insurance programs for design professionals, contact your independent agent or broker, or call 301-951-9746. Visit us at Schinnerer.com

This advertisement is for illustrative purposes only and is not a contract. Only the insurance policy can provide terms, coverages, amounts, conditions and exclusions. CNA is a registered service mark and trade name of CNA Financial Corporation. This program is underwritten by Continental Casualty Company, a CNA company, and is managed by Victor O. Schinnerer & Company.

Victor O. Schinnerer & Company, Inc.

CNA PRO

CIRCLE 109 ON INQUIRY CARD

ness may make it more difficult to pressurize corridors and prevent smoke migration in case of fire. "Fire code issues come into play particularly in high-rise buildings," McGregor adds. "Often more fan power is needed to control the pressure with the windows open."

Buildings that rely solely on natural ventilation may also expose occupants to unwanted noise and dirt from outdoors. "If you're designing a building that relies on open windows, then chances are you'll have a noise issue," McGregor says. Buildings that depend on open windows must either be located in quiet settings or have clients willing to tolerate some degree of noise intrusion—asking someone on the telephone to hold while a fire truck goes by, for example.

PUBLIC BUILDINGS ARE GOOD CANDIDATES FOR NATURAL VENTILATION.

Acoustics can also be an issue indoors. The additional openings provided for airflow increase noise transmission. This problem, common to many open-plan spaces, can be remedied with noise-absorbing finishes on interior surfaces. Rarely are these acoustical issues insurmountable, but they do require careful attention from the early stages of design. Also, many occupants site a lack of noise from mechanical systems as an advantage of natural ventilation.

Public buildings often contain activities less interrupted by noise and temperature variations than typical office buildings, and they are therefore likely candidates for natural ventilation. A good example is the Martin Luther King, Jr. Civic Center in Berkeley, Calif. A city landmark designed by James Plachek and built in 1940, the building was recently renovated by Elbasani & Logan Architects. Their work retains the building's reliance on natural ventilation, while enhancing comfort with improved airflow and reduced solar gains.

Finally, interior air quality is normally improved with natural ventilation. Concerns about sick-building syndrome and off-gassing of furnishings and other interior elements are greatly diminished. The exception would be a structure in a heavily traveled area, where dust and fumes would enter the space. Another concern is pollen infiltration in rural settings. Without the filters provided with conditioned air, allergy sufferers are likely to be more uncomfortable.

Operable windows

Randy Croxton, AIA, of Croxton Collaborative Architects in New York City, tries to provide operable windows in all the buildings he designs. "You cannot underestimate the value of operable windows for the sense of individual control in terms of productivity and comfort," says Croxton. He also insists on providing high volumes of outside air—100 percent when climate conditions permit—via the mechanical systems, so the occupants rarely feel the need to open the windows. The outside air passes through high-performance filters and is delivered, via ducts and diffusers, at a speed high enough for occupants to feel the air moving.

"If you have these layers of quality built into the air, people aren't inclined to open windows anyway," Croxton reports. He has used this combination of high-quality mechanical ventilation and operable windows successfully on several projects, including Chattanooga's new Development Resource Center, designed in partnership with Chattanooga-based Artec, and currently under construction.

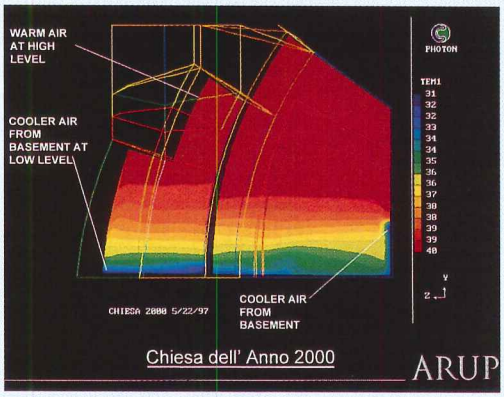
Mixed-mode buildings sometimes include locks that prevent occupants from opening windows when the air conditioning is on, or stops that prevent the windows from opening fully. The windows in Croxton's 1995 American Association for the Advancement of Science building in Washington, D.C., for example, are restricted in how far they can open. In other instances, the occupants are trusted not to undermine the mechanical system. This is the case at the new computer sciences facility at York University in Toronto, designed by Van Nostrand and Di Castri Architects of Toronto in joint venture with Busby + Associates Architects of Vancouver. Occupants will be encouraged to use the windows during swing seasons,

Getting cool help for architects

Understanding the climate in which one intends to build is always a good idea, but it is especially critical for naturally ventilated and mixed-mode buildings. Architects increasingly rely on computer software for this help.

One simple but useful tool is Climate Consultant, developed by Murray Milne and his students at the University of California at Los Angeles. Climate Consultant takes standard weather-data files and displays them in relation to a comfort zone on a psychrometric chart, which plots temperature and humidity. Climate Consultant, along with weather files for many U.S. locations, is available as a free download from www.aud.ucla.edu/energy-design-tools.

At the other extreme in terms of complication is Computational Fluid Dynamics, or CFD. This software models the amount of airflow through a building, based on wind pressures and temperature differences. CFD programs tend to be complex and require quite a bit of training, so an architect or engineer is more likely to contract with a specialist to perform the analyses.



CFD model for Meier's Church of the Year 2000.

Burt Hill, for example, is working with Brian Ford, a CFD expert with Brian Ford Associates in London, for the Pittsburgh Convention Center. One of the strengths of a good CFD analysis, especially for buildings with large volumes, is that it can show how conditions will vary in different portions of the space. There might be pooling of uncomfortably hot air near the ceiling, for example, but if the occupied zone is comfortable, that hot air is not problematic.

Even good CFD studies with positive conclusions are not always enough to convince clients, however. Engineers at Southern California Edison, learning that all schools are naturally ventilated in San Diego, commissioned CFD studies of a new elementary school for Newport Beach, Calif., in hopes of demonstrating how this low-tech approach can work. The study showed that comfortable conditions could be maintained in the occupied zones under all design conditions, but the school district decided to go with an air-conditioned, sealed building anyway. One reason for this choice is that the facilities staff was concerned that if people had complaints, there would be no equipment to adjust or fix.

Interestingly, the CFD studies also showed that the school district's mandated red-tile roof would have resulted in slightly less comfortable conditions than if a heat-reflecting, light-colored roof were used. *N.M.*

FOLLANSBEE'S

ENVIROMETALS® TCS II® AND TERNE II®

roofing metals coated with a revolutionary new alloy that enhances their corrosion resistance even in chemically-polluted and marine atmospheres

Drawing on more than a century of experience in producing roofing metals, Follansbee has now created a new alloy which is environmentally sensitive and enhances a roofing metal's corrosion resistance in severe atmospheres such as those encountered in chemically-polluted and marine environments.

Developed by Follansbee over a 7-year period of testing in laboratory and field conditions, the new ZT® alloy does not rely on the sulphur content of the atmosphere to develop its protective and attractive gray patina. The ZT alloy is oxygen-reactive, therefore, it develops its patina under all ambient conditions–rural, industrial or marine.

Follansbee now offers TCS II and TERNE II, roofing metals coated with lead-free ZT alloy. Many prominent architects are already specifying these Follansbee roofing metals, and feel as we do, that they are roofing products which meet the demanding construction needs of the coming century.

We will be happy to send you complete information on TCS II and TERNE II and the new ZT alloy. Call us toll-free,1-800-624-6906.

Creating outstanding roofing metals for more than a century

FOLLANSBEE®

FOLLANSBEE STEEL • FOLLANSBEE, WV 26037
FAX 1-304-527-1269

Visit us on the Website: folrfg.lbcorp.com

Our E-Mail address: folrfg@lbcorp.com

CIRCLE 110 ON INQUIRY CARD

when natural cooling will be relied upon. "There will be a 'how the building works' card for every office," says Mike McColl of Busby + Associates. The card will tell occupants when to keep their windows open.

The building also has an atrium with openings at the base and at the top. These will be automatically opened or shut to optimize or limit airflow through the space, depending upon ambient temperatures. In midsummer and winter, when conditions are not conducive to natural ventilation, the mechanical system will draw naturally cooled or warmed air from underground circulation tunnels, which connect the buildings on campus, and pump it into the building.

Ahh, the night air

Flushing heat out of a building with cool nighttime air is an energy-saving strategy sometimes used with naturally and mechanically ventilated buildings. Night flushing is most effective in climates where hot days are accompanied by cool nights. These climates also tend to have drier air—which is important in order to avoid the pitfalls of introducing humid air into partially air-conditioned spaces.

Night flushing requires some exposed high-mass surfaces that can store heat during the day and release it at night as the cooler air moves through. In the Martin Luther King, Jr. Civic Center in Berkeley, the mass was provided by removing the dropped ceiling in some spaces to expose the underside of the concrete floor slab.

Raised access floors are increasingly common in buildings designed for night flushing. By containing mechanical air distribution, cable management, and other services under the floor, these systems make it relatively easy to eliminate a dropped ceiling entirely, which in turn makes the concrete slabs above available for thermal mass.

At what price comfort?

Thermal comfort is determined by clothing and activity level, air temperature, humidity, air speed, and radiant temperature (the temperature of nearby surfaces). Every individual's allowable comfort range varies. The American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE) and the International Standards

OCCUPANTS MUST BE WILLING TO DRESS APPROPRIATELY FOR THE SEASON.

Organization (ISO) have defined narrow allowable ranges of temperature and humidity for various building types.

Although these ranges were developed for centrally controlled, air-conditioned buildings, it is often assumed that they should apply to naturally ventilated buildings as well. Recent research shows that in naturally ventilated buildings occupants are comfortable in a wider range of temperature and humidity conditions. The researchers proposed a separate standard for naturally ventilated buildings to account for this wider range. This alternate standard is likely to be included in a future revision to ASHRAE's standards.

In the York University project, which deals with the thermal comfort issue by separating the building into zones with differing temperature set points, the conventionally established comfort temperature of 70 degrees Fahrenheit will be maintained in offices, while in lecture halls summer temperatures will be allowed to climb to 74 to 75 degrees Fahrenheit, and to 81 degrees Fahrenheit in circulation spaces. "Clients must either hope for stimulating lectures or be willing to dress appropriately for the season," McGregor says. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- Read the article "What? No Air Conditioning in This Building?" using the learning objectives provided.
- Complete the questions below, then check your answers (page 408).
- Fill out and submit the AIA/CES education reporting form (page 408) or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA Learning Unit.

QUESTIONS

1. What building-design features boost natural cooling?

2. How does the climate affect the design for naturally ventilated buildings?

3. What are the drawbacks of using natural ventilation?

4. How are buildings designed to take advantage of natural cooling?

5. How are the standards for allowable temperature ranges related to natural ventilation?

Designed To Perform . . . Built To Last

Since 1926, Bilco access products have featured innovative design, exceptional workmanship and superior performance. Bilco's line of access products includes:

Floor, Vault and Sidewalk Doors

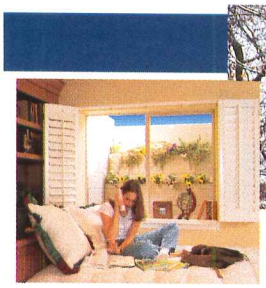
Heavy duty doors with counter-balanced covers ensure smooth, easy and controlled one-handed operation. A variety of models, ranging from Fire-Rated floor doors to doors reinforced for special loading conditions, are available.

Roof Hatches

Their rugged durability, ease of installation, effortless operation and weather-tight construction make Bilco roof hatches the industry standard.

Automatic Fire Vents

Bilco fire vents automatically release to vent heat, smoke and gases in the event of a fire. A wide range of UL-listed and FM-approved vents and a variety of options are available.



Better Living Basements™

Bilco's residential product line, including basement doors and window well systems, add daylight, ventilation, convenient access, and code compliance to basement areas, creating valuable lower level living space.

From architects and specifiers to tradesmen and end-users, Bilco's reputation for high quality and product performance is unequaled.

Bilco®

Since 1926

For more information, catalogs, or CD-Rom, call **(203)934-6363** *or log on to www.bilco.com*

CIRCLE 111 ON INQUIRY CARD

© 2000 The Bilco Company.

LLOYD'S REGISTER QUALITY ASSURANCE · ISO9001

See us at the NFPA Show, Booth #559

Mix brick and mortar with your index finger.

BoralVision®
A brick imaging program for ARCHITECTS

Point. Click. Choose a brick. Choose your mortar and paint, too. It's that easy with BoralVision for Architects. Compatible with most CAD software, our computer imaging system allows you to mix and match many brand name products, like Blue Circle® Cement and Boral Bricks, until you find the colors and styles that work best with your design. And when it's time to make a presentation, BoralVision gives you a fast, cost-effective way to print as many high quality renditions as you have ideas. Find out how BoralVision can help you enhance your designs and presentations. To locate your nearest Boral Bricks distributor, call 1-800-5-BORAL-5.

BORAL BRICKS®
A SOLID DECISION™

•FREE OFFER•

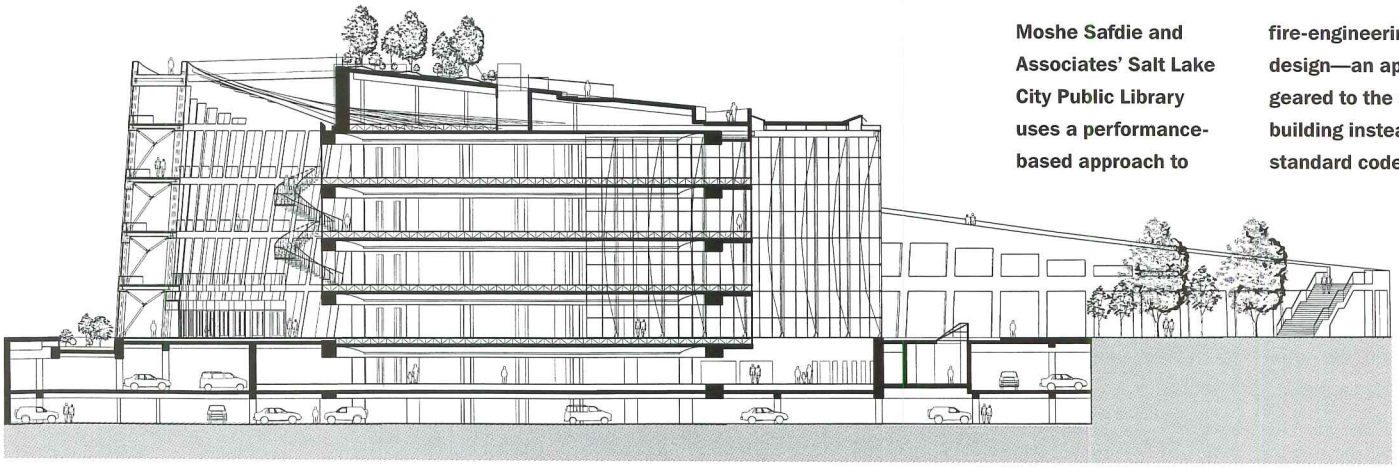
For a limited time, architects can receive a complimentary BoralVision for Architects CD. Simply call 1-800-5-BORAL-5 or visit our website at www.boralbricks.com and order yours today. (Refer to Code #AR-0998.)

BoralVision is a trademark of Boral Bricks.

CIRCLE 112 ON INQUIRY CARD

Analyzing Fire Risks Building by Building

PERFORMANCE-BASED FIRE PROTECTION LETS ARCHITECTS FOCUS ON A BUILDING'S DESIGN OBJECTIVES, INSTEAD OF SEARCHING FOR WAYS TO MEET GENERIC CODE PROVISIONS.



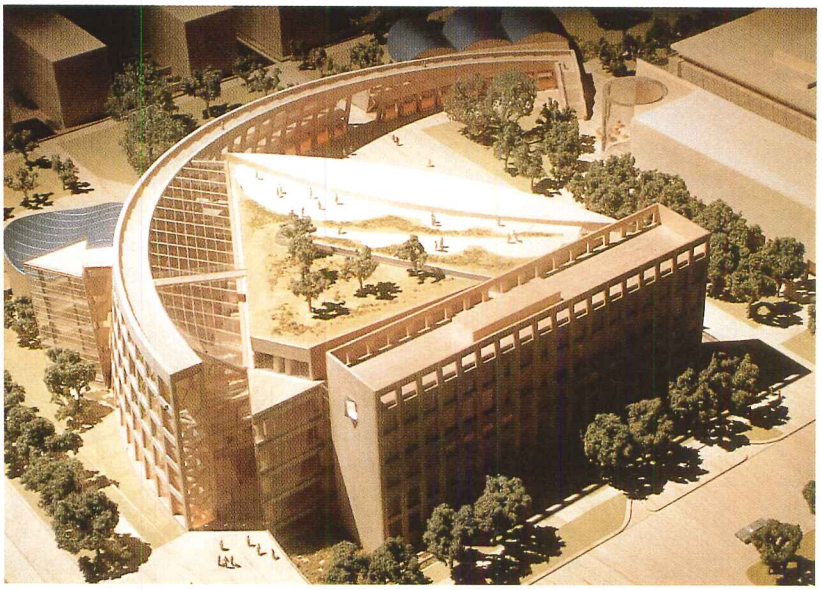
Moshe Safdie and Associates' Salt Lake City Public Library uses a performance-based approach to fire-engineering design—an approach geared to the specific building instead of standard codes.

By Brian J. Meacham

There is a small slice of atrium space near the entry to Moshe Safdie and Associates' Salt Lake City Public Library, now in early construction, that its architects have nicknamed "the canyon." The space serves several purposes. It brings light to all the floors, signals the entry to the different portions of the building, and, most important, as project manager Isaac Franco, AIA, explains, it provides a place "to read the building in its totality as soon as you walk in."

The canyon, as designed, would violate standard code: Partitions would be required. Other aspects of the building would have to change to accommodate code. Given these challenges, the architects turned to fire engineers Arup Fire to develop a performance-based approach for the library. Performance-based fire protection means that design objectives, performance criteria, and engineering methods are geared to fire protection, rather than to the materials, assemblies, or dimensional specifications, which are defined—and often limited—by code. The focus is on the desired features of a particular building and its use, not on compliance with a set of requirements developed to address a generic class of buildings.

For architects like Safdie, this more flexible approach allows greater design freedom without increased safety risks. "There's no question that safety is the most important criteria for fire analysis," Franco



Brian J. Meacham was formerly with the Society of Fire Protection Engineers, where he was instrumental in developing the SFPE Engineering Guide to Performance-Based Fire Protection Analysis and Design of Buildings. *He is a principal fire engineering consultant with Arup Fire.*

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 304 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Explain when a performance-based approach is most feasible for building design.

2. Describe how performance objectives are translated into building design.

3. Describe the process of analyzing design-fire scenarios.

WWW *For more continuing education go to:* **www.architecturalrecord.com**

CASE STUDY

Project: *Regional Performing Arts Center, Philadelphia*
Architect: *Rafael Viñoly Architects*
Fire-protection engineer: *Hughes Associates Inc.*

Plunking smoke-evacuation fans into the glass membrane that arches over the Regional Performing Arts Center (scheduled for completion in December 2001) would have required "an entirely different design," says Sandy McKee, AIA, project manager for Viñoly. But that's what conventional Philadelphia fire codes required for the large atrium space. "Early on, everyone knew the smoke situation would be difficult to design around," McKee says. "We knew we'd have to come up with something different."

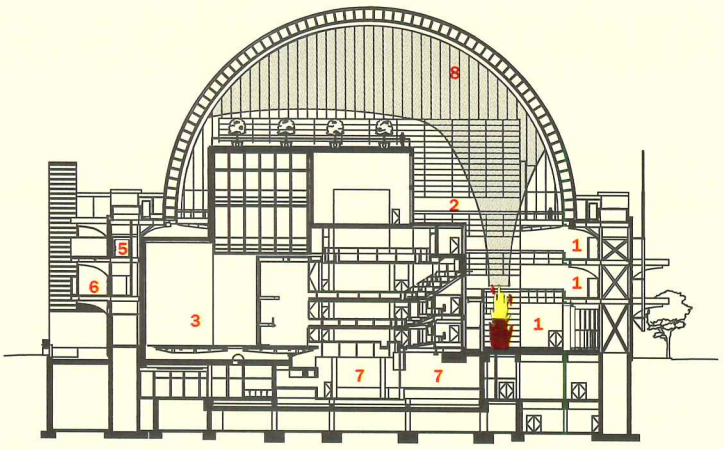
Spanning two city blocks, the project features a six-story glass atrium measuring 175 feet in diameter. Within the atrium are two freestanding volumes: a 750-seat, cube-shaped recital theater and a 2,500-seat wood-clad concert hall. A roof garden crowns the recital theater.

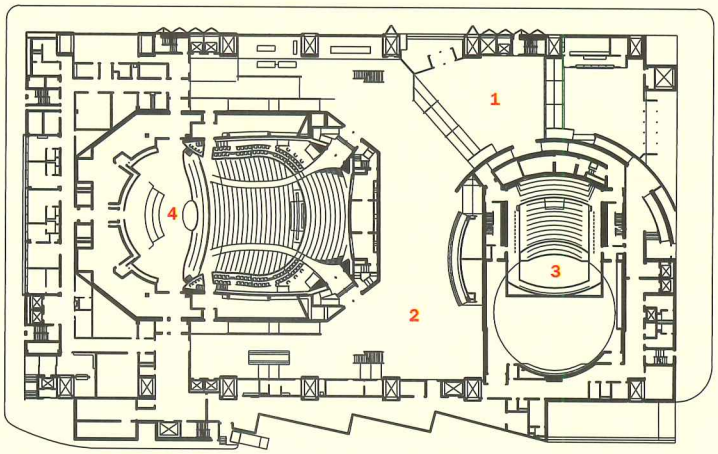
Local code requires smoke control for all atria that connect more than two levels in order to allow safe egress and to prevent smoke from migrating to other areas of the building. In the center, that would have meant installing fans in the glass roof and the end-wall, an elegant glass membrane designed to move with the wind. But putting in fans to meet the code would have violated the goals of the building's stakeholders: to maintain the design aesthetic while also ensuring life safety.

Working with Hughes Associates, Viñoly's office explored other options for evacuating smoke. The engineers used computer fire models to explore different fire scenarios and solutions. They also performed a timed egress analysis, which they compared to the progress and toxicity of the smoke.

The solution took advantage of the atrium's size, using it as a reservoir for smoke. Building materials were also selected to minimize toxicity. And operable vents in the roof and walls will help exhaust smoke.

"We were allowed this variance, but we had to be simple and clear in presenting it to the officials," McKee says. "It's always the role of the architect to get everyone to agree, but it was the role of the fire engineers to help everyone understand the goals and solutions."





1. *Lobby*
2. *Atrium*
3. *Recital theater*
4. *Concert hall*
5. *Education center*
6. *Donor's lounge*
7. *Storage*
8. *Smoke layer*

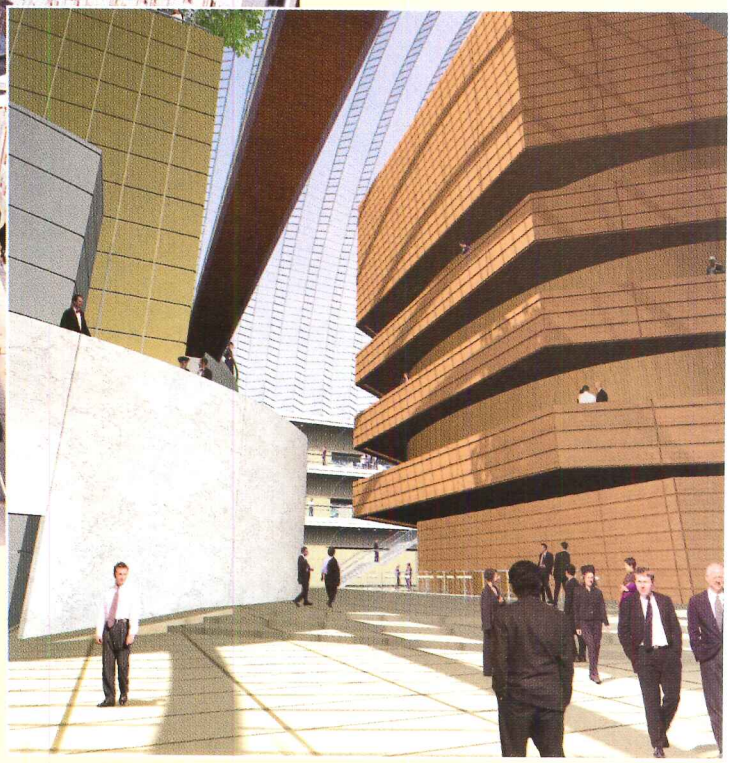
says. But a performance-based approach provides "a way to analyze safety risks more carefully and respond to them with a design targeted to this building. It's a more informed approach. Code would not have allowed us to maintain this transparent and open building design."

Although performance-based design can apply to any building, it is most effective for complex and unusual structures, particularly those that don't fit well within the guidelines prescribed by codes. Examples include convention centers, shopping malls, airport terminals, healthcare facilities, and high-rise atria buildings, all of which pose different egress problems and benefit from careful analysis of the construction materials used. Museums and historic structures are similarly challenging because they must balance aesthetics and historical preservation with fire-safety concerns. Factories, especially those with sensitive or hazardous processes, require special attention, as do critical facilities, such as transportation command centers, where one small fire could have disastrous results.

A performance-based design will likely cost more to develop than one based on prescriptive measures, although these initial costs can result in long-term savings. For example, a performance-based design that excludes fire protection of exposed structural steel members saves on fire-protective coat ıgs and coverings. Other cost savings might include the elimination or reduction of a stairwell, resulting in more tenant space, or the creation of open stairs and atria throughout multiple floors, resulting in more light penetration and fewer materials.

In many cases, performance-based design is used in combination with the more widely accepted codes to address a few unique features of a specific design or to make the required fire protection more cost-effective. Prescriptive codes that are developed to address broad classes of buildings don't quite fit complex and unusual buildings. Fire-engineering analysis addresses particular needs for special buildings. For example, most codes require sprinklers at ceiling level in an atrium, which is practical when ceilings are low enough for rapid sprinkler activation by fire. But if the ceiling is too high, the temperature may not rise enough to activate the sprinklers. The fire engineer would have to develop a fire-safety alternative for the space.

Internationally, the performance-based design movement is gaining momentum, partly because technology has advanced to a point where the performance of many building systems can be measured, calculated, predicted, and evaluated with analytical tools and methods. This improvement affords architects and engineers more opportunities to use innovative materials and methods to realize their design objectives.



Following Philadelphia fire codes would have required a different design for Viñoly's Regional Performing Arts Center (above and right).

Perhaps more important, studies show that not only can a generic, prescriptive code restrict design flexibility, but it can also incur unnecessary costs and redundancies. Today many countries, including England, New Zealand, and Australia, have adopted performance-based building codes and design guides.

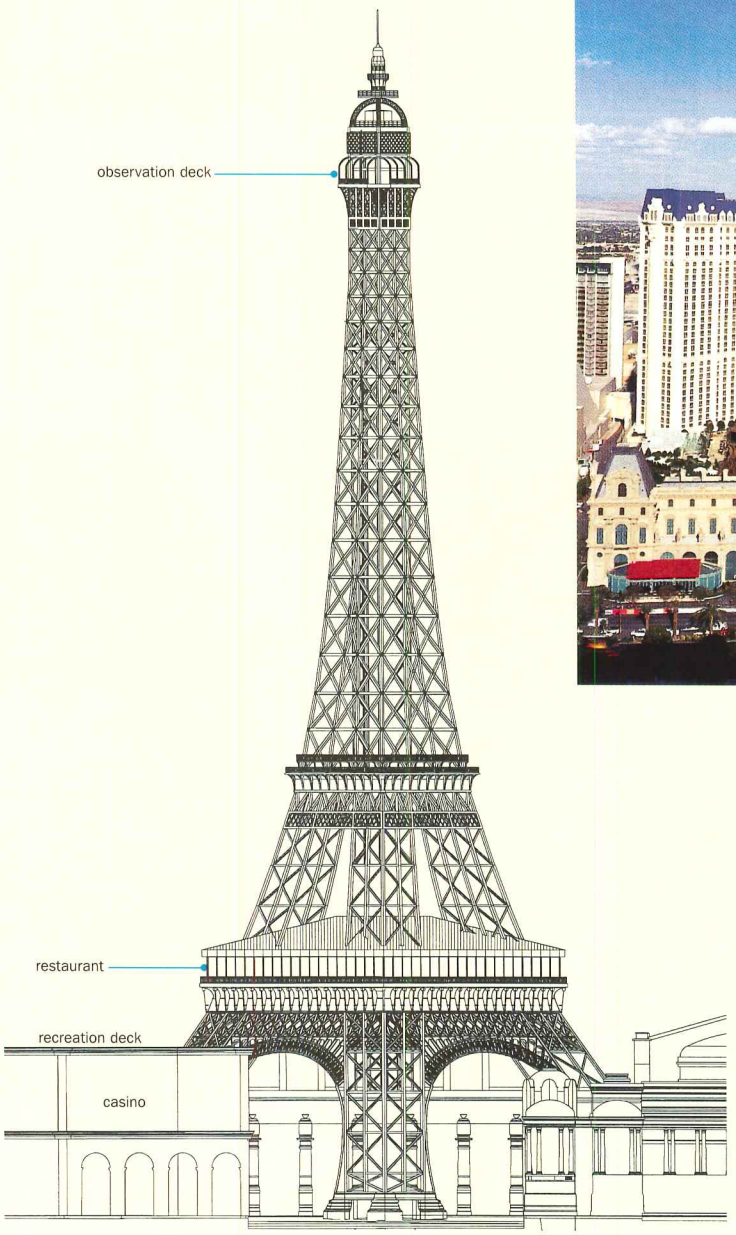
In the U.S., this performance-based approach to fire engineering, as well as similar changes to other aspects of the code, including seismic and mechanical systems design, began around 1991. Code revisions address overlapping provisions, redundancies, and undue restrictions caused by the disproportionately high number of building-code items related to fire and life safety. Performance-based codes are being or have been developed by such organizations as the International Code Council, the National Fire Protection Association, the Structural Engineers Association of California, and the Society of Fire Protection Engineers (SFPE).

Proving it

Despite the benefits of performance-based fire protection, the method is still not widely accepted. Instead, an alternate-methods-and-materials clause is commonly used. This clause is intended to allow architects or engineers to use any design method or material to meet code requirements, provided they can demonstrate that the method or material is equivalent to the prescriptive provisions. Although this seems reasonable, actual equivalency is not easy to demonstrate, especially if there is disagreement regarding what criteria should be used to demonstrate compliance. Is a material with a one-hour fire-resistance rating equivalent to another material that also has a one-hour rating? Is a material with no rating equivalent to a material with a one-hour rating if there is a sprinkler system?

Unfortunately, such differences in interpretation are common because there is little guidance for determining equivalency beyond the single-paragraph alternate-methods-and-materials clause in the standard code. Addressing such disagreements introduces delays in the design, construction, and approval processes. Because such delays are costly, architects and engineers usually prefer simply to fall back on the prescriptive requirements, even if it means they can't follow the design path they prefer.

To minimize disagreements and facilitate the development and acceptance of performance-based design, the SFPE prepared its *Engineering Guide to Performance-Based Fire Protection Analysis and*



CASE STUDY

Project: *Eiffel Tower II, Las Vegas*
Architect: *Leidenfrost/Horowitz & Associates*
Fire-protection engineer: *Schirmer Engineering Corp.*

A 54-story welded-steel replica of the Eiffel Tower, its legs dipping into an adjacent casino, is just the kind of structure one would expect in Las Vegas. The tower, part of the Paris Casino Resort, is innovative in many ways, including its performance-based approach to fire engineering.

The goals of the stakeholders were simple: "We wanted the building to stand up, the people to get out, and the costs to be reasonable," says Vince Petito, AIA, production manager for the project, with Leidenfrost/Horowitz & Associates in Glendale, Calif.

Standard prescriptive codes would have required a three-hour protected steel structure. Aside from straddling the casino roof, this Eiffel Towel supports a restaurant and observation deck serviced by four elevators and two stairs. Enclosing the steel would have defeated the whole aesthetic idea of the project, not to mention the prohibitive cost of fireproofing the entire tower.

The architects relied on Schirmer Engineering, who worked closely with the structural engineers to develop an analysis that supported a performance-based approach. Most of the analysis was completed within about three months. The engineers also worked with the local building and fire departments and held weekly meetings to keep everyone informed.

"We knew the final result we wanted," Petito says. "But we didn't want to follow every line of the analysis. Most of this stuff flies over the heads of the architects; it is very technical. And it all had to be presented in a form that building officials would understand."

Design of Buildings. Available since March, the guide represents a consensus by the fire-protection engineering community for the best current practice in performance-based design—a particularly helpful tool when designing buildings that depart from conventional codes. Although it is not a standard, the guide is considered a code of practice among fire engineers, and it will be referenced as such in future building codes.

To help in the development of performance-based designs, the guide outlines an eight-step process by which fire-protection engineers evaluate and make recommendations for new construction or for renovation. In addition, the guide provides references to data sources, analysis, and design tools needed for performance-based design, such as engineering handbooks, textbooks, research reports, and journal articles.

The design process

To get a project started right, it is imperative to identify and agree on stakeholder goals and objectives. Stakeholders include all those with an interest in the successful completion and operation of a building, including the owner, developer, investors, key tenants, design team, and code and insurance officials. It is not always simple to reach a consensus, as each stakeholder may have a different set of goals. The architect might want a unique feature—a glass atrium or an open stairway—while the building department favors strict code compliance. The owner or developer, meanwhile, probably wants the maximum flexibility at the lowest cost.

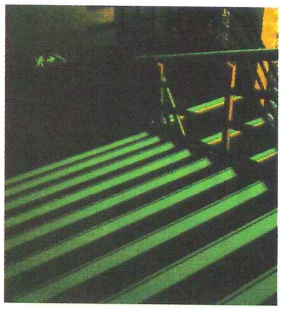
Consider a hypothetical high-rise office building in the early stages of planning and design: The architect envisions an atrium that extends from the ground level to the top floor, opens to each floor, and integrates unprotected structural-steel members and glass. Local codes, however, prohibit an inhabited level more than three floors above the base of an atrium to be open to that atrium; the code also bans unprotected structural steel. The building owner likes the architect's proposed design but has a tight schedule and does not want delays during the approval process.

These conflicting objectives must be settled early if the project is to proceed smoothly. A fire-protection engineer who understands the performance-based design process should be engaged at this initial

Meets code.

Meets code.

Meets code.



Exceeds code.

SAFE-T-FIRST™
Featuring Johnsonite PERMALIGHT® Technology

In a blackout, meeting existing building codes may not be enough.

Traditional emergency lighting systems require electrical or battery power. These systems require regular maintenance and are subject to human error. Code-required emergency systems may not perform in an emergency situation. Johnsonite, in collaboration with PermaLight A.G. of Germany, developed Safe-T-First™ as a result of increasing demands for enhanced life-safety provisions, particularly during crisis situations where loss of power resulted in blackout. Safe-T-First creates low-location, non-electrical, bright luminous pathways on floors, along the wall base and in stairwells. And as with all of our solutions, we've carefully styled Safe-T-First so it may be easily integrated into the design of your space.

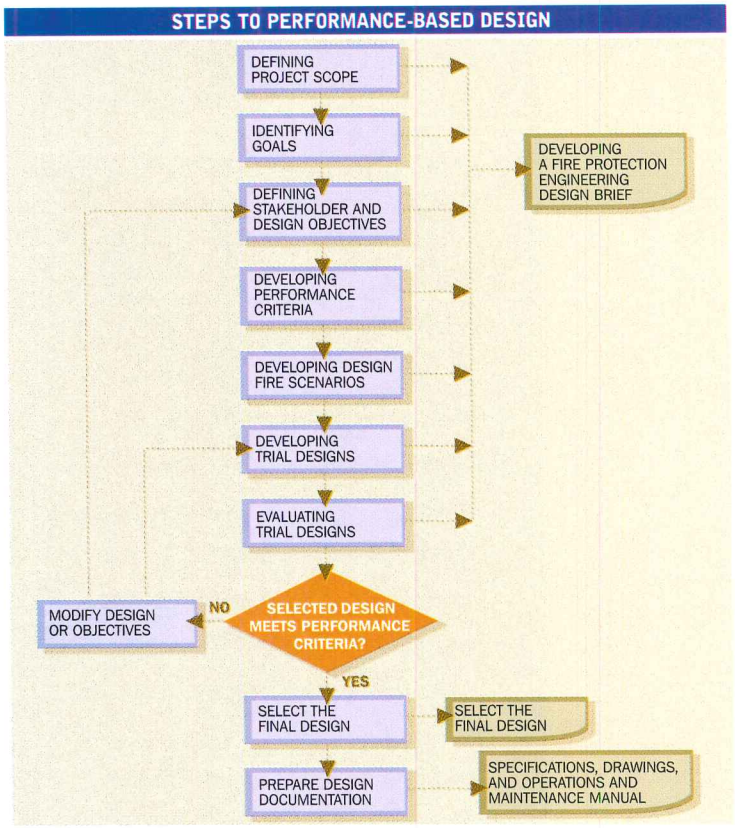
Johnsonite®
Flooring Solutions to Integrate Design & Life-Safety

1•800•899•8916
www.safe-t-first.com

Johnsonite GENESES Collection

© 1999 Johnsonite, Div. of Duramax, Inc.
Printed in the USA 95000-691 4/00

CIRCLE 113 ON INQUIRY CARD



This flowchart illustrates the steps required for a successful performance-based analysis and design procedure for fire protection.

stage. Such professionals often provide suggestions for bridging gaps between varying stakeholder objectives. Brought into the process late, a fire-protection engineer may miss opportunities to influence the ways in which specific code provisions are met or costs are minimized. As a result, design options may be limited.

In the best case, the fire-protection engineer, through discussion with the owner, architect, and code official, gets everyone to agree on the goals. Suggestions might include the following: First, occupants on any floor will be able to reach a place of safety in a reasonable amount of time, without being exposed to unsafe levels of smoke from a fire in the atrium; second, fire-safety measures will be designed to limit the size of any fire in the atrium, so that damage to the unprotected structural members is unlikely.

Once stakeholder objectives are established, they must be translated into design objectives. This process restates stakeholder objectives and quantifies them for use as the basis for design. For the hypothetical office building, design objectives may include setting limits on the flammability of interior finish materials, on the types and quantities of atrium contents (chairs, kiosks, or displays), and on the amount of smoke that may migrate onto any floor open to the atrium.

Performance criteria

The next step is to develop and reach agreement on performance crite-

Fireproofing structural steel

Structural steel is one of the most commonly used products for buildings with a performance-based approach to fire prevention. Coatings used to fireproof structural steel prevent the premature collapse of a structure, limit the amount of damage, and contribute to life safety.

There are three types of coatings: cementitious, sprayed mineral fiber, and intumescent paint. Cementitious fireproofing is made of either gypsum plaster or Portland cement binders, which are mixed with water and sprayed into place, forming a uniform, monolithic finish. Sprayed mineral fiber is blown on through a hose, forming a thick, furry-looking coating. Both are intended to be hidden behind interior finishes, such as drywall.

Water- or solvent-based thin-film intumescent paints, typically spray-applied, are virtually invisible. In the intense heat of a blaze, this film softens and expands to form a thick meringue-like layer that insulates the steel for a period of time—generally up to two hours, depending on the rating.

Intumescent coatings allow architects to "express" the steel, offering a more pleasing aesthetic solution to any project in which steel is exposed, such as airports, stadiums, arenas, hotels, shopping malls, and medical facilities. Rigorous testing is an important criteria for all three materials, and architects should check to see what agency has approved the material. Canadian and American testing requirements vary. *Rita F. Catinella*

Several coating options

Albi Clad Thin Film is spray-applied, water-based, and classified by UL with fire-endurance ratings up to 3.5 hours on various structural-steel members. Albi Clad was specified at the Ontario Airport (above, right). Albi Manufacturing, East Berlin, Conn. 860/828-0571. www.albi.com

Fire-Sorb is a subliming (passes directly from solid to vapor and then condenses back to solid again), single-component, fire-resistive, solvent-based coating that is spray-applied directly to primed steel surfaces. Epoxy-based *Thermo-Lag* is exterior rated. Both are specifically tested for the protection of structural steel used in commercial, institutional, and industrial facilities. Nu-Chem Inc., St. Louis. 636/349-1515. www.Nu-ChemUSA.com

Nullifire offers a choice of three intumescent products and a full spectrum of finish colors for all types of steel sections: tubes, columns, I-beams, and pipes. All are fully tested and UL listed. Fire ratings of up to two hours are possible on many types of interior and exterior steelwork. The company's cementitious line, *Pyrolite,* can be used in a variety of commercial applications. The Carboline Company, St. Louis. 800/848-4645. www.carboline.com

Monokote MK-6/HY and *MK-6s'* gypsum-based, cementitious, spray-applied fireproofing products are

designed for fast application to steel and concrete. UL-listed *Monokote MK-6/HY Extended Set* is a single-component, mill-mixed cementitious fireproofing plaster. W.R. Grace & Co., Cambridge, Mass. 800/778-2880. www.graceconstruction.com

Blaze-Shield's spray-applied, fire-resistive materials are fiber-reinforced, cement-based products available in several densities. *Cafco SprayFilm-WB II* is a water-based, intumescent coating for fire-protecting interior structural steel. Isolatek Intl., Stanhope, N.J. 800/631-9600. www.cafco.com

Every Fire Door
Should Look
This Good.
The RITE Door™
Complete Door Systems
The Rite Door offers:
• Grade 1 performance and construction
• Low profile design where clear opening must be maximized
• Positive Pressure fire ratings up to 3 hours
• Factory assembled hardware
• Wide range of custom finishes and options
The Rite Door is the complete solution for fire rated doorways, blending beauty and innovative design. The integrated door assembly combines a fire rated door and low profile exit device into a single unit.
ADAMS RITE
MANUFACTURING CO.
260 Santa Fe Street, Pomona, CA 91767 • 800-872-3267 • Fax: 800-232-7329 • www.adamsrite.com
CIRCLE 114 ON INQUIRY CARD

ria—numerical values used to judge whether a proposed design complies with the design objectives. Fire-protection engineers typically select the performance criteria, as this requires expertise in the impact of fire on people and materials. For example, in the hypothetical office building, one goal is that occupants on any floor will not be exposed to unsafe levels of smoke from a fire in the atrium for longer than it takes them to reach a place of safety. Consequently, one design objective would be to limit the amount of smoke that can migrate onto any floor open to the atria. To test any proposed design on its ability to reach this goal, there must be some criteria for quantifying an unsafe level of smoke: the performance criteria.

Suitable performance criteria might cite a maximum smoke obscuration level (relating to the distance one can see through smoke) and maximum allowable smoke production over a given period of time (relating to how fast the atrium might fill with smoke).

The selection of performance criteria can be very difficult because all pertinent safety aspects of a project must be considered, including the age and physical condition of the people who might be exposed to a fire. It must be possible to characterize who or what may be exposed to the fire, what the acceptable levels of damage would be, and how these factors could change over time.

Meeting the criteria

Once the performance criteria are established, the next steps in the SFPE guide are developing and evaluating design alternatives to meet these criteria. This stage begins with the identification of fire scenarios—descriptions of all the possible fires that could occur in the building—and design-fire scenarios that the building design must be able to withstand.

Design-fire scenarios might range from the remote likelihood of a meteorite crashing into the side of a building to the more probable instance of a short circuit in an electrical distribution system, resulting in overheating. The latter is one of the leading sources of fire in office buildings. Other design-fire scenarios might include burning Christmas trees, newspaper kiosks, or furniture.

To identify fire scenarios and to filter them into a set of design-fire scenarios requires the use of hazard-and-risk analysis data, tools, and methods. The work is performed by a fire-protection engineer using fault trees and event trees, risk modeling based on fire loss and system reliability data, and fire modeling through computer simulations. In essence, this identification requires characterizing who is at risk (the occupants on each floor of the building), what they are at risk from (smoke and heat), and how that risk is posed (smoke migration onto an office floor from the atrium). The comprehensiveness of the analyses depends on the project, the potential for loss, and the stakeholders' requirements.

DESIGN-FIRE SCENARIOS MIGHT RANGE FROM A METEORITE CRASHING INTO A BUILDING TO A SHORT CIRCUIT.

Once the analyses are complete, a set of design options can be developed by the fire-protection engineer. Trial designs, called for in the SFPE guide, address six primary factors: fire initiation and development; spread, control, and management of smoke; fire detection; fire suppression; occupant behavior and egress; and passive fire protection.

Fire initiation and development focuses on preventing fire ignitions and minimizing fire growth—accomplished by using materials that resist ignition or do not readily burn. Managing and controlling the spread of smoke can be accomplished using passive means (doors in

FIREPROOFING WORTH THE LOOK!

A/D FIREFILM® II

Decorative Thin-Film Fire Resistive Coating for Structural Steel

A/D FIREFILM®II combines ratings up to 3 hours with the appearance of exposed steel.

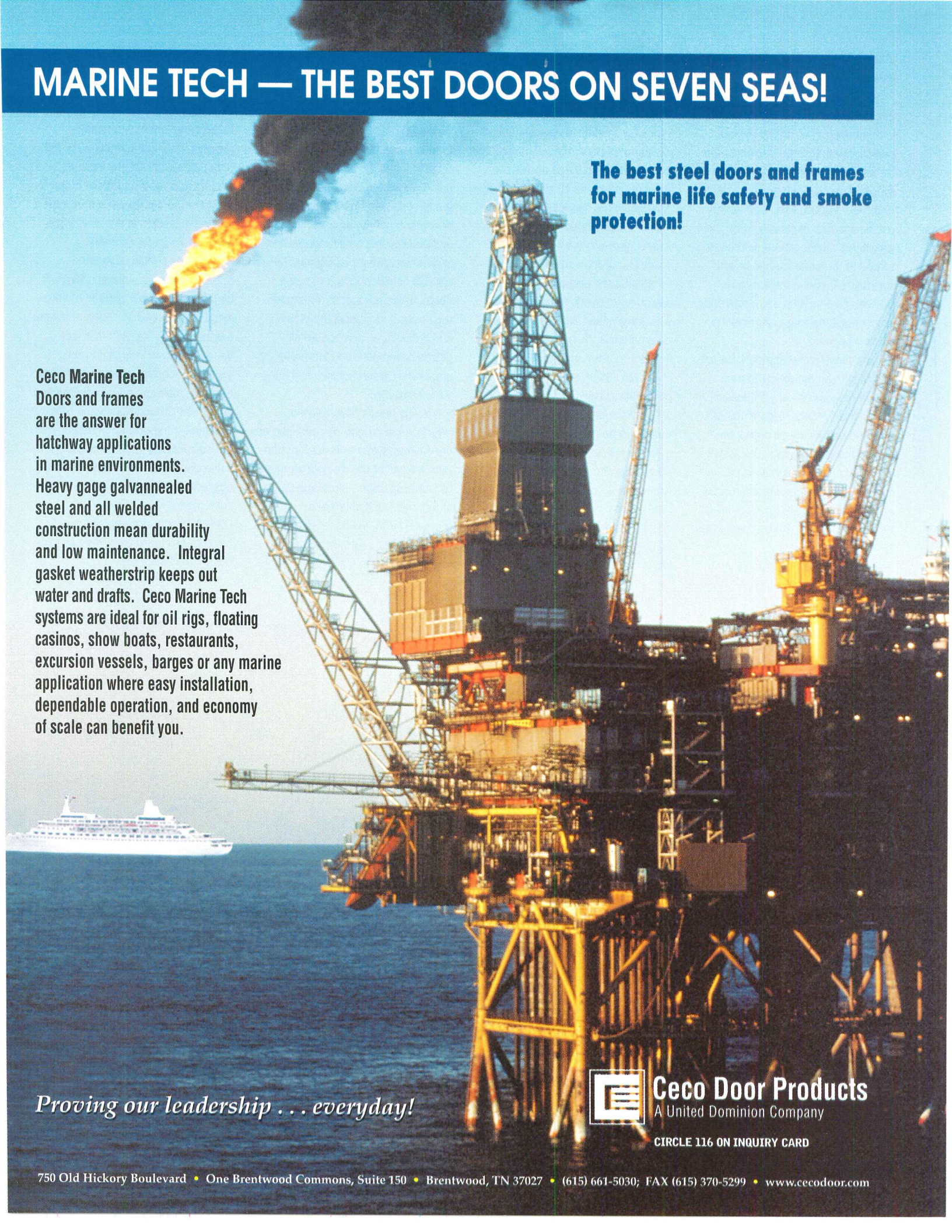
Photo: Sacramento International Airport, Terminal A
Architect: Dreyfuss & Blackford Architects
Photo: Cathy Kelly Architectural Photography
A/D FIREFILM®II on structural steel.

A/D FIRE PROTECTION SYSTEMS

Call 1-800-263-4087

CIRCLE 115 ON INQUIRY CARD

MARINE TECH — THE BEST DOORS ON SEVEN SEAS!



The best steel doors and frames for marine life safety and smoke protection!

Ceco Marine Tech Doors and frames are the answer for hatchway applications in marine environments. Heavy gage galvannealed steel and all welded construction mean durability and low maintenance. Integral gasket weatherstrip keeps out water and drafts. Ceco Marine Tech systems are ideal for oil rigs, floating casinos, show boats, restaurants, excursion vessels, barges or any marine application where easy installation, dependable operation, and economy of scale can benefit you.

Proving our leadership . . . everyday!

Ceco Door Products
A United Dominion Company

CIRCLE 116 ON INQUIRY CARD

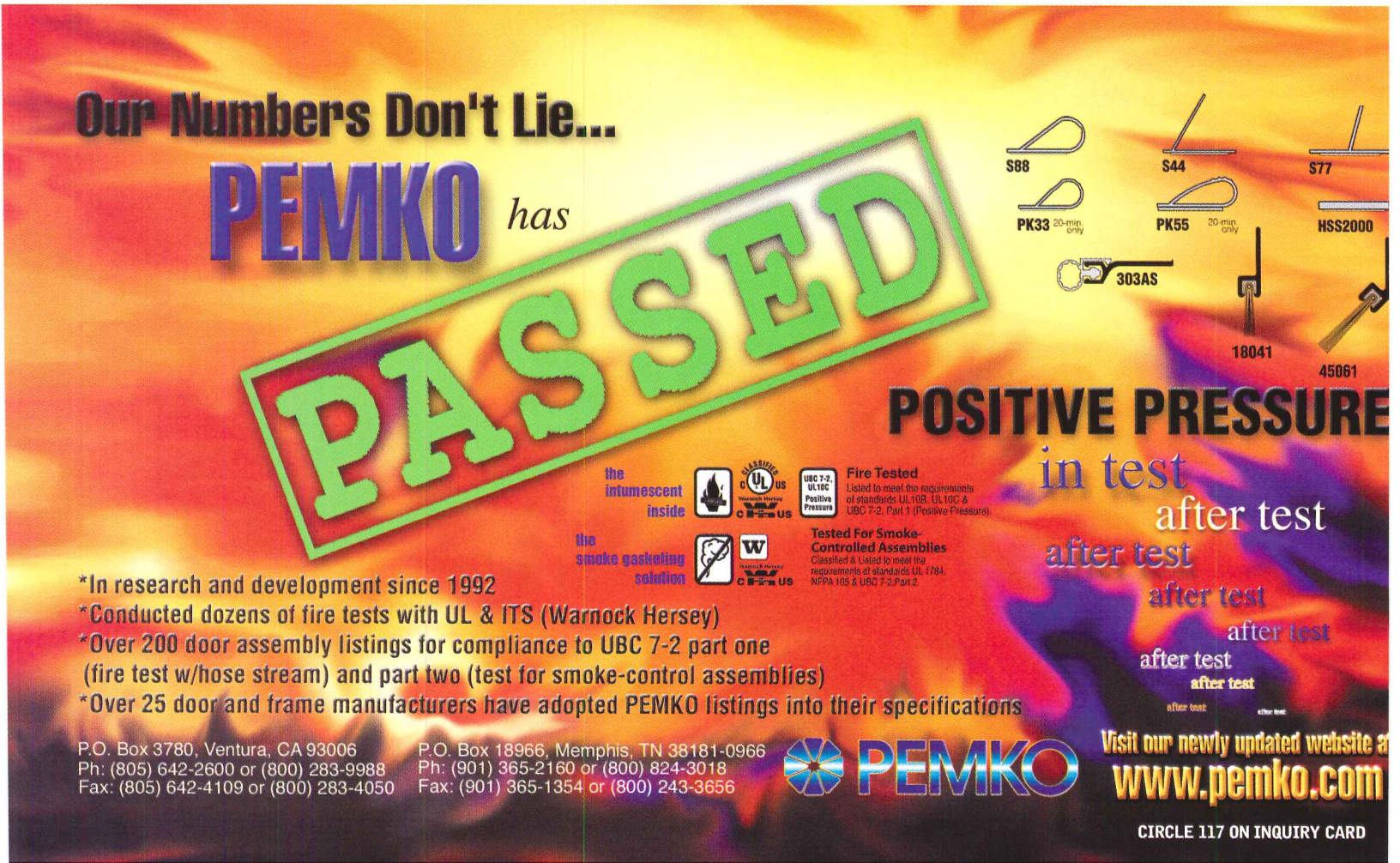
750 Old Hickory Boulevard • One Brentwood Commons, Suite 150 • Brentwood, TN 37027 • (615) 661-5030; FAX (615) 370-5299 • www.cecodoor.com

Face to face with building and fire officials

Fire-engineering consultants work with architects not only to develop performance-based design, but also to help local building and fire departments understand the design intent and project goals. This intermediary role is valuable, especially when the officials or architects are not accustomed to the performance-based approach. To make the approval process go smoothly, architects and engineers should keep in mind the following points:

- It is critical for the approval authorities to take an active role in the design process as early as possible—during the concept stage, if feasible. To some degree, these authorities decide the project's fate. But they may also provide valuable input. When their concerns are addressed early, last-minute changes are less likely to occur, and the original design aims remain intact.
- To help the officials understand the performance-based approach, architects and engineers should discuss goals, performance criteria, analysis methods, and the engineering and computer models to be used. Do not expect authorities to have the materials referenced in these documents. This puts everyone on the same page and eliminates unnecessary analysis based on assumptions that may be unacceptable to the authorities.
- Communication should continue throughout the entire project. The design team needs to understand what information, documentation, and materials the authorities expect from them. They should also be clear about how their project differs from prescriptive code, as well as how it conforms and how those requirements will be met.
- Architects and engineers should cooperate with the authorities and follow their guidelines and procedures. Understand where they are coming from and work with them, not against them, when developing your ideas and proposed approach. Incorporate their concerns and comments in the fire strategy.
- All members of the design team need to be well versed in their disciplines. Do not rely on the authorities to teach project team members the code or to tell the architects what to design or how to design it. It's best if the fire engineers provide up-front documentation on their background and professional qualifications. This information gives the building and fire officials confidence that the engineers are competent to undertake the analysis. Be respectful of the authorities' time and ensure all details have been thought through to produce a comprehensive and integrated strategy.
- A design team's fire-related efforts must be coordinated, just as fire-related systems must function together. All of the disciplines need to work together—plumbing (sprinklers), mechanical (smoke management), electrical (fire detection and alarm)—to ensure this coordination and conform to manufacturer's installation instructions.
- It is important to provide a detailed, well-researched analysis showing how the performance-based design is at least equivalent to what code requires. Don't get carried away with technical terms! Clearly indicate assumptions and limitations in the analysis and design. Summarize the pertinent aspects of the design in a one- or two-page summary.
- Architects should assure the authorities that the design team will be involved and will oversee the project. Don't depend on those who were not involved in the performance-based design to finish, interpret, inspect, or commission the systems. Similarly, make sure that construction documents are complete and that the materials, methods, and components are as specified. Those trying to value-engineer the project may not appreciate why particular decisions were made.

Chris Marrion, fire engineer and head of Arup Fire New York, part of Ove Arup & Partners



Timely Offers A New Edge Of Opportunity.

Steel Door Frames That Match Clear Anodized Aluminum.

Timely TA-28 Aluminum Casing
A full width aluminum casing without a reveal in prefinished ALUMATONE™ or clear anodized.

Timely TA-23 Aluminum Casing
Clean, crisp lines of aluminum with a 1/4" reveal in prefinished ALUMATONE™ or clear anodized.

Alumatone™, the latest addition to Timely's extensive selection of finishes, provides the look of clear anodized aluminum in a steel door frame. Now, you can coordinate clear anodized aluminum exterior windows with color matching prefinished steel door frames from Timely. Timely's prefinished steel frames will meet your code requirements including full **90-minute fire ratings.**

New Alumatone™, like all Timely finishes, is a baked-on polyester base paint, applied in coil form to assure superior durability, performance and appearance. Five casing design options are available including 2 aluminum profiles offering the crisp lines of aluminum.

Timely is recognized as the originator of the prefinished drywall frame concept. For over 30 years, we've provided steel frames that feature full perimeter anchoring for extra strength and a snap-lock casing system plus matching borrowed lites and sidelites. Contact us now to learn more about the new Alumatone™ finish and the Timely prefinished steel door frame system.

TIMELY®
PREFINISHED STEEL DOOR FRAMES
A DIVISION OF S.D.S. INDUSTRIES, INC.
CIRCLE 118 ON INQUIRY CARD
10241 NORRIS AVE. • PACOIMA, CALIFORNIA 91331-2292
(818) 896-3094 • (800) 247-6242 • FAX (818) 899-2677
9782 INTEROCEAN DRIVE, CINCINNATI, OHIO 45246
(513) 682-9600 • (800) 346-4395 • FAX (513) 682-4102

SEE US AT AIA EXPO 2000, BOOTH 1817 AND AT CSI 2000, BOOTH 2828

© 2000 Timely

corridors), natural ventilation (openings at roof level), or mechanical means (smoke exhaust systems). Fire detection and suppression devices include smoke and heat detectors and automatic sprinklers. Designing for occupant behavior and egress requires an understanding of how people react in fires—what they do when an alarm sounds and how quickly they move. Passive fire protection relates to the flame resistance of materials and systems.

Based on these factors, the resulting trial designs may include recommendations for structural or finish materials; installation of smoke detectors or sprinklers; specific construction features, such as fire walls or door closers; operational or management controls, including regular inspections, storage restrictions, and periodic testing; or any combination of these precautions.

DESIGNING FOR OCCUPANT BEHAVIOR AND EGRESS REQUIRES AN UNDERSTANDING OF HOW PEOPLE REACT IN FIRES.

Once the trial designs have been developed, they are evaluated against the design-fire scenarios. Successful trial designs control the fire or its effects in such a way that the performance criteria are not exceeded when evaluated against the design-fire scenarios. The results of each evaluation will indicate whether the trial design meets the performance criteria, and therefore the design objectives. This evaluation process is often accomplished through computer modeling, which can be used to predict fire growth, smoke spread, detector and sprinkler activation, and occupant egress time for different design-fire scenarios.

In the case of the hypothetical office building, the trial designs might include the following: interior finish materials in the atrium that resist ignition and flame spread; a smoke detection and management system that will alert occupants, notify the fire department, and begin exhausting smoke as soon as a fire is detected; automatic sprinklers everywhere in the building except the atrium; and automatic door closers to provide separation between the atrium and the means of egress on each floor.

Tying it all together

With a suitable set of trial proposals, the design team must select a final scheme. The choice entails financial considerations, timeliness and ease of installation, system and material availability, and system maintenance. Cost-benefit, risk-benefit, and reliability analyses are also useful for selecting final designs.

The final component of a performance-based design is documentation. Done properly throughout the process, documentation helps ensure that all stakeholders understand what is necessary for the implementation, maintenance, and success of the fire-protection strategy.

Changing the code

As more innovative methods and materials for design and construction become available, architects will want to apply them. At the same time, fire and life safety will become increasingly important, as the strong emphasis on these in building codes already proves. A performance-based approach to fire-safety analysis and design will help architects achieve both design flexibility and safe buildings.

For now, the SFPE guide is a reference. But with the increasing trend toward performance-based codes in all areas—from structural provisions to HVAC design—such references will be integrated into the code itself as essential design tools. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- Read the article "Analyzing Fire Risks Building by Building" using the learning objectives provided.
- Complete the questions below, then check your answers (page 410).
- Fill out and submit the AIA/CES education reporting form (page 408) or file the form on ARCHITECTURAL RECORD's Web site at www.archrecord.com to receive one AIA Learning Unit.

QUESTIONS

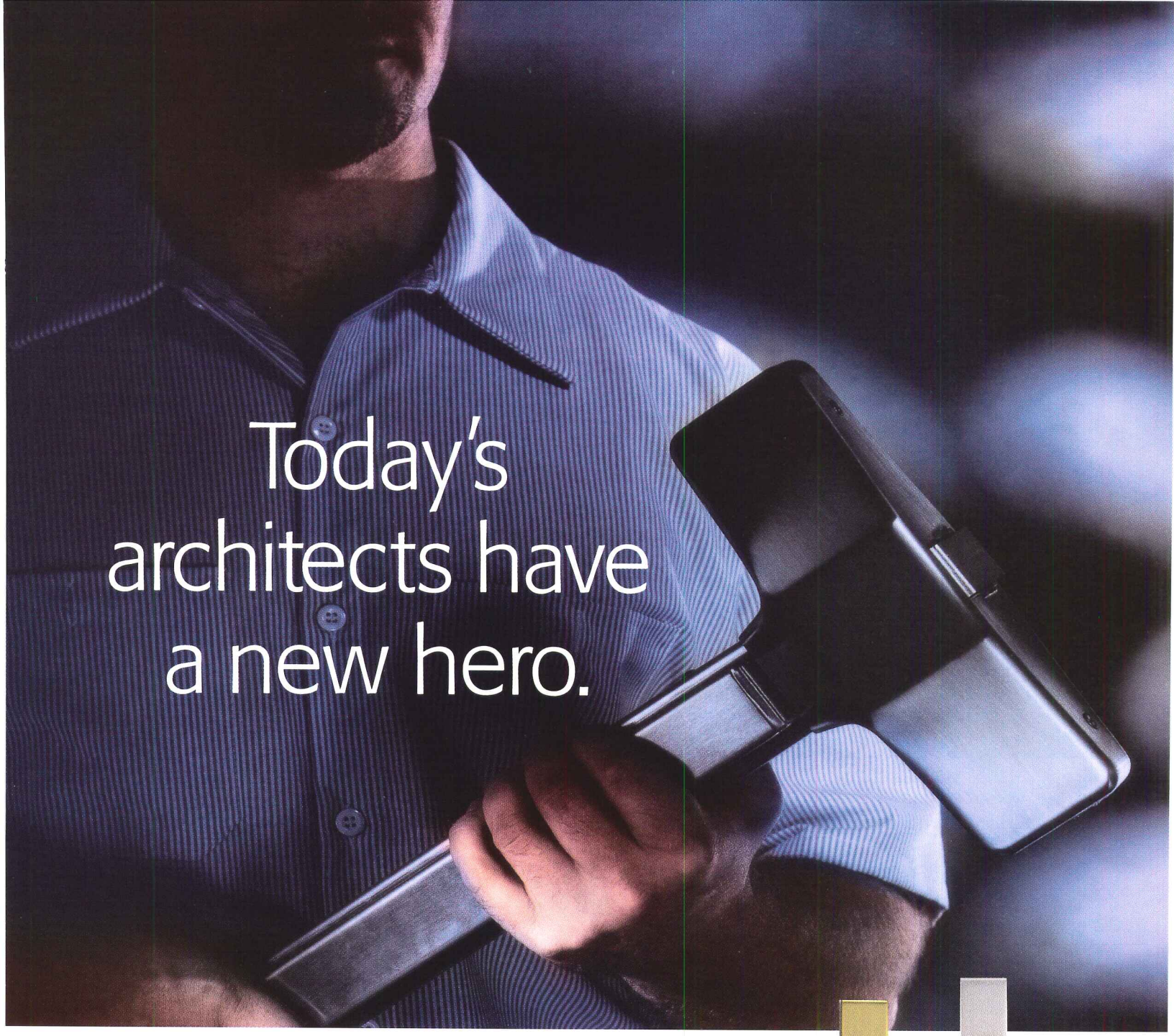
1. What types of buildings are best suited to performance-based design?

2. When does performance-based design cost more and when does it save money?

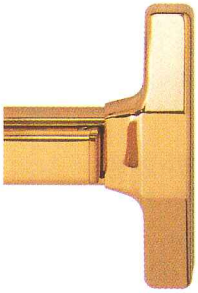
3. How does the alternate-methods-and-materials clause affect performance-based design?

4. What is involved in identifying fire scenarios?

5. How is a final scheme chosen in performance-based design?



Monarch saves the day with selection, reliability, value and one of the fastest turnarounds in the business.



Monarch hardware has a price that will keep you on budget, and a wide selection of reliable products that can be delivered in as little as two or three days. Plus, our hardware meets or exceeds legal and regulatory requirements. Monarch is part of the IR Security & Safety Group, giving us the resources to meet the demands of today's architects. So turn to Monarch when you need hardware right. Now.

MONARCH
Exit Devices & Door Hardware

For more details about the complete line of Monarch exit devices and door hardware, as well as other cost-effective solutions from our IR partners Falcon, Dor-O-Matic and IVES, call us at 800-826-5792 or visit www.monarchhardware.com.

IR Security & Safety

CIRCLE 119 ON INQUIRY CARD

Aristech Acrylics
presents

Using Solid Surfacing as Exterior Wall Cladding

Architect James H. Warner, manager of design and programming for Cincinnati-based CDS Associates, Inc., watched with interest as the marketing rep routed V-grooves into the back of a sheet of acrylic solid-surface cladding material, then folded the panel into a box with no visible seams.

"The edges were so sharp you risked cutting yourself on them," Warner recalls. "I immediately saw a number of interesting possibilities: you could do fluted columns with the material. You could create faceted, curvilinear faces. You could easily do folded sills with multiple faces."

Thermoforming, the process in which plastics are heated and shaped, created additional design possibilities, says Warner: tight-radius curves for column caps, intricate bullnoses, seamless beam covers.

Solid surface materials, derivatives of materials once used only indoors, have gone outside as exterior skin.

CDS and Miller-Valentine Construction Inc., Dayton, Ohio, in 1997, constructed a 39,000 sq. ft. office-laboratory facility for Aristech Acrylics that has become a showcase for the versatility of solid-surface cladding. The building is the world's first commercial example of solid surface material as principal wall cladding.

The new material has many virtues: it combines UV-stable pigment technology developed for the sign industry with the durability and renewability of countertop work surfaces, making it highly ultra-violet and weather resistant. It is lightweight, easy to install, easily maintained, and as the Aristech building reveals, uncommonly versatile.

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **USING SOLID SURFACING AS EXTERIOR WALL CLADDING.** To earn one AIA/CES Learning Units including one hour of health safety welfare credit, answer the questions on page 310 and follow the reporting instructions on page 408. Or use the Continuing Education self-report form on RECORD's Web site—www.architecturalrecord.com.

LEARNING OBJECTIVES:

- Explain the increased popularity of acrylic materials in the last decade.
- Describe the benefits of solid surface acrylic materials for exterior use.
- List installations where acrylic materials perform better than natural stone.

ACRYLIC: NO LONGER JUST A SHOWER SURFACE

Pure acrylic has been commonplace since the early 1970s, primarily as a material for outdoor signs and, later, hot tub, bath and shower surfaces. Then, material manufacturers discovered that the addition of a mineral filler, aluminum tri-hydrate (ATH), gave similar to stone but with the workability of wood. Within the last decade, the popularity of the material has soared. The result is a broad family of solid surface materials—Wilsonart®, Avonite® and Corian® are among them—that have taken the place of once expensive and often difficult-to-install granite and marble in kitchens and bathrooms.

"I like the product for a number of reasons," says Warner. "It gives you the look of stone at considerably lower cost. Stone doesn't do very well where you plan to use it in any curvilinear shape. In applications like that, this material solves some real problems." The appearance of solid-surface cladding materials is similar enough to natural materials that they can be incorporated into stone or masonry facades. Solid surface walls permit detailing intricacy impossible, or economically unreasonable, with stone.

Solid-surface cladding's most obvious niche is as an alternative to metal composite in curtain walls. But it is also viewed as an alternative to precast panels, both for its ease of installation and its timeliness. Precast, in today's market, can take 6-12 months to get to the jobsite; solid surface cladding typically can be delivered within 30 to 90 days.

SOLID SURFACE MATERIALS ARE WEATHER, STAIN RESISTANT

Not only are the solid-surface materials versatile, they are easily renewed. Scratches, graffiti and other types of vandalism are easily erased with a light sanding which restores the surface of the material. This is possible because pigments are not surface applied, but permeate throughout the entire material. Natural stone most frequently blackens with exposure to weather and can be etched by acid rain. Because the solid-surface materials are non-porous (and non-absorbent), weather does not affect their appearance. Therefore, it resists staining and is impervious to salt spray. Pressure washing restores the material to its original appearance.

The Aristech Acrylics headquarters building in Florence, Kentucky, illustrates another possible advantage of the new exterior claddings: it gives the architect new freedom in carrying a common design theme from outside to inside the building. At the Aristech building, both exterior and interior designs feature solid-surface materials. Countertops, cabinet faces and other intricate interior design features are of the same material as exterior features.

Exterior solid-surface cladding is manufactured in flat sheets, in lengths limited only by practicality. The 1/4 in. thick material weighs about 2.2 pounds per sq. ft., about half the weight of 1-in. insulated glass. A 4 X 8-ft. sheet of acrylic cladding weighs less than 75 pounds and is easily handled by two workers. It is cut and shaped with everyday carbide-tipped woodworking tools. Sheets are easily glued, mitered and routed to create additional thickness for use, say, as column caps.

KEY FEATURES OF SOLID SURFACE CLADDING

- Weather and UV Resistant
- Easily thermoformed
- Easy to maintain and renew
- Available in a variety of colors, textures and sizes
- Has all the familiar benefits of acrylic solid surface countertops

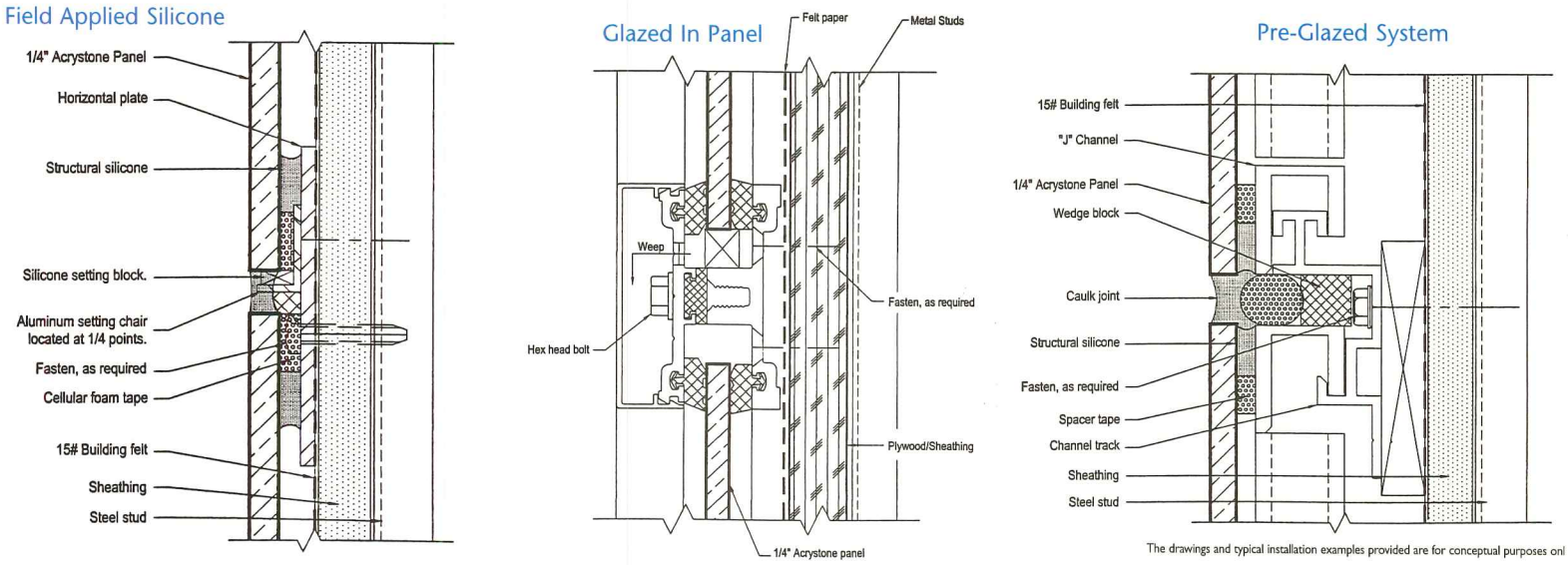
FABRICATION / INSTALLATION

For small applications, installation of solid-surface cladding can be as easy as applying two-sided foam glazing tape and structural silicone to the backside of panels and attaching them to an existing surface. This is similar to four-sided butt glazing of glass.

For large projects, pre-glazing in the shop saves significant time and permit systems to be built even in the worst weather. Pre-glazed panels can then be hung with surprising efficiency from easily installed hanging tracks screwed to exterior walls.

Aristech's headquarters building was clad using aluminum extrusions, to which panels were connected with neoprene glazing tape and structural silicone adhesive. The panels were mounted by clipping them to custom aluminum laser leveled shelf angles fastened to a substrate of gypsum sheathing over metal studs. "The result," says CDS Associate's Warner, "is a sleek, high-tech skin with no exposed fasteners."

TYPICAL INSTALLATIONS

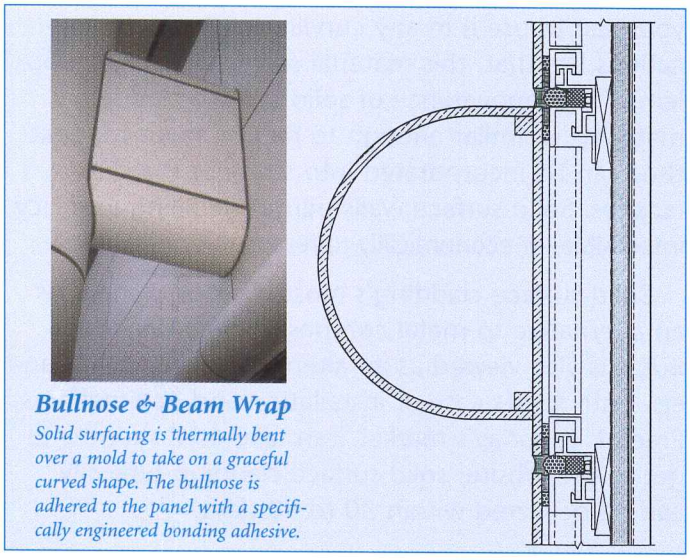


The drawings and typical installation examples provided are for conceptual purposes onl

In terms of labor cost, installation of solid surface cladding is very similar to the cost of installing aluminum composite panels, and any glass installer can install solid-surface panels, says David Toerner, engineering manager for Mason, Ohio-based fabricator and installer Harmon, Inc. Solid-surface cladding now installs for about $25-$28 per sq. ft., and the price will fall, predicts Warner, as assembly methods grow more mechanized. It is now in the range of aluminum composites, about half the cost of natural stone, but roughly three times the cost of most External Insulation and Finish Systems.

"I don't see solid surface cladding as a total replacement for either aluminum panels or stone, says Toerner, "but I think that architecturally there are a lot of statements you can make with this product that you can't make with anything else. "Column covers and bullnoses can become accents, and especially in high-traffic areas, like schools, where maintenance is an issue, there are a lot of advantages to solid surface cladding."

Solid surface cladding, although its appearance is very distinct from stone, is envisioned as an alternative where stone is either too tough on the budget or too heavy to be economically installed. "Elevator interiors or buildings in seismic areas where weight is a concern are a couple of examples that come to mind," says Edward D. Storer, senior associate architect and specifier for NBBJ, Seattle. Solid surface exterior cladding was chosen for those reasons on the third floor addition to the existing two story structure for The Chung Hwa City Council Building in Taiwan.



Bullnose & Beam Wrap

Solid surfacing is thermally bent over a mold to take on a graceful curved shape. The bullnose is adhered to the panel with a specifically engineered bonding adhesive.

Storer, like many materials specifiers in the U.S.—who can entertain as many as a half-dozen sales reps for new architectural products every day—is naturally skeptical about new materials. "Solid surface cladding is competing with metal panels, a known quantity," says Storer. "You have to ask 'How well will this material age?' Plastics grow brittle with time, and that has to be a real concern with plastics used outdoors."

Accelerated, controlled tests by the manufacturer—equivalent to 10 years in the desert sun—concluded that there was no discernible difference between exposed panels and newly manufactured sheets of the same material. (The manufacturer provides a ten year warranty covering color and the integrity of the material.) In fact, as a further test, Aristech removed a panel from its building after a year-and-a-half and replaced it with a newly manufactured sheet and no one could distinguish the new panel from the rest of the building.

With thin-paneled solid surface cladding, owners can avoid the problem of moisture control, a growing concern with EIFS installations that has led, in some cases, to casualty claims and expensive design modifications. "Water intrusion is the primary cause of construction defect claims, and has become a significant problem for the industry," the manager of a Washington State insurer said recently. Acrylics, used to produce high-end jetted bath tubs and outdoor hot tubs, are routinely subjected to constant outdoor exposure as well as harsh pool chemicals, without consequence. Building envelopes can be sealed tight to prevent water infiltration or panels can be used in a rainscreen pressure equalized system.

At Aristech's headquarters building, thermoformed curved shapes demonstrate the flexibility and design possibilities of solid surface cladding. The natural flex of the material makes large-radius curves across the face of the building easy to clad. Smaller radius curves, like the building's two ft. diameter rounded columns, oval beam covers and bullnoses are created by heating and forming the material over simple molds. Corners and bevels were created by mitering and gluing, then sanding or routing. The result is a seamless looking finish.

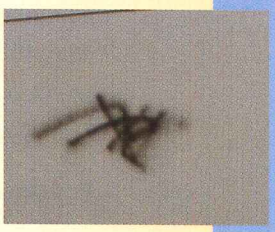
CASE: CHUNG HWA CITY COUNCIL BUILDING, TAIWAN

The Chung Hwa City Council Building in Taiwan was an existing two story building that they needed to expand. They were restricted by roads and neighboring buildings. The only choice was to add an additional floor. The original poured concrete structure wasn't designed to handle the weight of concrete walls. Solid surfacing was chosen because of its light weight. This is a seismic area which increased their concerns about adding additional dead load to the building. In fact, last September when the workers were installing solid surface cladding, one of the earthquakes hit Taiwan. Buildings all over Taiwan collapsed but not the one with solid surfacing.

CARE AND MAINTENANCE

Exterior solid-surface panels are cast from an acrylic-based polymer formulated to withstand the rigors of outdoors. In order to maintain the elegant look of the material, washing should be incorporated into an annual building maintenance program.

Solid surface exterior cladding can be cleaned with mild detergent and water. A pressure washer of up to 3,000 p.s.i. can be used to remove dirt and dust. Care should be taken not to damage the weatherseal between panels.



Oil or grease stains resistant to detergent can be cleaned with isopropyl alcohol applied to a cloth and rubbed lightly over the stain. Harsh solvents, like acetone or denatured alcohol, however, may damage the panel and should not be used. Solid-surface cladding can be renewed by light sanding with an orbital sander or sandpaper.

CASE: CHILDREN'S INTERACTIVE MUSEUM, SANTIAGO, CHILE

For the Children's Interactive Museum in Santiago, Chile, the architect wanted to use aluminum composite material (ACM) for ticket booths, but he was concerned that when subjected to high pedestrian traffic, the material would show scratches and wear. They chose solid surfacing because its renewable surface will allow scratches to be removed by a light sanding.

ARISTECH ACRYLICS LLC

Aristech invented the cast acrylic process in 1969 and since then has produced more continuous cast acrylic than any other manufacturer in the world. Its investment in R&D has yielded revolutionary products like Quarite, a granite-look acrylic that in five years has captured half the hot tub market. A cousin of Quarite, Acrystone: a UV resistant, granite-like acrylic that has taken solid surfacing to the architectural exterior wall cladding market for the first time. (Aristech last year completed a $75 million plant expansion in Florence, Ky.) Acrystone was introduced at the annual National AIA Conference in 1998. It gives designers freedom to create bold new designs with a material that resists stains, is durable, and uniquely weather-resistant.

LEARNING OBJECTIVES:

- Explain the increased popularity of acrylic materials in the last decade.
- Describe the benefits of solid surface acrylic materials for exterior use.
- List installations where acrylic materials perform better than natural stone.

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 408 and submit it or use the Continuing Education self-report form on the RECORD's Web site —www.architecturalrecord.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

1. Why have acrylic solid surfaces become increasingly popular in the last decade?

2. What were the primary uses of acrylic materials before it was used for exterior cladding?

3. What are the characteristics of acrylic solid surface that make it a good choice for exterior uses?

4. What are the advantages of acrylic solid surfacing over natural stone?

5. How do the characteristics of acrylic cladding effect the design of buildings?

ANSWERS:

1. The increase in popularity of acrylic solid surfaces came from their changed appearance. They had been available since the 1970's in solid colors. In the late 1980s, different colored chips were incorporated into the sheets to create a textured appearance similar to granite and other stones. This allowed acrylic solid surfaces to be used in applications where people wanted the look of stone, but offered an easier installation.

2. Previously, acrylic solid surfaces were used extensively for outdoor signs, hot tubs, bath and shower surfaces, commercial restroom lavatories, commercial and residential kitchen and bathroom countertops.

3. Acrylic solid surfaces has ideal characteristics for exterior uses. These include UV-stable pigment technology that was developed for the sign industry, making it highly UV resistant. Accelerated tests exposed acrylic to the equivalent of ten years of desert sun with no discernable sun damage. Acrylic solid surfaces is weather resistant which reduces moisture control problems. It does not become etched with acid rain and is impervious to salt spray. Pressure washing and mild detergent can be used to restore the material to its original appearance. Exterior uses also include the occasional vandalism with paint or scratching. acrylic solid surfaces are non-porus to resist staining and can be sanded to erase graffiti since the pigment goes throughout the material.

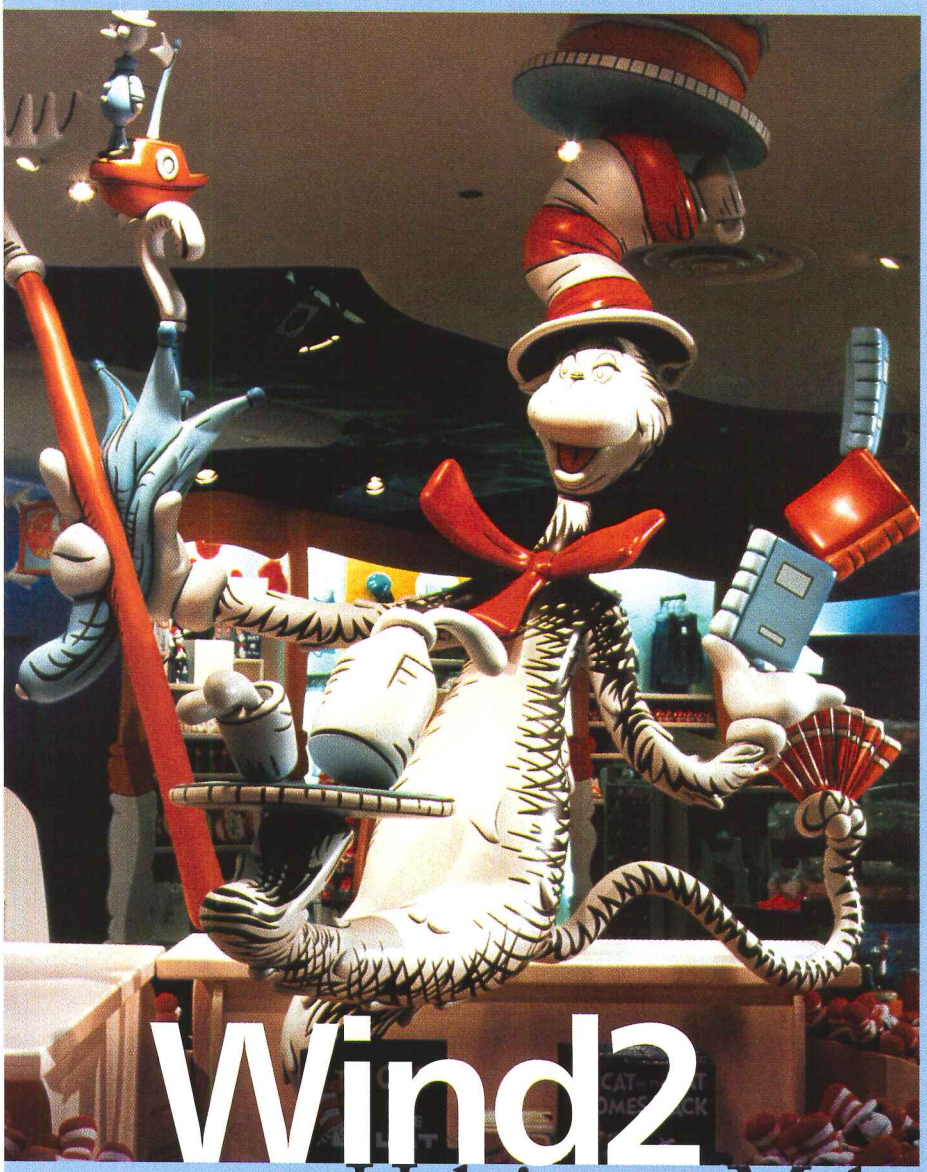
4. Acrylic solid surfaces has several distinct advantages over natural stone. It can be made to look like stone while it weighs considerably less, is available in thin large sheets allowing curved surfaces, and can be delivered and shaped in less time. This allows applications where weight is limited as well as being transported and handled easily by workmen. It can be shaped easily with carbide-tipped woodworking tools, thermoformed, glued and routed to add thickness. While stone becomes blackened with exposure to weather, acrylic solid surfaces do not. Acrylic solid surfaces is usually less expensive and involves less labor than natural stone to install.

5. Acrylic cladding gives architects new freedom in exterior detail design. They are not limited by the rigid characteristics of stone and other materials. Acrylic can be thermoformed into curved shapes with tight-radius curves for column caps, intricate bull-noses, etc., or naturally flexed into large-radius curves across a building facade. Acrylic can be grooved and folded into shapes, hung as exterior panels, beveled with a router or sander, or glued into place. Acrylic materials can easily be used vertically or horizontally, indoors or outdoors, allowing architects to carry a design feature throughout a building/project.

ARISTECH ACRYLICS LLC
7350 EMPIRE DRIVE FLORENCE, KY 41042
(TEL) 800-354-9858 (FAX) 606-283-7378
www.aristechacrylics.com
Circle 120 on inquiry card
ADVERTISING SUPPLEMENT PROVIDED BY ARISTECH ACRYLICS LLC

Wind2 for Windows

A PROJECT THIS AMAZING DEMANDS A SOFTWARE THIS INCREDIBLE



Bringing sixty creative minds together to design complex projects like Seuss Landing Retail Stores* requires the **ingenuity** and **experience** of AAD. Transforming 1680 monthly time records into knowledge that helps AAD better manage 375 projects a year requires the **power** and **integration** of the award-winning Wind2 Financial Management System. From real time project reporting and budgeting to fully integrated financial accounting, Wind2 provides AAD with the tools it needs to keep them on schedule and profitable in today's demanding design world.

*Seuss Landing Retail Facility
Universal Islands of Adventure, Orlando, FL
Photo: Michael Norton Photography

Wind2

Helping to Make it Possible

Designed for Microsoft® Windows NT® Windows® 98

Designed for Microsoft® Windows NT® Windows® 95

Microsoft® OFFICE 97 Compatible

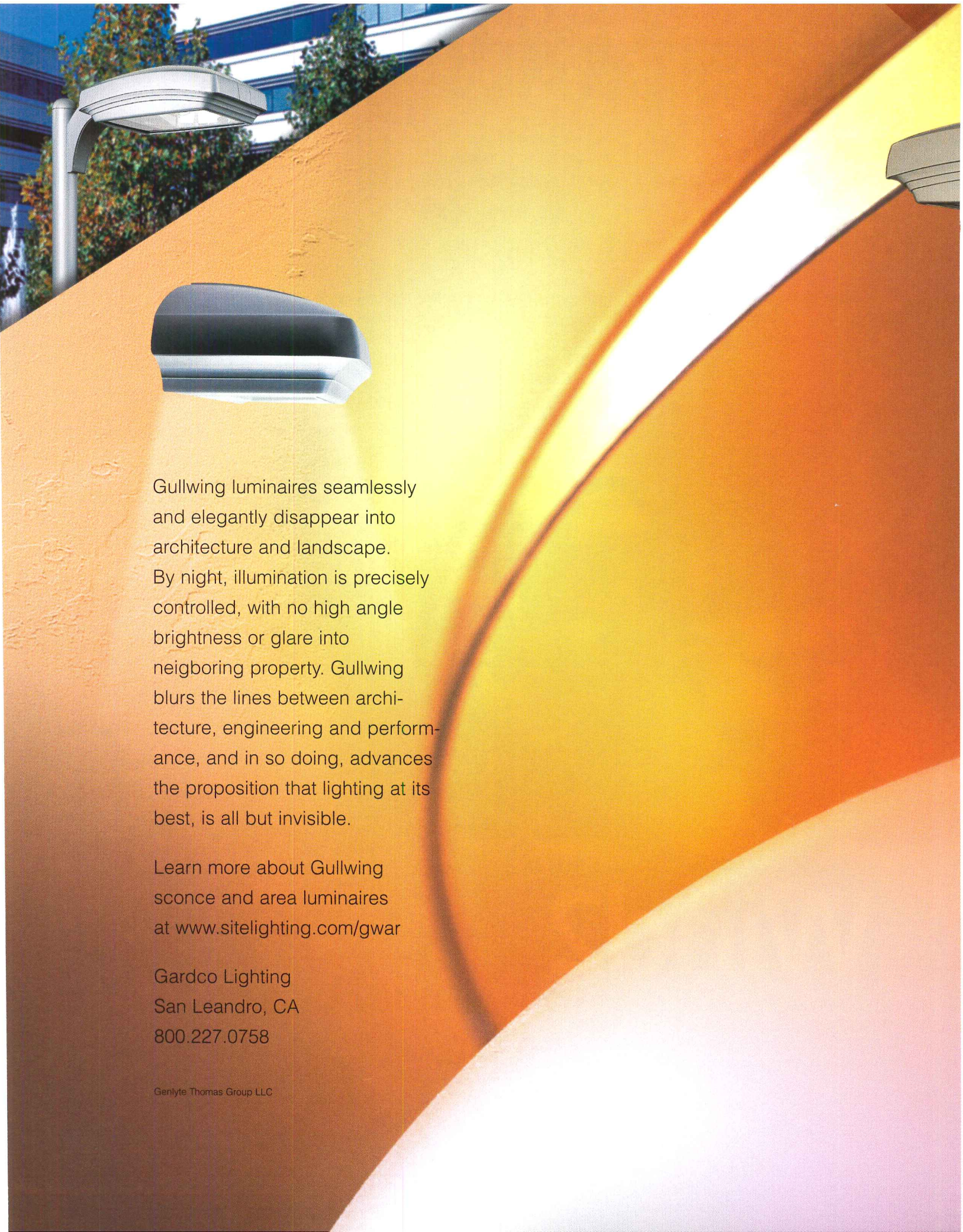
Named "Best Packaged Application" in Microsoft's 1998 Visual Fox Pro Excellence Award Competition.

Wind2®

The Number One Provider of Project Accounting Software for the Professional Services Firm

Call 1.800.779.4632 today for a CD demo or visit us at www.wind2.com

CIRCLE 121 ON INQUIRY CARD



Gullwing luminaires seamlessly and elegantly disappear into architecture and landscape. By night, illumination is precisely controlled, with no high angle brightness or glare into neigboring property. Gullwing blurs the lines between architecture, engineering and performance, and in so doing, advances the proposition that lighting at its best, is all but invisible.

Learn more about Gullwing sconce and area luminaires at www.sitelighting.com/gwar

Gardco Lighting
San Leandro, CA
800.227.0758

Genlyte Thomas Group LLC

LIGHTING...

The advent of relatively inexpensive microprocessors capable of complex functions has influenced all aspects of our daily lives. Computer power for the masses is everywhere we look, from laptops to programmable cell phones to the on-board GPS systems installed in automobiles. Lighting controls, too, have become more and more common and complex over the last 10 years. A few cases in point can be seen in this issue. The controls for the Burj Al Arab Hotel/Jumeirah Beach Resort (1), in Dubai were so complicated that lighting designer Jonathan Speirs of Jonathan Speirs & Associates enlisted colleague Paul Gregory of Focus Lighting to design them. The hues of the building's fabric facade constantly shift over the evening hours, with light emanating from programmable luminaires that mix light from sources of different colors. These luminaires are, in turn, controlled by a theatrical dimming system linked to a touch-screen so that the light show can be easily and instantly changed.

Gregory's own tour de force is in the lobby outside the IMAX theater at the Metreon (2), in San Francisco. To kinetically charge the room, he backlit a wall using primary colors of neon plus white—which can be dimmed and mixed to create virtually any color—and programmed them so the tones of the wall are constantly shifting. Robert Schuler, of Schuler & Shook, used lighting controls to go in an entirely different direction in his renovation of the John G. Shedd Aquarium (3), in Chicago. Here, visitors are taken on a multimedia journey to a Caribbean reef using control-coordinated light and sound. But, the simplest and most elegant solution is architect and lighting designer Iole Alessandrini's lighting for "Winter, Season of Light" (4), an installation in Tacoma last December. The lighting was on a simple timer that at 5 A.M. and 5 P.M. turned the luminaires on. Yet, the warm-up-and-strike of the metal halide lamps gave the light a fade-up effect, changing the hue of the light from dim pink to bright red. Controls don't have to be complicated or expensive to work well. *Charles Linn, AIA*

317 **Creative uses**

320 **Burj Al Arab Hotel/ Jumeirah Beach Resort**
Jonathan Speirs & Associates; Focus Lighting

323 **Sony Theatre at Metreon**
Focus Lighting

333 **Shedd Aquarium**
Schuler & Shook

337 **Schuylkill River Bridge Lighting**
Grenald Waldron Associates

345 **William and June Warren Hall**
David A. Mintz, Inc.

349 **Trade Show Review: Light + Building Show**

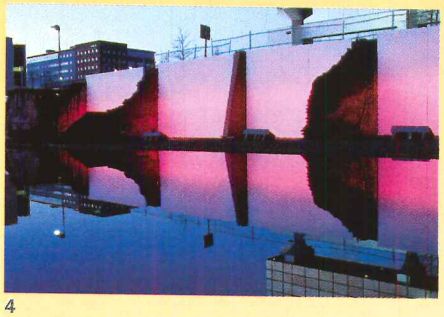
351 **Soft-Start Ballasts Meet Thick-Phosphor Lamps**

355 **Lighting Resources**

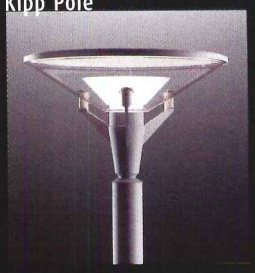
1

2

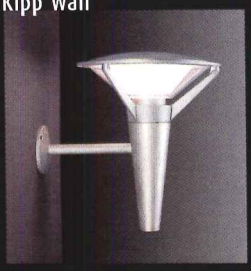
3


4

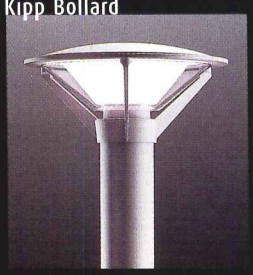
Kipp Pole



Kipp Wall



Kipp Bollard



Light in Detail

Kipp

Design: Alfred Homann

louis poulsen

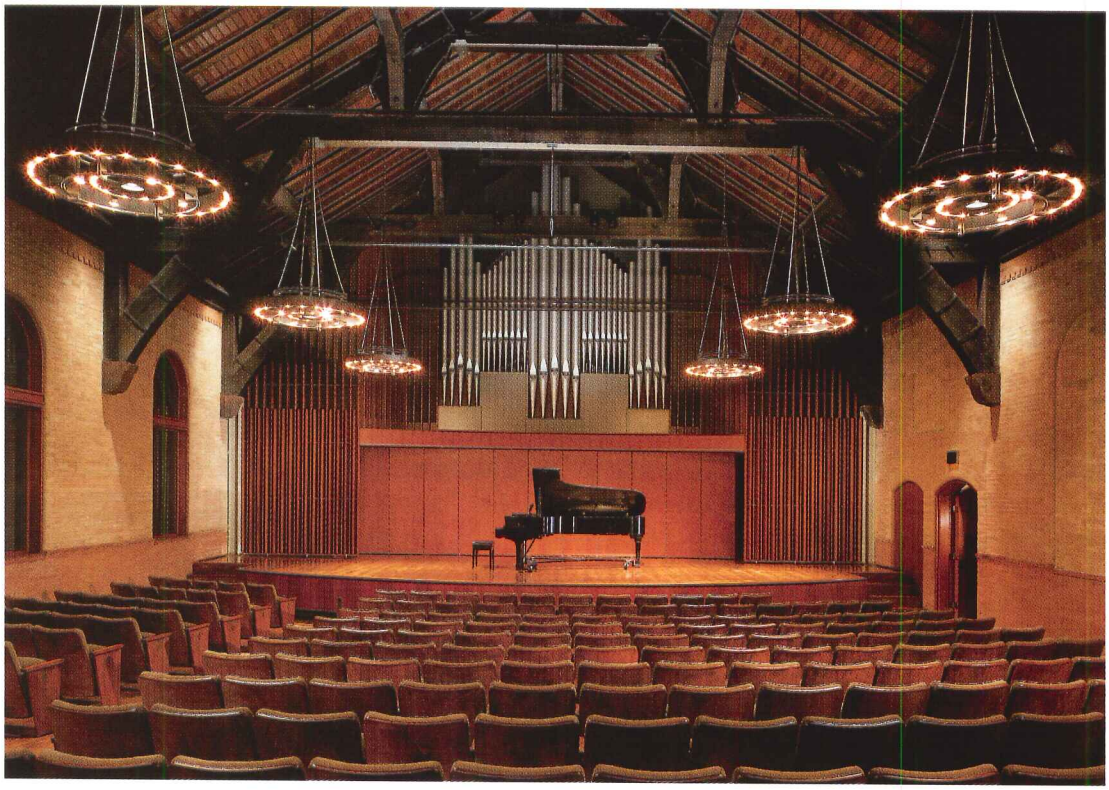
Poulsen Lighting, Inc.
3260 Meridian Parkway
Fort Lauderdale • FL 33331
Tel.: +1 954 349 2525
Fax: +1 954 349 2550
info@louispoulsen.com
www.louispoulsen.com

CIRCLE 124 ON INQUIRY CARD

Creative Uses

Chandeliers orchestrate layers of light in a restored Toronto concert hall

• In Tacoma, "winter, the season of light," casts a glow on building ruins



VERSATILE LIGHTING HELPS ADAPT A CHAPEL TO THE NEEDS OF CANADA'S MUSICAL PRODIGIES

The Royal Conservatory of Music in Toronto, whose alumni include classical pianist Glenn Gould and opera star Teresa Stratas, is Canada's premier training ground for musicians and vocal performers. Toronto's Kuwabara Payne McKenna Blumberg Architects was hired to renew McMaster Hall, an 1880s Victorian building which the school has occupied for 30 years. The first phase of the building's revival is the $2 million restoration of the Ettore Mazzoleni Concert Hall, named in honor of the conservatory's former principal. The venue occupies a former high-ceilinged chapel within a Romanesque Revival wing added in 1901.

"We began by undoing the changes that had been made to the original structure," says KPMBA partner-in-charge Marianne McKenna. Windows that had been replaced by bricks were reopened; paint was removed from the brick walls, and the heavy timber trusses and wood ceiling were cleaned and reinforced. New details complementing the restored shell include a curved mahogany stage front and stage screen, a raked maple floor beneath seating, and millwork of clear mahogany and stained maple, accented with bronze details.

The chandeliers conceal uplights for accenting ceiling beams, downlights for reading light, and two rings of twinkling S-lamps.

Lighting designer Suzanne Powadiuk, of Suzanne Powadiuk Design, created illumination to accent the room's natural finishes while providing versatile settings for classroom and performance use.

"Three layers of lighting incorporated into eight chandeliers do most of the work," Powadiuk says. Suspended from the timber deck by steel rods, the custom-fabricated pendants of painted steel and stainless detailing feature modern profiles. "We wanted to stay away from period reproduction fixtures," McKenna notes, "and introduce sculptural elements with simpler lines that play off the proportions and new interventions in the space."

A priority was to showcase the restored timber ceiling and trusses. Within each chandelier are four PAR30 uplights that throw illumination above while remaining discreetly hidden. Five downlights within each chandelier—four 50-watt PAR20s set in a ring and one PAR30 at the center point—provide ambient levels of light for reading. The final layer of light from the chandeliers comprises two rings of S-type incandescent lamps, whose filaments are visible—creating a twinkling effect as a decorative accent. "With the chandeliers we were able to retain a salon feeling in keeping with the intimate Romanesque space," the lighting designer says.

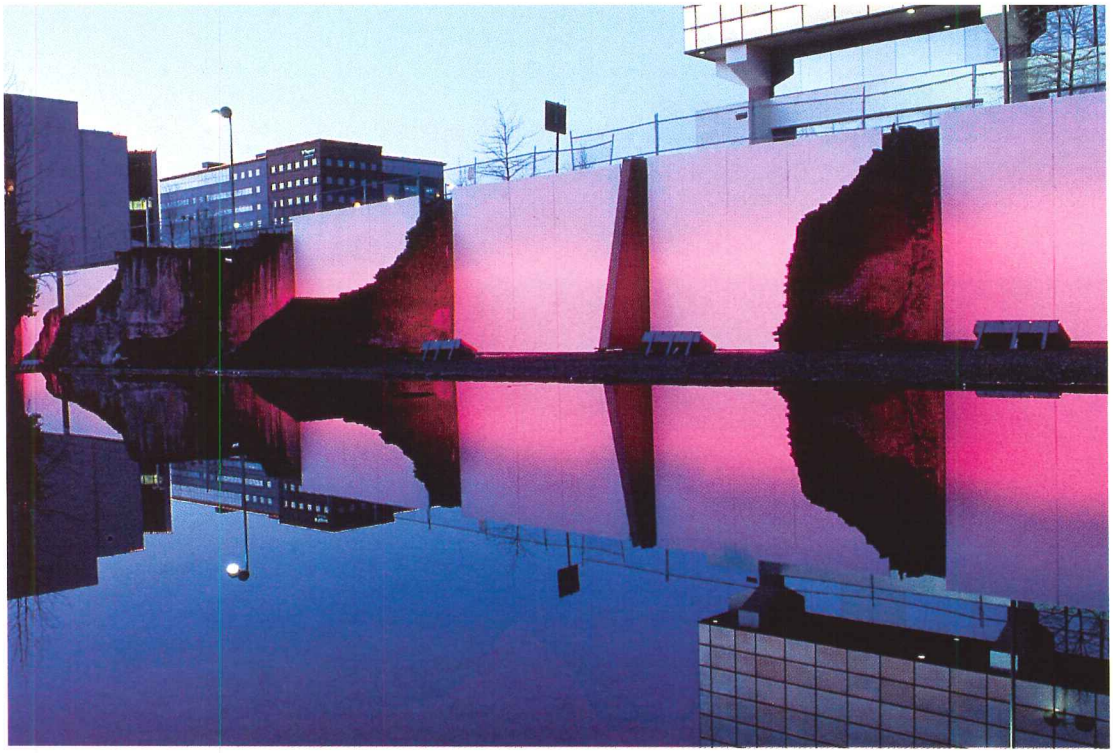
Wall washers call out the texture of the tawny brick perimeter walls. These closed-back PAR-lamp holders are mounted on stems and fitted with cube-cell louvers to shield 50-watt wide-flood halogen-infrared lamps from the view of concertgoers. The wall washers, mounted in pairs where walls, ceiling, and trusses meet, are focused on the center of each bay.

To spotlight the stage, theatrical lighting consultant Richard Smerdon situated a batten atop the truss' lower chord, where an array of mounted fixtures throw light at the stage from a 45-degree angle. Additional MR16s mounted in the lower section of the stage canopy add ambient light. The architectural and theatrical lighting are wired to the same control board to tackle a range of performance and teaching settings.

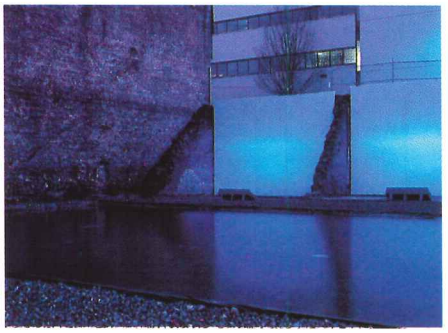
William Weathersby, Jr.

(continued on page 318)

PROJECT MERGES BUILDING FRAGMENTS WITH RED LIGHT AND WATER



Season, Winter of Light, by architect Iole Alessandrini, was a temporary installation that operated in Tacoma during January, 2000.



Iole Alessandrini's love of architectural ruins harkens back to her childhood in Italy and post-graduate days in Rome—after finishing college she lived in a flat only a block away from the Coliseum. Later, in December of 1998, when she had travelled to the city looking for a site for a temporary art installation, it was two blocks of brick foundation wall fragments left in place as buttresses for a number of demolished waterfront buildings caught her lighting designer's eye.

Alessandrini's project, titled *Winter, Season of Light*, was initiated by the Season of Light (SOL) task force, a group formed by the Tacoma-Pierce County Chamber of Commerce, that has worked to stabilize existing historic structures and to mitigate blight in downtown Tacoma. The group's hope was that the installation would attract people to the downtown area, increase public awareness of new projects in the district, and encourage further positive changes. Karen Knipher, SOL's chair, had previously heard about Alessandrini's work ["Light and Shadows," RECORD LIGHTING, February 1997, page 141] and invited her to make a presentation the SOL committee. Her work resonated with them, and she was given a commission.

"One of the most challenging aspects of my work," says Alessandrini, "is to simultaneously deal with two very different types of media." One is the architecture, which is physical—the long brick retaining walls that existed on the site. The other is energy—the light that's added to the project. She goes on to explain that architecture is shelter; but light is transient and vulnerable. "The opposed nature of the properties of these media inspires my art."

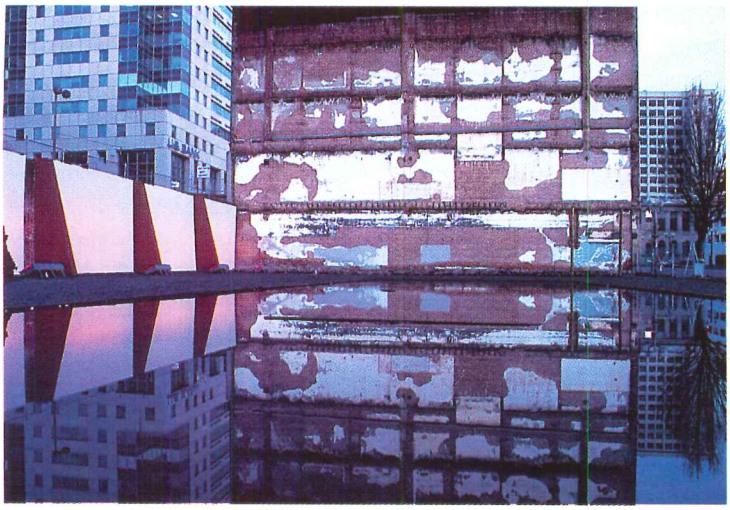
It took a year from the acceptance of Alessandrini's proposal until its completion in December of 1999. Sitework for the project included bulldozing away earth and debris, adding 800 tons of gravel sub-base, so that a 6-inch-deep reflecting pool could be added when construction of the other parts of the project had been completed, to increase its visual impact.

To reflect light off the retaining walls, and emphasize the spaces where 24-foot wide buildings once stood, 16-foot-high, light-reflecting panels were constructed. To ease handling and transportation, these reflectors were made off-site in 8-foot-wide pieces. Once delivered, they were assembled into 24-foot wide sections, and installed snug between the brick buttresses in front of the retaining walls. The light-reflecting panels—covered with a plastic wrapping material that shrinks when heated—were painted with a velvet-textured white paint to minimize undesirable reflections.

Three 400-watt metal-halide wall washers, mounted inside wooden boxes, were used to light each reflecting panel, and red gels were stretched across the top of each box. "Red is found in the color of sunsets," she says, "and is the color of fire alarms. It instinctively draws people's attention."

From December 31, 1999 to January 16, 2000, the lighting operated twice each 24-hour period, during the dawn hours, from 5:00 to 8:00 A.M. and from 5:00 P.M. to 2:00 A.M. As the red-filtered metal-halide lamps warmed-up, the color on the panels intensified, from light pink to deep red. During the last two weeks of the installation, it was the artist's intent that the gels would be changed to deep blue, as shown in the mock-ups pictured here. Unfortunately, gale-force winds destroyed the reflecting panels the day before the gels were to be changed. All was not lost, however. The project was awarded a $20,000 Paul Allen Foundation grant, and Alessandrini and Karen Knipher are using the funds to create a book to commemorate the project. *CDL* ■

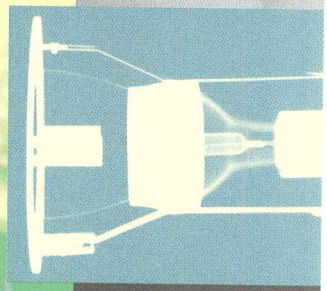
Light from gelled wall washers turn from pink to red as lamps warmed up.



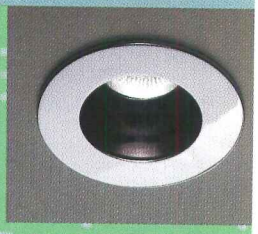
a new way to look @ lucifer

www.luciferlighting.com

Calyx



Stria



Basso

A clearer vision. An in-depth view. Now Lucifer Lighting Company is online. Visit our website to see the entire product line, breathtaking application imagery and a wealth of comprehensive product specifications.

Inside and out, Lucifer Lighting Company's newest lighting solutions are as beautiful as ever. At right: **Calyx**, a petite glowing sconce, lit by fiber optics. Low-voltage **Basso**, a deeply recessed downlight, using Par or R lamp and multiple effects devices. At left: **Stria**, a compact low-voltage linear fixture that surface mounts or recesses flush to walls...even coves.

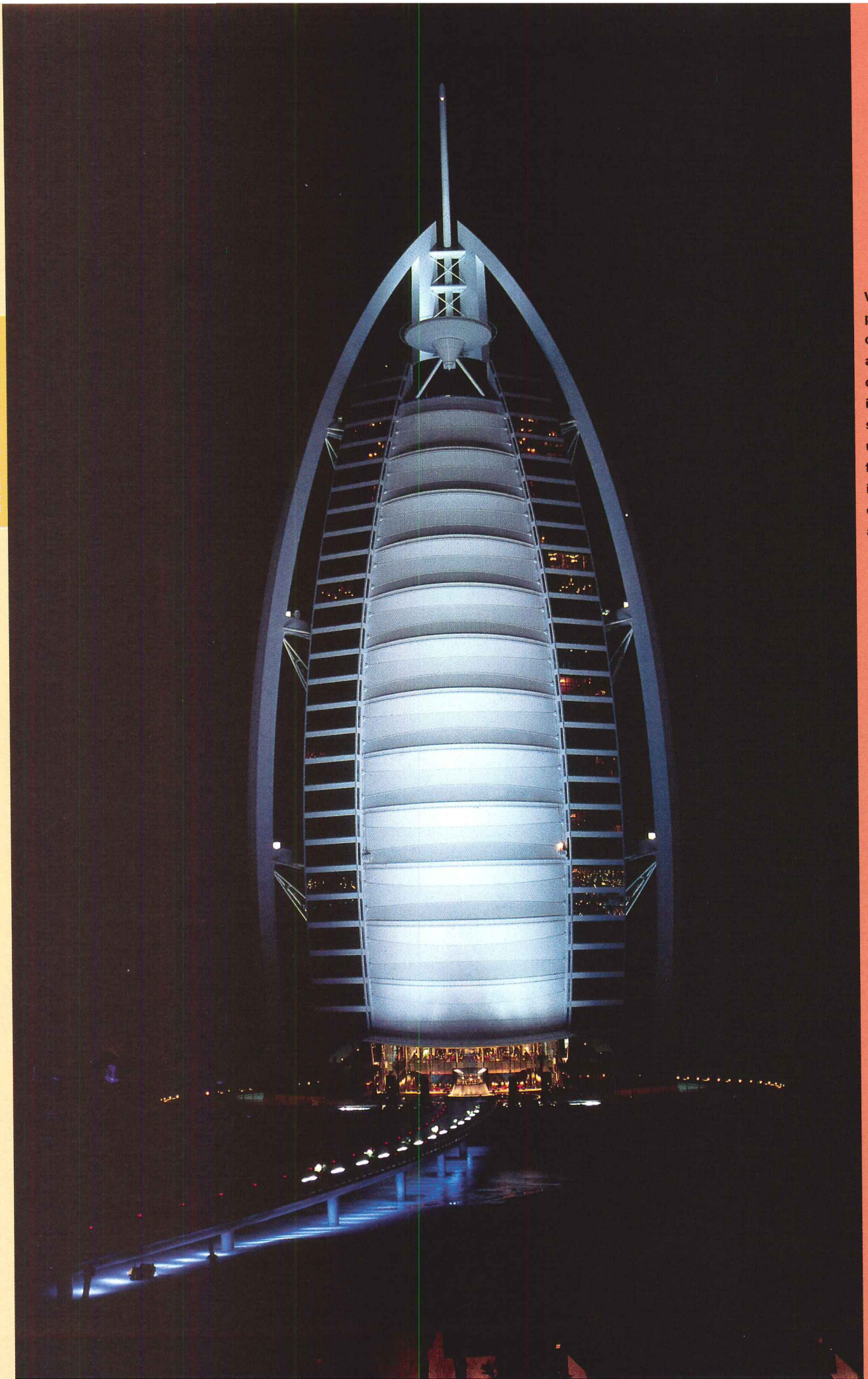
www.luciferlighting.com

LUCIFER
LIGHTING COMPANY

CIRCLE 125 ON INQUIRY CARD

1-800-879-9797
Fax 1-210-227-4967

©2000 Lucifer Lighting Company. All rights reserved.



Vast numbers of computerized, color-changing luminaires and strobes, subtly concealed in the building's structural skeleton, have been used to turn the hotel facade into an awe-inspiring kinetic display of light and color (left and opposite).

Color washes turn a Dubai hotel into a huge, animated lighting spectacular

By Nayana Currimbhoy

Everything about the Burj Al Arab Hotel had to be the biggest and the best. Located on its own private, man-made island off the coast of Dubai, the exclusive Arabian tower claims to be the tallest hotel in the world, with the world's tallest atrium. It even sports a cantilevered restaurant and helicopter pad at its crown. All of the lighting for the hotel—the exterior, restaurants, gardens, pools, the automobile bridge, as well as the other buildings that make up the surrounding Jumeirah Beach Resort—was designed by Jonathan Speirs & Associates (JSA) of Edinburgh and plays a major role in creating the image desired by the owner, H.R.H. Sheikh Mohammed.

Three elements comprise the tower: the crown of the building, the fabric facade, and the building structure. The structure, referred to as an exoskeleton, consists of a massive steel frame stiffened by diagonally mounted trusses. It is lit with cool, metal-halide projectors, which use various widths of spread lenses to ensure that the building is evenly lit and that no light spills into adjacent bedroom windows. Strobe lights built into large vertical and curved frame members can be programmed to provide a wide assortment of patterns and chases.

A Teflon-coated fabric wall, which by day shields the atrium from the intense desert heat and light, provides a canvas at night for a hypnotic light show that uses fully computerized color-changing luminaires. "We used around 200 of these fixtures on the project. I think it would be safe to say that this is the highest number ever used in any single project," says Paul Gregory, principal of the New York City-based Focus Lighting, who designed the controls for the system in conjunction with JSA.

The crown of the building is illuminated from three different locations. Color-changing luminaires located on the roof of a poolside bar on the ground are focused on the underside of the cantilevered restaurant. More are located on the roof and side wall of the restaurant and focused onto the outer face of the exoskeleton and spire, while others around the helicopter pad and roof area illuminate the inner faces of the exoskeleton and spire. The upper portion of the fabric facade is lit from fixtures concealed within planter boxes on the bridge leading to the island hotel. Fixtures for the lower portion of the fabric facade and the underside of the helicopter pad, cantilevered more than 650 feet above the island, are located in recessed pits flanking the bridge.

The tower lighting changes every half hour as evening progresses. Possible colors vary from pure white light to an almost unlimited range of single hues and multicolored patterns. In addition to this pageant of changing colors, there is a provision for special events. Concealed in a specially built room on the ground are four 7-kilowatt, large-format xenon projectors focused on the fabric facade of the tower, 660 feet away. Three of the projectors are focused one above the other to create gigantic images, 264 feet high and 88 feet wide. These projections can be specially designed for shows, seminars, and trade events. The fourth projector, which points toward the middle of the fabric screen, frequently projects images of Arab leaders onto the fabric. Adjacent to the helicopter pad are four 7-kilowatt xenon searchlights that throw moving beams of light into the sky and accompany these special presentations.

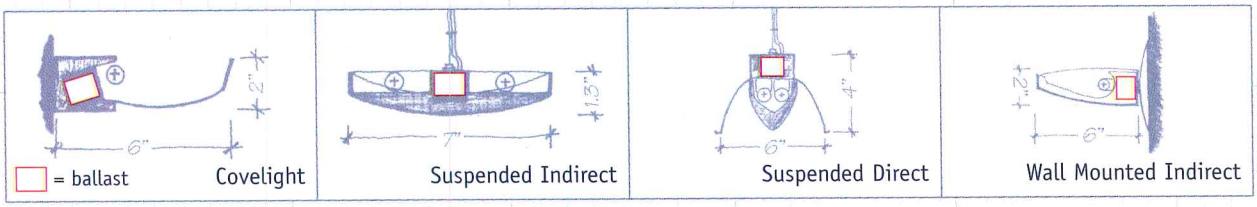
One system controls the exterior lighting. It uses custom software to drive two theatrical controllers linked to a menu screen. A single touch allows the operator to point to any part of the resort complex and change the lighting. Control signals are sent to the various zones of the project via fiber-optic cable. For ease of maintenance, the computerized color-changing luminaires are ganged in groups of five, and strobes are on individually isolated circuits, rather than being wired together. Says Jonathan Speirs, principal of JSA, "The success of a job like this rests on the ease with which the equipment can be manipulated and maintained." ■

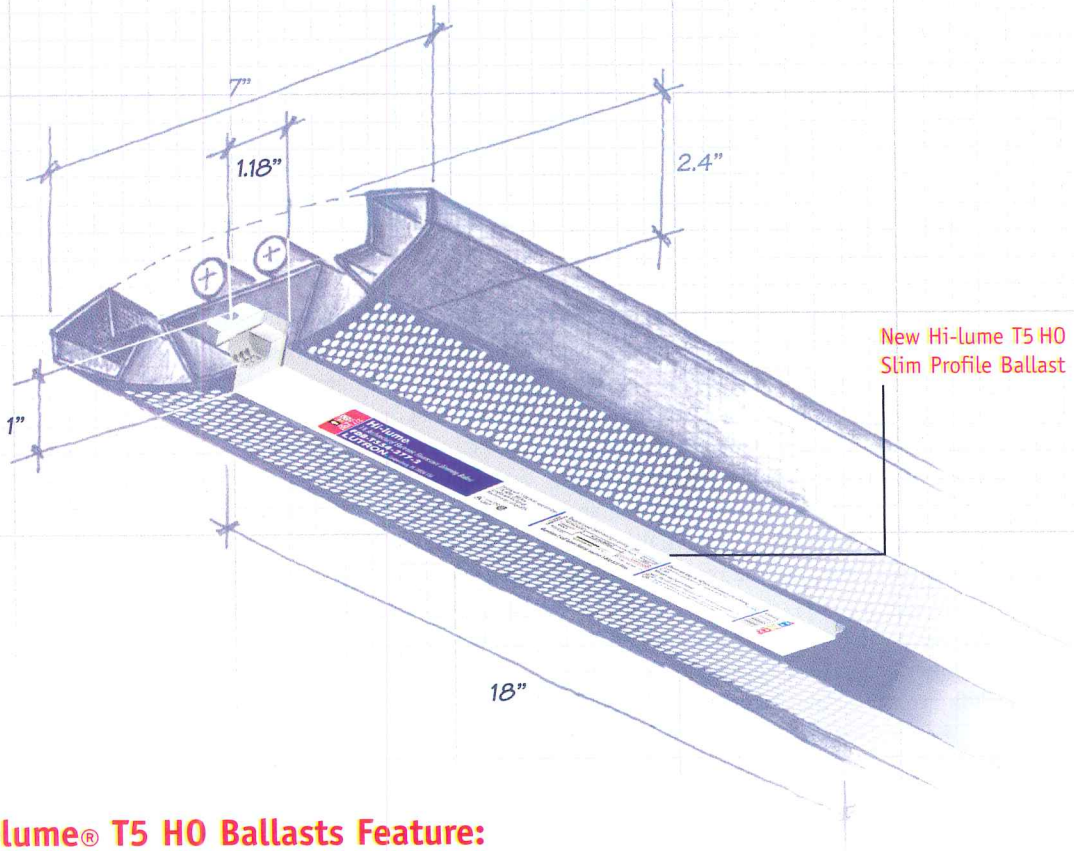
Nayana Currimbhoy is a New York City–based freelance writer and frequent contributor to Record Lighting.

Project: *Burj Al Arab/Jumeirah Beach Resort, Dubai*
Owner: *HRH Sheikh Mohammed*
Architect: *W.S. Atkins & Partners Overseas*
Lighting designer: *Jonathan Speirs & Associates—Jonathan Speirs, Gavin Fraser, Malcom Innes, Alan Mitchell, James Mason, and Iain Ruxton, design team*
Lighting controls designer: *Focus Lighting—Paul Gregory, principal*
Sources: Computerized color-changing luminaires and controllers: *Iridium ETC*
Strobes: *High End Systems*
Scrolling projectors: *PIGI ETC Audio-Visual of France*
Searchlights: *Skytracker*
Touch screen controllers: AMX

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

New Hi-lume® dimming ballasts expand design possibilities for T5 HO luminaires





Hi-lume® T5 HO Ballasts Feature:

- True 1% flicker-free architectural dimming for T5 HO 54W lamps
- Slim profile steel case–1.00"h x 1.18"w
- 1.0 ballast factor
- 3-wire line voltage control for uniform luminaire-to-luminaire dimming
- End-of-lamp-life protection, current inrush limiting circuitry, <10% THD, >.95 power factor
- Rated for case temperatures of at least 75°C
- 100% performance tested; 35 years fluorescent dimming experience

Specify Hi-lume with Performance-Matched Lutron Controls:

Wallbox...

Wireless...

or Preset Scene.

Tech support: 24 hours/7 days: 1-800-523-9466
Product information: 1-877-2LUTRON ext. 407
or call your Lutron representative

LUTRON®

www.lutron.com/hilumet5ho

CIRCLE 126 ON INQUIRY CARD

Lighting effects cue nostalgia and enhance popcorn appeal at Metreon's multiplex

The main concession area is awash in three colors of light from neon and fluorescents (above left). Automated luminaires sweep a pattern of stars across the lobby (above right).

By William Weathersby, Jr.

Like a flashy Web spin-off enhancing a traditional print product, the Metreon shopping and entertainment complex complements neighboring museums, galleries, and performance spaces in San Francisco. Completing the western edge of the Yerba Buena Center for the Arts, the 350,000-square-foot urban center comprises restaurants, stores, attractions, and movie theaters designed around the theme of technology and its role in everyday life [October 1999, page 154]. Since its debut last year, Metreon has infused pop culture into the high-culture 'hood, broadening Yerba Buena's range of visitors and nighttime appeal and subsidizing its nonprofit components.

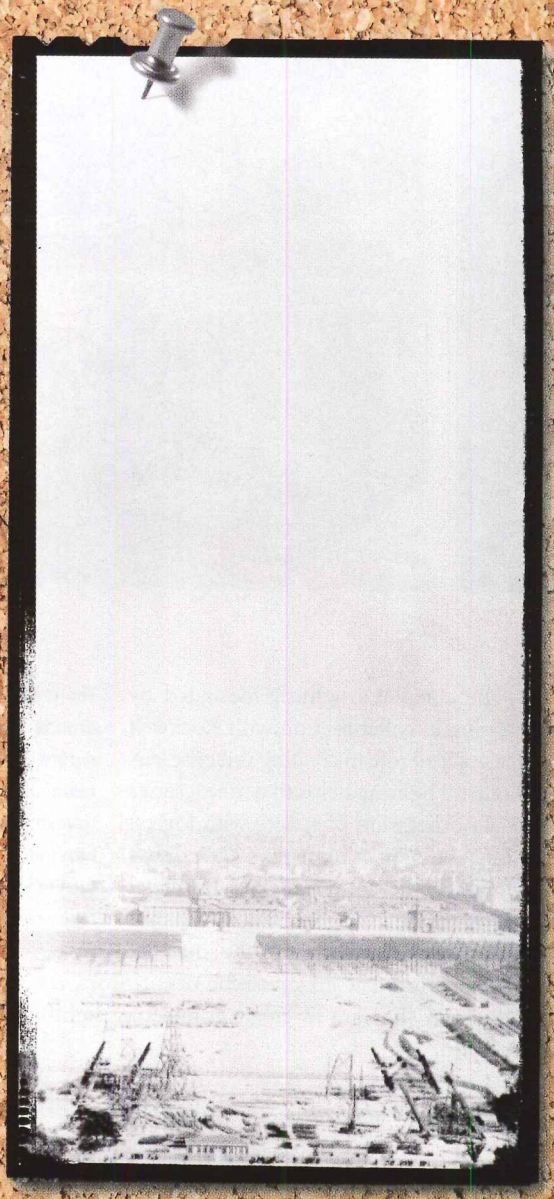
Sony Corporation of America, which developed the center in conjunction with the San Francisco Redevelopment Authority and Millennium Partners, sought a showplace that would employ the latest audio and projection technologies while functioning as an entertaining destination in itself. "The goal was to bring back the magic of moviegoing," says architect David Rockwell of Rockwell Group, "with spaces recalling the heyday of mid-century movie palaces combined with modern production values and effects." The imaginative interiors embrace the iconography of filmmaking and classic venues such as Radio City Music Hall by featuring complex proscenium arches, red velvet curtains, Art Deco detailing, and oversize Pop Art props, including popcorn buckets, film reels, and movie cameras.

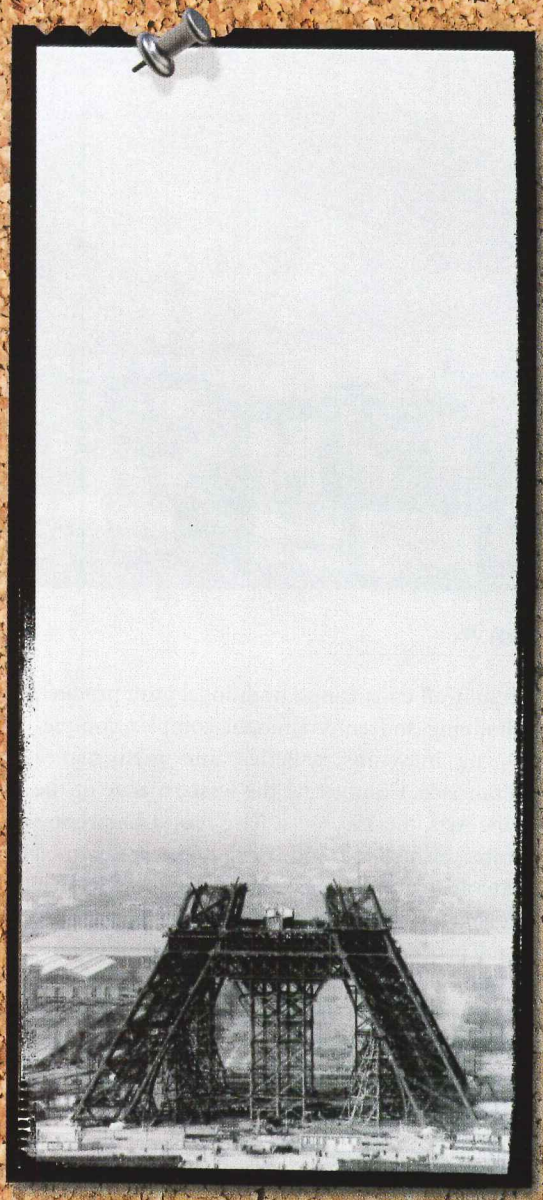
William Weathersby, Jr., is a freelance writer based in Westport, Conn., and a frequent contributor to Record Lighting.

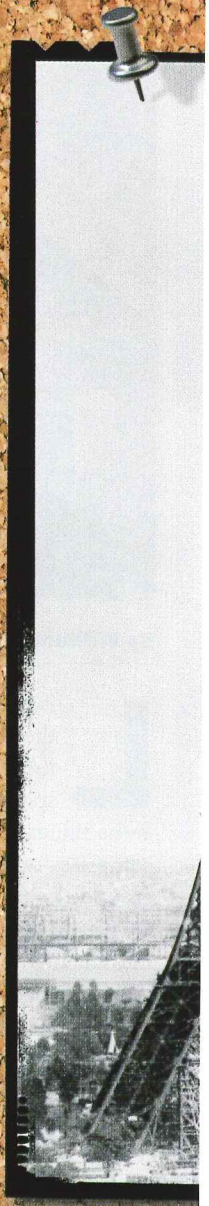
The cineplex's lighting, designed by Focus Lighting in collaboration with Rockwell Group, plays a lead role in creating the mise-en-scène. "Colorful lighting helps to define a series of events—a procession of spaces with logical pivot points and transition areas—that draws patrons through the complex," says principal lighting designer Paul Gregory. "Focal areas are set off from their surroundings by the intensity of their illumination. The juxtaposition of corridors, vestibules, and lobbies and the way they are lit create connecting sightlines that beckon visitors forward."

Project: *Sony Theatres at Metreon, San Francisco*
Building architect: *SMWM/Gary E. Handel+Associates*
Architect of record/auditorium design: *Gensler*
Design architect: *Rockwell Group—David Rockwell, principal; Carmen Aguilar, senior-in-charge; Teddy Acero, project manager; George Bennett, Scott Briggs, Ron Dechamps, Eve-Lynn Schoenstein, Amy Statuto, Julia Thompson, Seong-Hye Yoon, design team*
Lighting designer: *Focus Lighting—Paul Gregory, principal; Brett Andersen, project designer; Sepp Spenlinhauer, design assistant*
Structural engineer: *DeSimone Consulting Engineers*
Theming contractor: *Sparks Exhibits & Environments*
Box office general contractor: *Dinwiddie Construction*

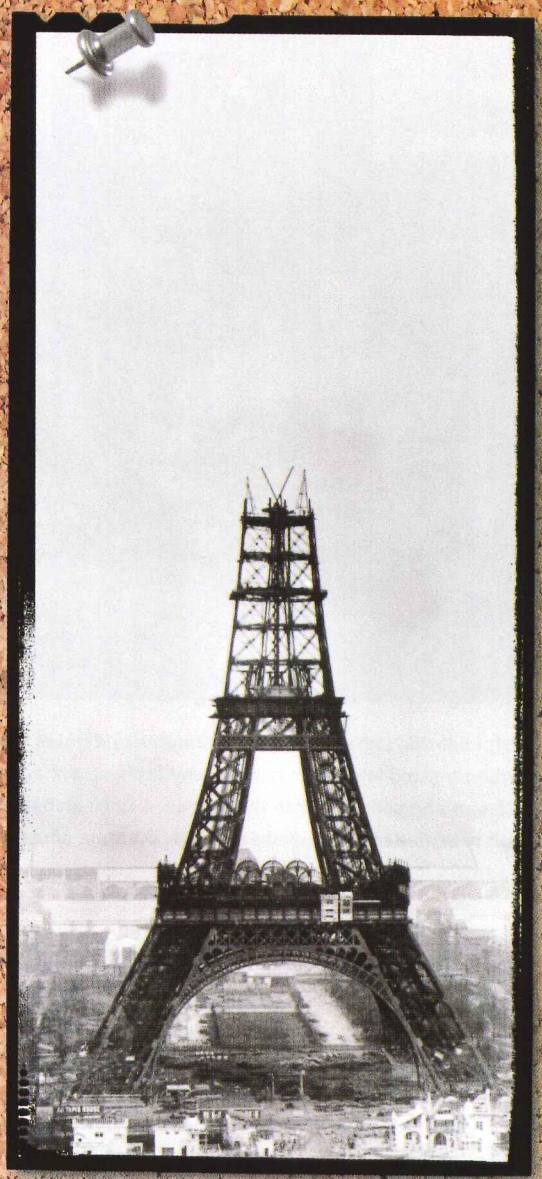
EVOLUTION

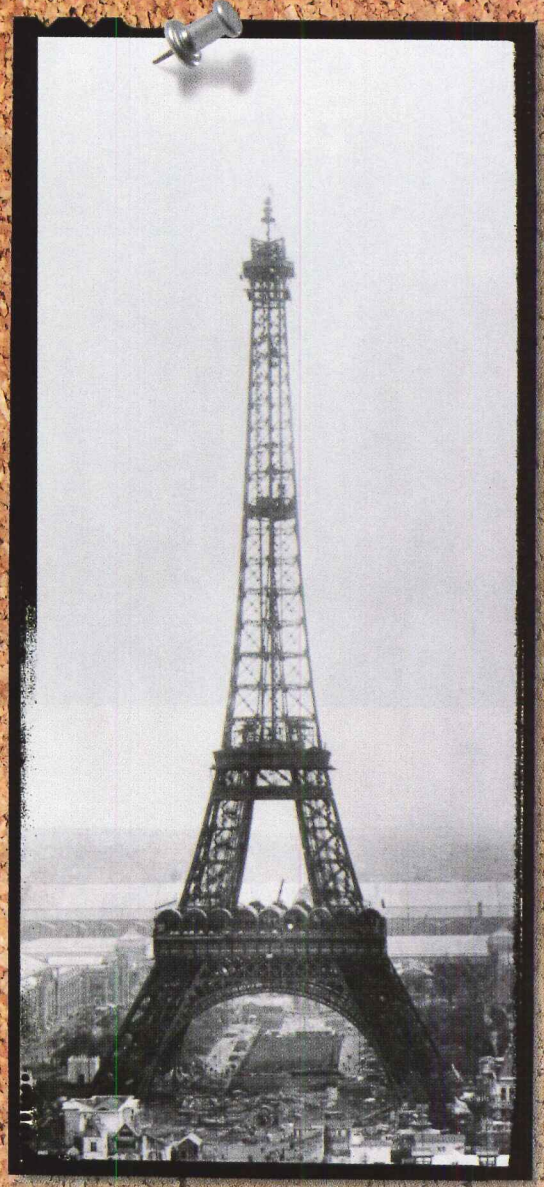






F A M O N U M E N T





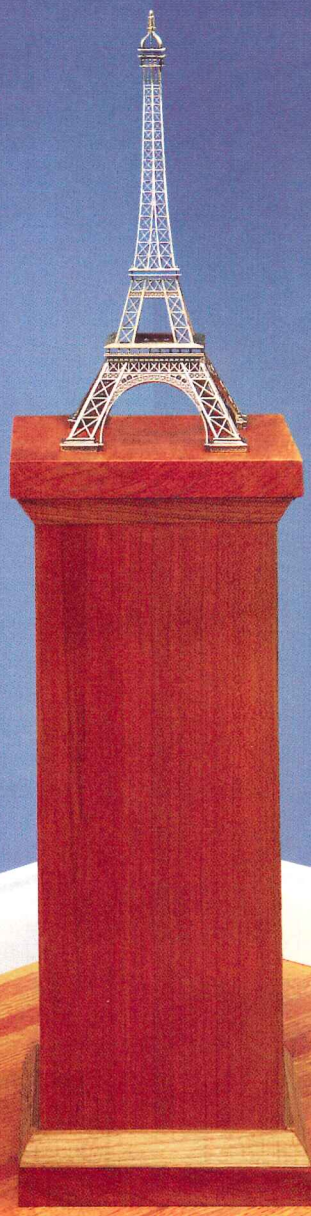
CIRCLE 127 ON INQUIRY CARD

Colorful lighting enhances scenic elements and helps the cineplex attract attention beyond Metreon's curtain wall (above). Six automated luminaires inside pan and spill light into the garden. A faux-alabaster ceiling canopy, backlit with golden neon, evokes the Deco drama of classic movie palaces in the ticket lobby (left).

Although the movie theaters are located on the third floor, the light show begins in the ground-floor ticket lobby. Patrons enter the box-office area beneath a faux-alabaster ceiling arranged in a Deco fan pattern. Internally lit with 16-foot runs of neon ranging from yellow to amber, the canopy leads toward ticket counters set in front of steel-framed acrylic panels backlit with more golden neon. One row of fluorescents backlights the metallic frieze fronting the terrazzo counter and accents its front edge. "Because the backlighting of the ceiling is so strong, no additional spot-lighting is necessary to illuminate the signage," Gregory says.

Arriving via escalator to the third floor, visitors face a panoramic view of Yerba Buena Gardens and the city skyline through the building's curtain wall. Behind a concession counter running the length of the space is a proscenium arch that frames bas-reliefs depicting scenes of movies shot in San Francisco, including *The Maltese Falcon, The Birds, Vertigo,* and *The Bird Man from Alcatraz.* Here, three colors of illumination are teamed with scenic elements to enhance the sense of excitement.

EVOLUTION ON A MONUMENT



Introducing The Ultimate Architectural Downlight

It was a gift to the world. One of the nineteenth century's greatest engineering feats. And today, 102 years after its completion, the Eiffel Tower remains a monument to Mankind's relentless drive to scale new heights. How appropriate, then, that we light—and enliven—this faithful replica using Calculite EVOLUTION, the new zenith in architectural downlighting. EVOLUTION's precision adjustable optics deliver complete aiming flexibility, while low brightness apertures minimize glare and source detection. To see this major downlighting achievement for yourself, visit EVOLUTION at www.lightolier.com or contact your local Lightolier representative.

Calculite®
Evolution™

See Evolution at the AIA Expo 2000, Booth 624

CIRCLE 128 ON INQUIRY CARD

LIGHTOLIER®

Neon MR16s, fitted with dichroic filters and glass-trim downlights, provide sparkle and definition to foyers and corridors (left, below).

"The colors work with the mural to appear like a matte painting for a film, which can even be viewed from the park outside," Rockwell says. Two rows of blue neon provide backlighting along the walls, while gold and red fluorescents add complementary accents. Suspended wire-mounted MR16s uplight copper ceiling panels above the concession stand.

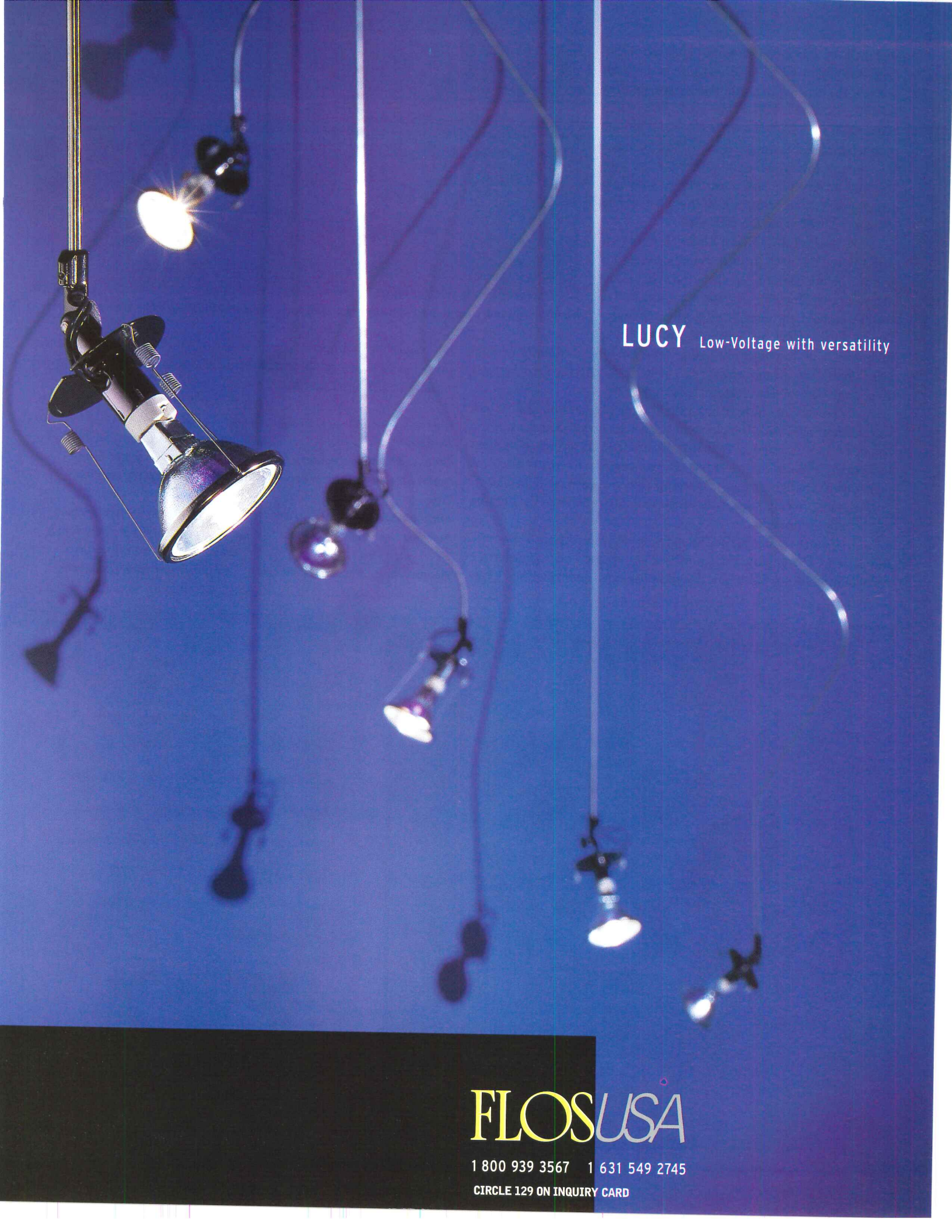
The concession stand is spectacular in itself. Hovering above it is a colossal popcorn bucket garlanded with an oversize film reel featuring backlit movie stills. The popcorn bucket, a painted scenic detail, is uplit with five MR16s mounted on the back side of the film reel. When hydraulically propelled popcorn kernels the size of basketballs shoot up in the air within the bucket, the effect is synchronized with two internal strobe lights and a wash of "buttery yellow light" from PAR38s, says project designer Brett Andersen. Additional PAR38 downlights provide task lighting along the black countertops. White fluorescent strips with a color

POPCORN KERNELS THE SIZE OF BASKETBALLS SHOOT INTO THE AIR IN SYNC WITH STROBES.

temperature of 3000K internally illuminate the candy display cases.

In a secondary concession area, automated overhead luminaires sweep through the space, projecting images of white stars upon the floor and surfaces. Movie posters promoting coming attractions are highlighted with theatrical framing spotlights. Beyond this, a series of foyers presents additional theatrical flourishes before ticket holders move along corridors to access individual cinemas. In one foyer, for example, a proscenium arch framing a red curtain is uplit with PAR38 lamps mounted atop a stylized marquee. "The streaks of amber from the PAR lamps, teamed with red fluorescents, add an overall glow to the red fabric and gold proscenium, like the traditional 'curtain warmer' effect used in the classic theaters," Gregory says.

Two rows of fluorescents atop each cinema portal light the archway and backlight signage. MR16s fitted with red dichroic filters wash red curtains while strips of contrasting blue neon illuminate the wall above


LUCY Low-Voltage with versatility
FLOSUSA
1 800 939 3567 1 631 549 2745
CIRCLE 129 ON INQUIRY CARD

and hallway beyond. Diamond-patterned, glass-trim downlights under each marquee add sparkle without the expense of custom decorative fixtures. Ambient lighting is kept at low levels along corridors, while the MR16 accents are used to pop out architectural and themed elements. Cinema numbers in the foyers are uplit in blue neon, atop columns accented by pull-down MR16s with contrasting pink dichroic filters. Coffers uplit with blue neon visually heighten the corridors.

In the IMAX lobby, Rockwell wanted to foreshadow the new cinema technologies found within the auditorium, which has an eight-story digital screen. The lobby features a curving wall of metal-framed light panels displaying an automated light show to envelop patrons in a high-energy atmosphere, alleviating the boredom of waiting in line. Neon, in the three primary colors plus white, backlights the Plexiglas panels and can be mixed to create virtually any color.

A backlit light wall programmed with color-changing neon dominates the IMAX lobby (above).

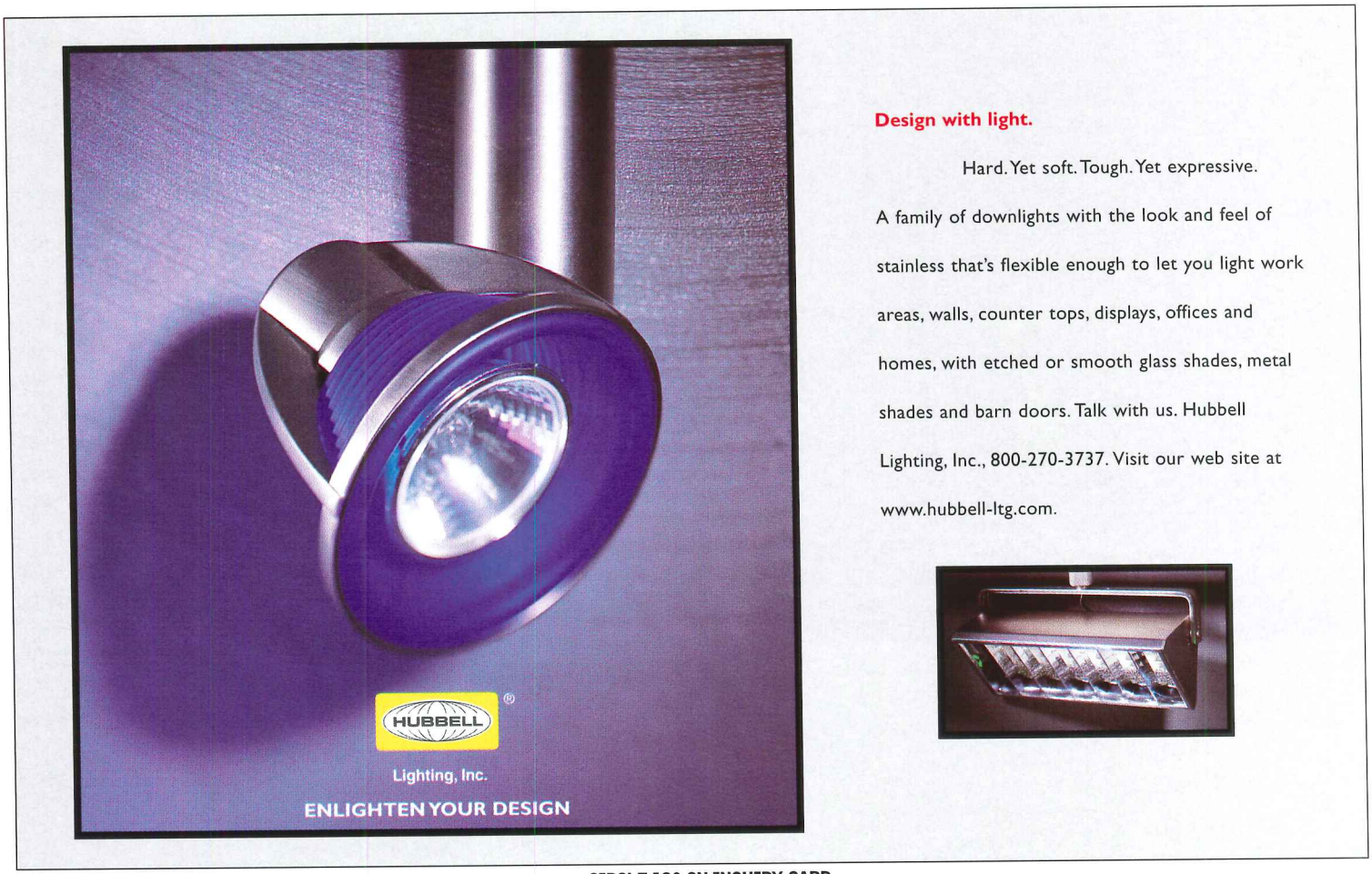
For the opening of the IMAX venue, the automated system was programmed with 30 color sequences that slowly change over the course of three minutes, punctuated by a frenetic 20-second show, then followed by a return to slow fades. "The concept was to create the colors of a slowly changing sunset, merging into a theatrical light show," Gregory says. To enhance special events and film premieres, the lighting can be reprogrammed.

Besides designing additional Sony flagship sites in New York, Boston, and Washington, D.C., Rockwell Group and Focus Lighting are collaborating on new suburban cineplex prototypes and retrofits of existing venues for multimedia clients across the country. Coming soon to a theater near you: a rainbow of lighting effects for the price of a movie ticket. Popcorn still extra. ■

Sources

Recessed multihead accents: *RSA*
Surface Mount adjustable accents: *LSI*
Automated luminaires: *Clay Paky*
Architectural dimming controls: *ETC/Unison*
Fluorescent cove lighting: *Columbia*
Recessed downlights: *Prescolite*
Decorative downlights: *Leucos*
Low-voltage rail lighting: *Bruck*

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



CIRCLE 130 ON INQUIRY CARD

Structural™

KIM LIGHTING

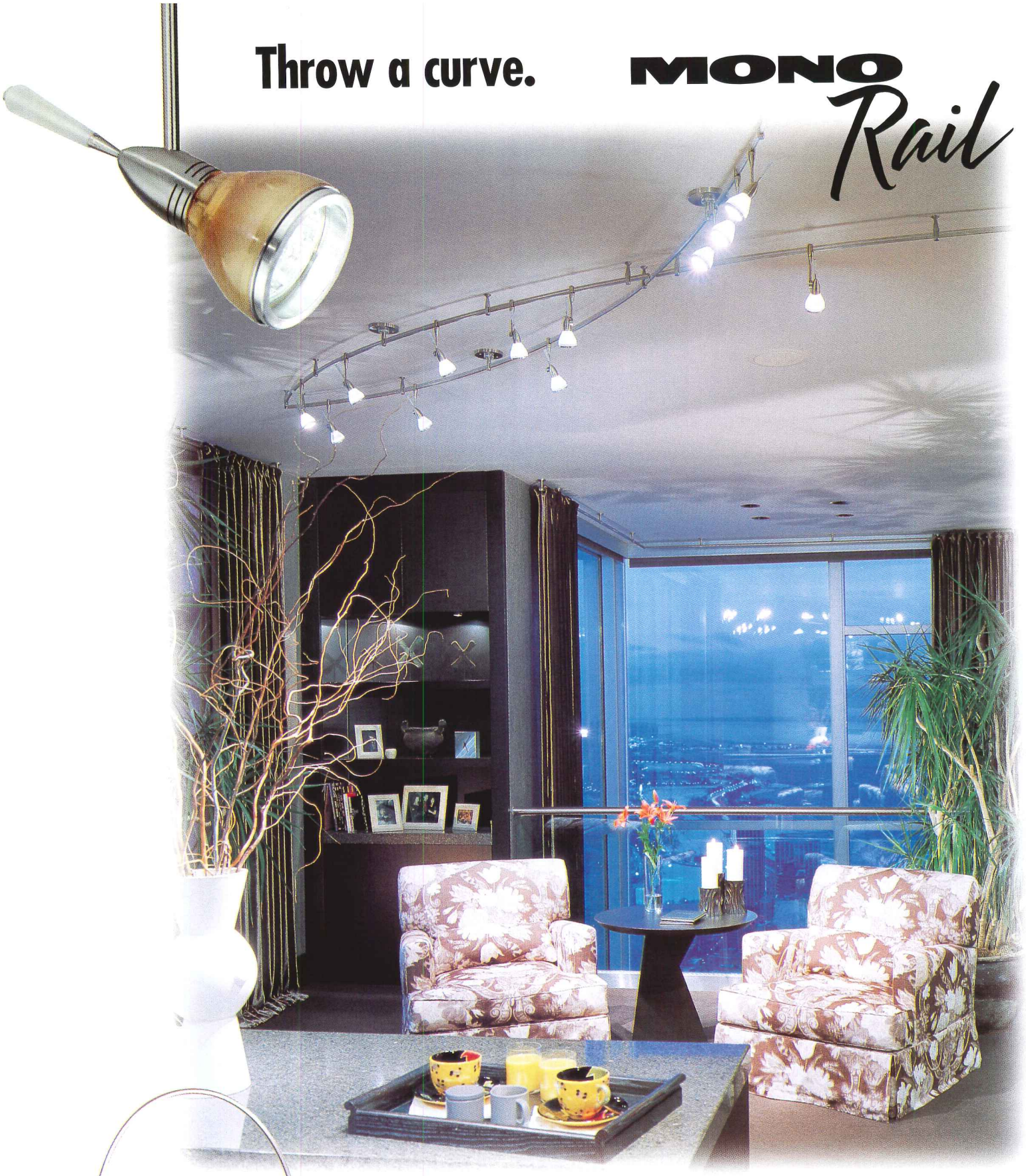
16555 East Gale Avenue
City of Industry, CA 91745
626/968-5666

CIRCLE 131 ON INQUIRY CARD

www.kimlighting.com

Throw a curve.

MONO Rail



Hand Bendable MonoRail.

You're not just designing with light, you're lighting with design.

773/883-6110 www.techlighting.com

See us at Lightfair, booth #1115.

TECH Lighting®

CIRCLE 132 ON INQUIRY CARD

The light show in Shedd Aquarium's newly restored rotunda takes visitors on a Caribbean journey

By Nayana Currimbhoy

The rotunda of the John G. Shedd Aquarium in Chicago, a 1930 Beaux Arts-influenced building designed by Graham Anderson Probst & White, was conceived as a grand, light-filled room—although it was also home to a swamp exhibit. In 1970 the amphibious beasts were replaced by a 90,000-gallon Caribbean-reef tank. The 5,800-square-foot room's laylight was shrouded in black. Acoustical tile covered the period plasterwork, and the room was doused with dark green paint.

In 1995 Esherick Homsey Dodge & Davis, in collaboration with Perkins & Will and Shedd's Department of Planning and Design, began a plan for the restoration of the building.

FIVE LIGHTING SCHEMES SHOW OFF LIFE IN THE CARIBBEAN WILD.

When design work for the rotunda got under way in 1997, the client wanted to obliterate the architectural interventions of the 1970s and restore the room to its original splendor, yet still retain the Caribbean Reef exhibit. This caused "a contradiction in the design brief," says Steve Lenox, principal at Lyons/Zaremba, the project's exhibit designer. "The usual scenario is that the space surrounding the tank is dark, so the public can see without looking through reflections on the glass walls of the tank, and the water is bright for the plants and animals."

The architects, client team, and exhibit designers, working with the lighting design firm Schuler & Shook, used light, sound, and action to create an environment that allows visitors to experience both the restored room and the recently refurbished reef exhibit. Five lighting modes, provided by a variety of light sources, fixtures, and audiovisual equipment, all coordinated by a sophisticated system of controls, allow different scenes to occur repeatedly throughout the day. The modes emphasize different aspects of the exhibit and its architectural surroundings.

In the architectural mode, the rotunda is at its brightest, showcasing the glories of its Beaux Arts details. AR111-lamped uplights show off the columns, and xenon striplights highlight decorative cornices and porticos. Original, nautically themed sconces, floor lamps, and a clock are restored and relamped with incandescents.

It would have been possible to restore the rotunda's laylight and skylight above it, but daylight would have contributed to algae growth in the reef tank and rendered the effects desired by the designers impossible. Instead, the laylight was refit with translucent plastic, and a blackout curtain was installed above it. Thirty-two dimmable compact fluorescent floods—with five 40-watt lamps in each—backlight it, mimicking daylight. Blue-tinted metal-halide floods above the blackout curtains cast an aquamarine light through the exterior skylight, so that Shedd's pyramidal crown glows outside at night.

One of the Shedd Aquarium's lighting modes emphasizes the rotunda's detailing.

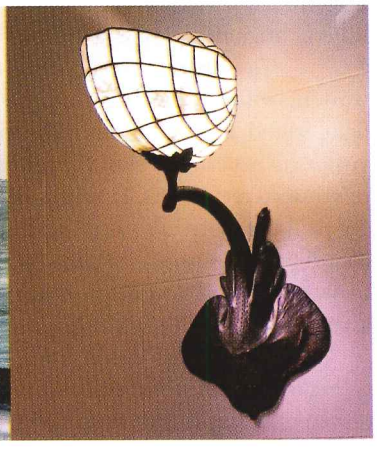
Because it was not possible to daylight the tank, fluorescent lights were used around the perimeter, allowing creatures swimming close to

Project: *John G. Shedd Aquarium, Chicago*
Client team: *Paul Bluestone; Mike Delphini; Bryan Schuetze*
Program manager: *McClier Corporation*
Architect: *Esherick Homsey Dodge & Davis—Charles M. Davis, FAIA (principal-in-charge); Marc L'Ilalien, AIA (project designer/manager)*
Perkins & Will—Ralph Johnson (principal-in-charge)
Lighting designer: *Schuler & Shook—Robert Shook (principal designer); Emily Klingen Smith (project designer); Frank Callahan (designer)*
Electrical engineer: *Spectrum Engineering*
Exhibit designer: *Lyons/Zarumba*

During the "dive" mode, (left, above and below) the architectural lighting level (previous page) in the rotunda is slowly brought down, so that the aquarium is the brightest object in the room. As the "sky" mode occurs, clouds are projected onto the ceiling (above right). Nautical-themed sconces and torchères were cleaned and restored (below middle and right).

the glass to be well illuminated. Extremely bright, 6000K sulfur spotlights, whose lamp life is 60,000 hours, were mounted over the water in the tank to simulate rays of direct sunlight. Blue-filtered metal-halide spots provide "moonlight" when the room is used for evening fund-raisers.

Three different lighting scenes occur throughout the day. In the first mode, "sky," the architectural lighting dims, and images of stars, the moon, the rising sun, clouds, and text are projected around the room using animated fixtures hidden above the tank brim. "Rain," the second mode, takes visitors to the depths of a Caribbean rain forest as strobes above the laylight flash and foliage is projected on the ceiling. Clouds darken and embrace the rotunda in a crashing thunderstorm. The third mode, "water," takes visitors from the shallow waters of the reef to its depths: As pale blue light fades to deep blue, projections of waves move up the walls. After "water," the ambient rotunda lighting level rises, and a dive show begins.



The combination of architecture, exhibit, light, and sound was a collaborative process that required much coordination between the design firms. "The objective was to create a space with a sense of animation, so that in any half hour of the day, the visitor would see more than one scenario," says Schuler & Shook principal Robert Shook. ■

Sources

Column uplights: *Architectural Area Lighting*
Low-voltage striplights: *Starfire*
Fluorescent tank spotlights: *SPI*
Compact fluorescent floods: *Sportlight*
Theatrical dimming system: *Strand*
Sulfur lamps: *Innovative Lighting*

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

Philadelphia mayor's legacy brings bright light to seven bridges across the Schuylkill River

By Nayana Currimbhoy

For years, Raymond Grenald, FAIA, has been known in Philadelphia as the man who lit Boathouse Row. In the 1970s he outlined the eccentric Victorian buildings along the Schuylkill River, where crews store their boats and racing sculls, with white Christmas lights. Their twinkling visages, visible along West Schuylkill River drive, have become a city landmark. Ever since this success, he has wanted to extend his influence to the bridges that cross the river.

Philadelphia is a city of bridges. Grenald first submitted a master plan for lighting them to the city and the Schuylkill River Development Corporation in 1992. The plan included the lighting of the seven downtown bridges that separate the commercial Center City, with its glass-and-steel skyscrapers, from West Philadelphia, a district of academic, medical, and research centers. "The bridges were being treated as highways, not articulated as bridges," says Grenald.

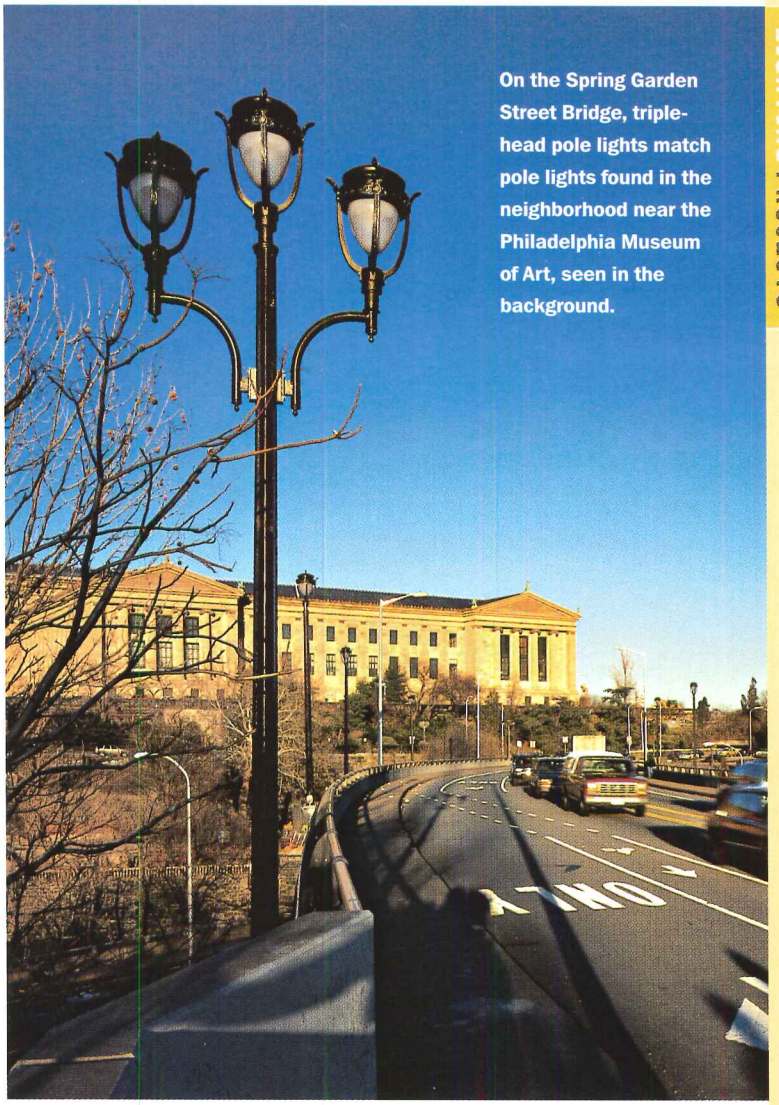
THE LIGHTING GIVES EACH BRIDGE ITS OWN IDENTITY BUT CONNECTS THEM ALL TO THE SURROUNDING LANDSCAPE.

In January 1999, Grenald received a call from Ed Rendell, then the mayor of Philadelphia. His Honor was retiring at the turn of the century and had decided that lighting the bridges was to be his legacy. The project, which Grenald's office estimated to cost two million dollars, was slated to be completed in time for the city's millennium-eve celebration.

Grenald's office decided to treat the bridges as part of the city landscape. Accordingly, the plan was to light the bridges so that they acted as a gateway for the city, to highlight the unique identity of each bridge, and to articulate a connection between each bridge and the landscape around it. The seven bridges, which vary in length, structure type, and traffic flow, were built over an 80-year period, ranging from the turn of the last century, to the early 1980s. The overall plan was to illuminate all the sides and bottoms of the bridges with floodlights and to create a lighting plan unique to each bridge. Underbridge lighting would not only articulate the bridges but would make pedestrians and drivers aware of the river itself. Each bridge is defined at its ends by a custom-designed, multiheaded pole fixture, inspired by the neighborhoods it connects. Smaller versions of these fixtures are used along the spans of each bridge, offering pedestrian lighting.

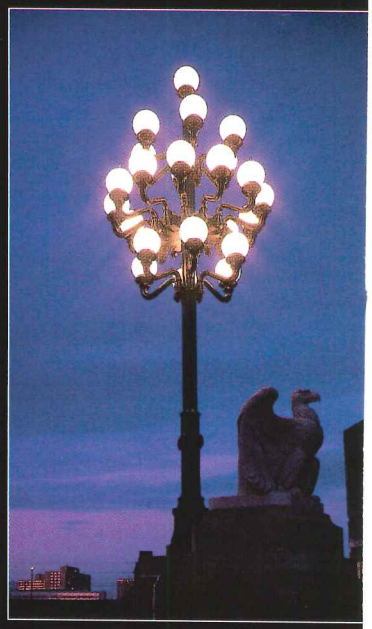
Two arched masonry bridges, the Southeastern Pennsylvania Transportation Authority (SEPTA) Bridge and the Market Street Bridge, were outlined by xenon string lights. At the SEPTA, four 150-watt floodlights mounted to the underside of each arch complement the carnival lights, while the arches of the Market Street are highlighted by 16-foot-long fluorescent sign-lighters containing blue lamps.

Pale blue fiber-optic strips outline the steel girder construction of the Walnut Street Bridge, and shore and abutment metal-halide floods light the underside. The Spring Garden Street Bridge is also illuminated by metal-halide floods, which are ground-mounted. For the Chestnut



On the Spring Garden Street Bridge, triple-head pole lights match pole lights found in the neighborhood near the Philadelphia Museum of Art, seen in the background.

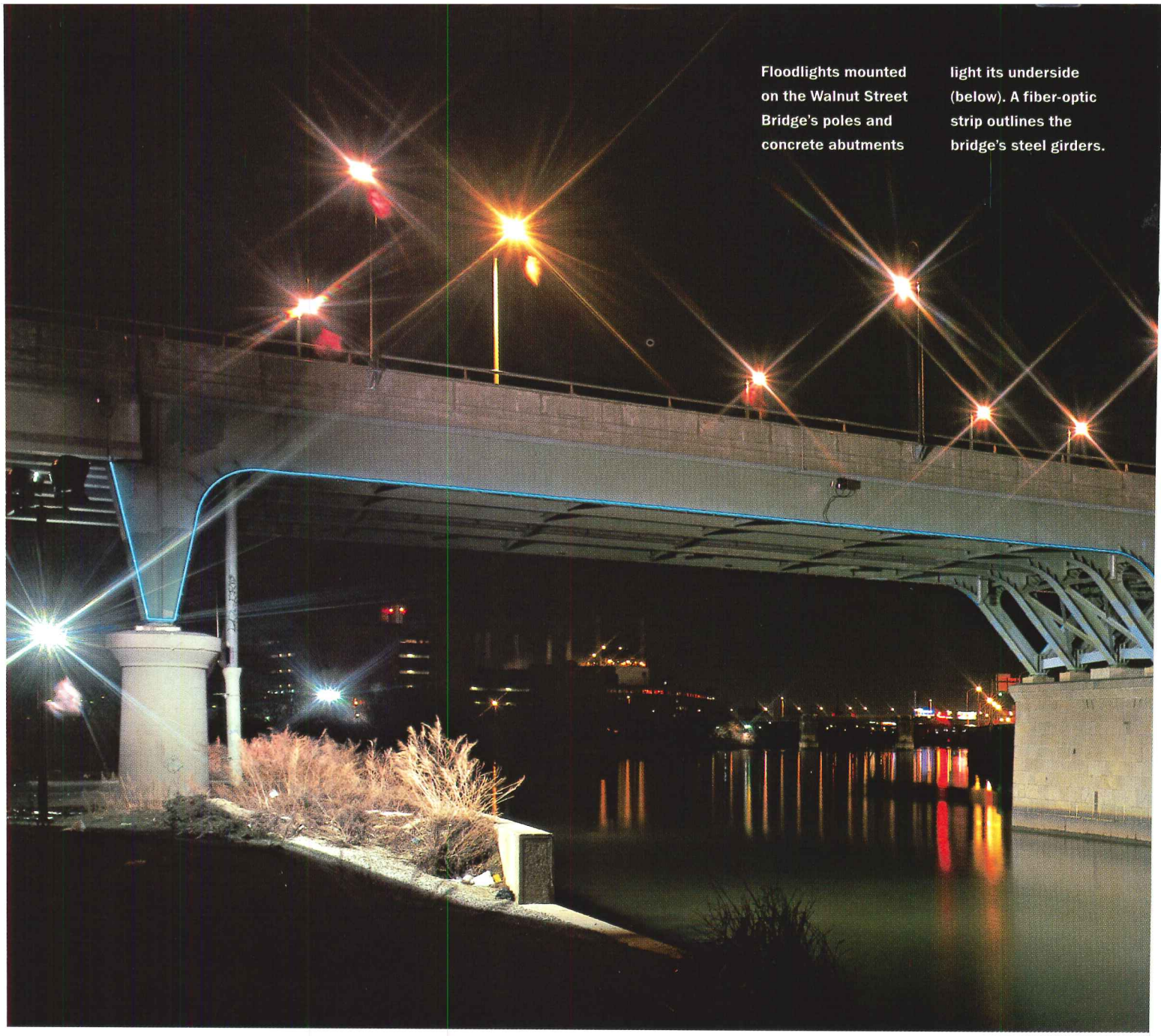
Project: *Schuylkill River Bridge Lighting*
Owner: *City of Philadelphia*
Client and funder: *Millennium Philadelphia*
Lighting designer: *Grenald Waldron Associates—Raymond Grenald, FAIA (chairman); Courtney S. Sarge, (senior designer and project manager) Stephen Palmer, Dalia Kairiukstiene, Jeffrey Kahn (designers)*
Electrical engineer: *PECO Energy; Pennoni Associates*
Electrical contractor: *Riggs Distler & Co.*



The custom-designed portal light at the Market Street Bridge (right) was inspired by the lights at Philadelphia's City Hall. Smaller versions mark the middle of the bridge.

Xenon string lamps, measuring 1,360 lineal feet, define the arches and create a festive reflection. One-hundred-fifty-watt metal-halide floods highlight the undersides of the SEPTA Bridge.

The underside of the SEPTA Bridge (above) is highlighted by fluorescent sign-lighters lamped with blue T12 lamps.



Floodlights mounted on the Walnut Street Bridge's poles and concrete abutments light its underside (below). A fiber-optic strip outlines the bridge's steel girders.

Street Bridge, 24 four-foot, surface-mounted wet-location fluorescents, each containing T8 lamps, were mounted to the underside of the sidewalk on both the north and south sides of the bridge, casting a glow of reflected light.

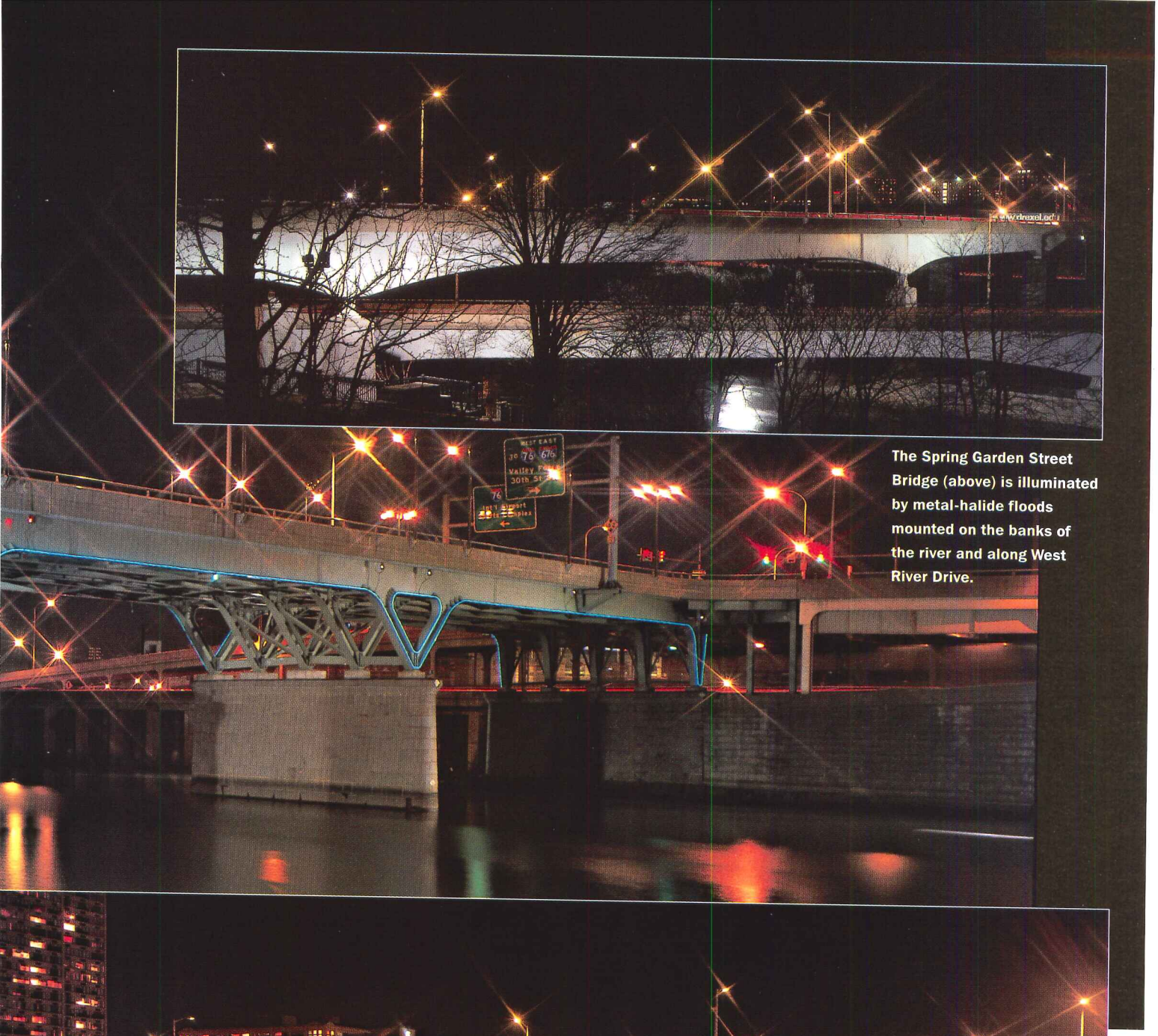
Although fixtures were individually designed for each bridge, the lamping and hardware have been standardized to ease maintenance and repair. All the floodlights are metal halide, all pedestrian lights are compact fluorescent, and all roadway lights are high-pressure sodium. Standard light poles were used on all the bridges.

"The story of the lighting of the Philadelphia bridges is as much about logistics as the types of lamps used and their locations," says senior designer and project manager Courtney Sarge. It took 20,000 linear feet of conduit and 250,000 linear feet of wire to power the bridges. There were 40,000 supports for fixtures and conduits. While the contractors were working, a boat was required in the river as a safety measure, and, in the case of SEPTA, which is a railway bridge, the lights had to be installed from a barge in the river. Although the project was initiated in January, it was September before the funding fell into place and construction could begin. Designers and contractors worked with tight funds, tight deadlines, and freezing temperatures. After endless hours of adjusting and fine-tuning, the bridges came to life at 8 P.M. sharp on the new millennium's eve—all at the same time. ■

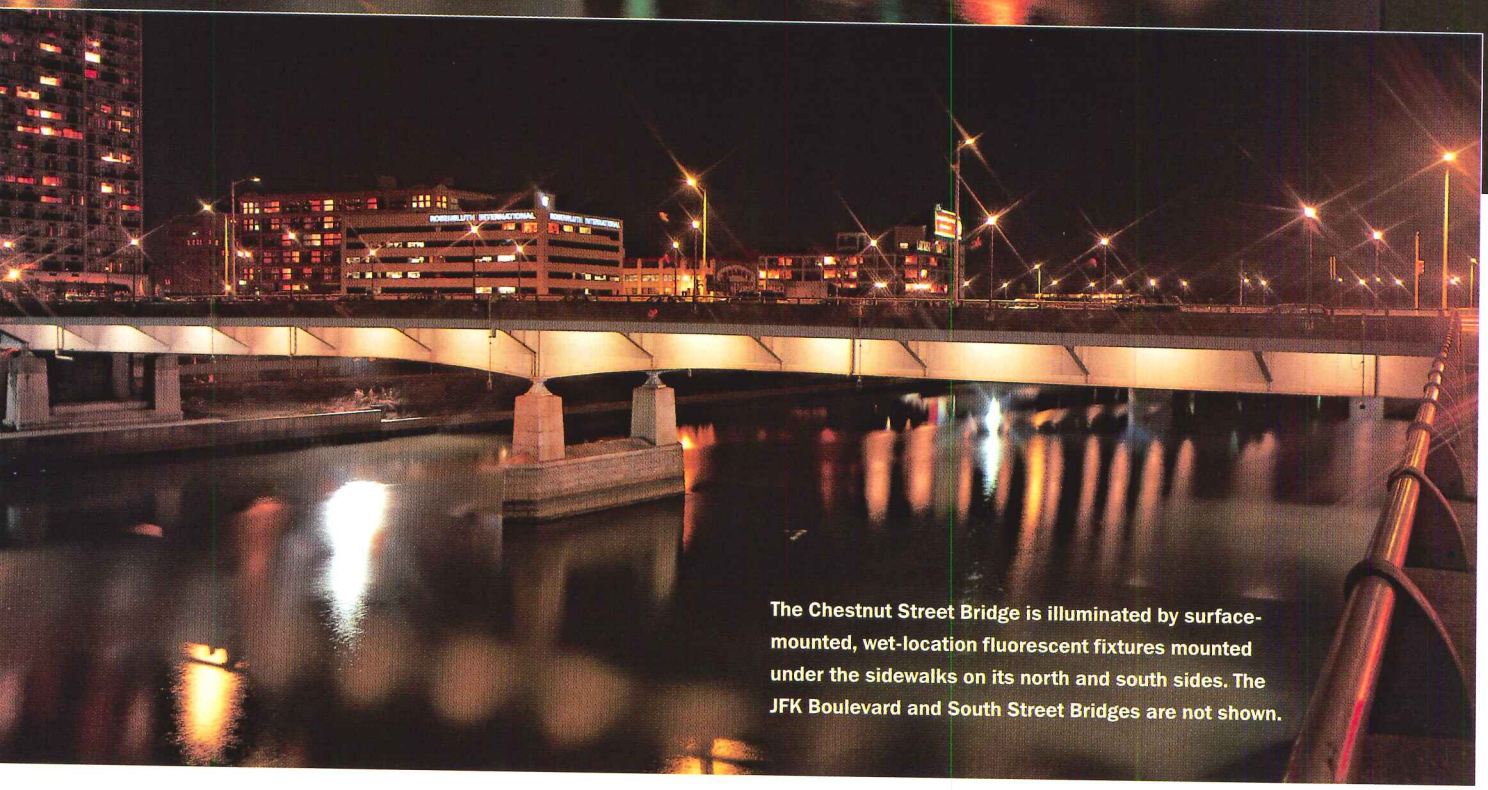
Sources

Floodlights: *Widelite*
Decorative pole lights: *Spring City*
Fiber optics: *Supervision*
Surface-mounted fluorescents: *Nuart*
Surface-mounted globes: *Exceline*
Street-lighting poles: *Shakespeare*
Street lighting: *GE Lighting*
Xenon string lights: *Tokistar*
Indirect floodlights: *Insight*
Lamps: *Osram/Sylvania*
Decorative luminaire: *Sun Valley; Street Lighting Corporation*
Harbor lights: *restored by Klemm Reflector; fitted with Philips QL lamps*

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



The Spring Garden Street Bridge (above) is illuminated by metal-halide floods mounted on the banks of the river and along West River Drive.



The Chestnut Street Bridge is illuminated by surface-mounted, wet-location fluorescent fixtures mounted under the sidewalks on its north and south sides. The JFK Boulevard and South Street Bridges are not shown.

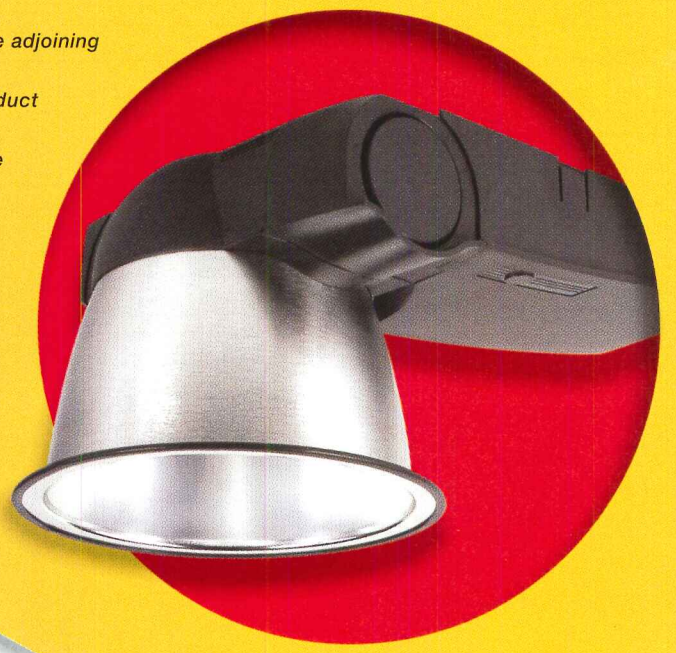
Prescolite

A NEW QUALITY OF LIGHT

OK. We heard you. We didn't laugh. You had a vision. We thought it was innovative. You wanted a recessed downlight that wasn't recessed. We built it. It won. **A lot.** Lightfair's Technical Innovation Award. Lightfair's Best New Product of the Year Award. The ADEX Grand Prize Trophy. Europe's Industry Forum Design Award. Thanks. For us, it's just another example of our listening skills paying off. For you, it's that rare example of being heard...and maybe that's the most important innovation of all. So, what do you want to **invent** now?

T R U S T I N G

From Prescolite's home page, click on the "What's New" button. Click on the "Phos" icon and view a complete press release. For product and technical information, click on the adjoining link or enter from the "Products" icon on the home page. Within the "Product Information" link, you can view a list of features and download complete specification sheets, or link to find your local Prescolite representative.



www.prescolite.com

YOUR VISION

CIRCLE 135 ON INQUIRY CARD

ENJOY THE LIGHT

The arms are extruded aluminum.
The joints are die cast aluminum.

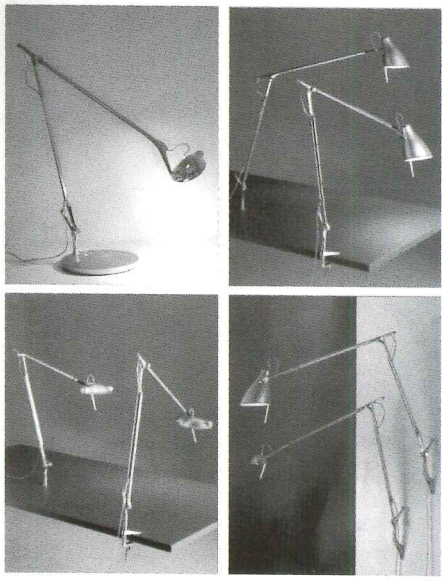
My magic star

LEO

Leo is the perfect task light. The adjustable diffuser uses a 75 watt Incandescent bulb and is designed to give a soft, warm light. The jointed arm is engineered for smooth articulation.
Leo is also available with a clamp, table through mount and wall bracket.
Finishes available in silver grey or polished aluminum/silver grey.
Leo Halogen version is available with a 50 watt bulb.
Leo Incandescent is UL approved.

Weighted steel base finished in die cast aluminum.

Diffuser is die cast aluminum.



USA Distributor:
IL America Inc.
109 Sanford St.
Hamden, CT 06514
Tel: 203 407-8000
Fax: 203 407-0066

Check our web site for your local distributor:
www.nemoitalianaluce.it

NEMO ITALIANALUCE
GRUPPO CASSINA

CIRCLE 136 ON INQUIRY CARD

Deft illumination enhances the profile and function of classrooms at Columbia's new Warren Hall

By William Weathersby, Jr.

A new educational building on the campus of Columbia University, in New York City, serves a community of scholars, as well as future MBAs and attorneys. Designed by the Hillier Group, William and June Warren Hall is a classroom and student-services building that accommodates the graduate schools of both business and law. The eight-story structure also addresses the divergent particulars of its site. Located on the northeast corner of Amsterdam and 115th Streets, the building features the same materials and color palette—red brick, light pink granite and limestone—as the campus' Italian Renaissance-style buildings designed by McKim, Mead and White. The modern geometric pattern of the hall's facade references historic motifs found on older campus buildings across Amsterdam Avenue; it also identifies the new building as part of the university. The structure is scaled and detailed to be compatible with adjacent, dormitory and residential buildings.

A prismatic light guide makes a Warren Hall's glass-enclosed stairwell a nighttime beacon of light.

To support the various programs in the 85,000-square-foot facility and to polish its campus profile, Hillier commissioned lighting by David A. Mintz, Inc. "A major part of our mission was to create adaptable lighting that addresses the many technical and functional requirements of the classroom and lecture halls," says principal lighting designer David Mintz. "The lighting along the facade and within the public spaces also was designed to impart a professional image." Faculty members and students frequently interact with leaders in the corporate, governmental, and legal worlds at events such as lectures, receptions, and fund-raisers. The approach, therefore, was to imbue the center with the sort of upscale detailing and ambience that might be comparable to that of a major law firm or corporate headquarters.

A canted, glass-enclosed stairwell reinforces the corner-site presence and inscribes a dramatic slash of light vertically across one elevation at night. This building marker was created by installing prismatic light guides parallel to the sloping glass on one interior wall of the stairwell, starting at the ground-floor level and extending to the roofline. Three pieces of six-inch-diameter light guide were used, and each section is lighted from its midpoint to each end by a 400-watt metal-halide lamp. "The tubing is internally treated with material that both reflects and refracts light," says project lighting designer Ken Douglas. Because some light is emitted from the sides of the tubes at the same time that light is refracted up and down them, they are evenly illuminated along their lengths. "The column of light also provides all of the necessary ambient light for circulation in the stairwell," says Mintz. "It's both a decorative and functional solution." The architects worked with Mintz and the manufacturer to modify an industrial version of the pipe, fitting it with handsome stainless-steel mounting hardware. Every floor of the building also features an interior window looking onto the stairwell, so the illuminated pipe functions as a light sculpture visible from public areas. The architect custom-designed wrought-iron cages to fit around standard weatherproof sconces mounted on the building. These complement wrought-iron grilles covering first-floor windows.

Project: *William and June Warren Hall, Columbia University, New York City*
Architect: *The Hillier Group—Alan Chimacoff, AIA, director of design, principal-in-charge; Peter Hoggan, AIA, principal; Dan Cummings, Mac Rawley, Debbie Rockey, Peter Weingarten, design team*
Lighting designer: *David A. Mintz, Inc.—David A. Mintz, principal designer; Ken Douglas, project designer*
Consultants: *R.G. Vanderweil Engineers (mechanical/electrical); Robert Silman Associates (structural)*

Five two-story atria organize circulation routes and public spaces in the complex (above). Each oculus is lit with MR16s and coved fluorescents. The main lobby also features acrylic-bowl pendants fitted with dimmable compact fluorescents. Direct/indirect dimmable compact fluorescents meet multiple requirements in audio-visually sophisticated classrooms.

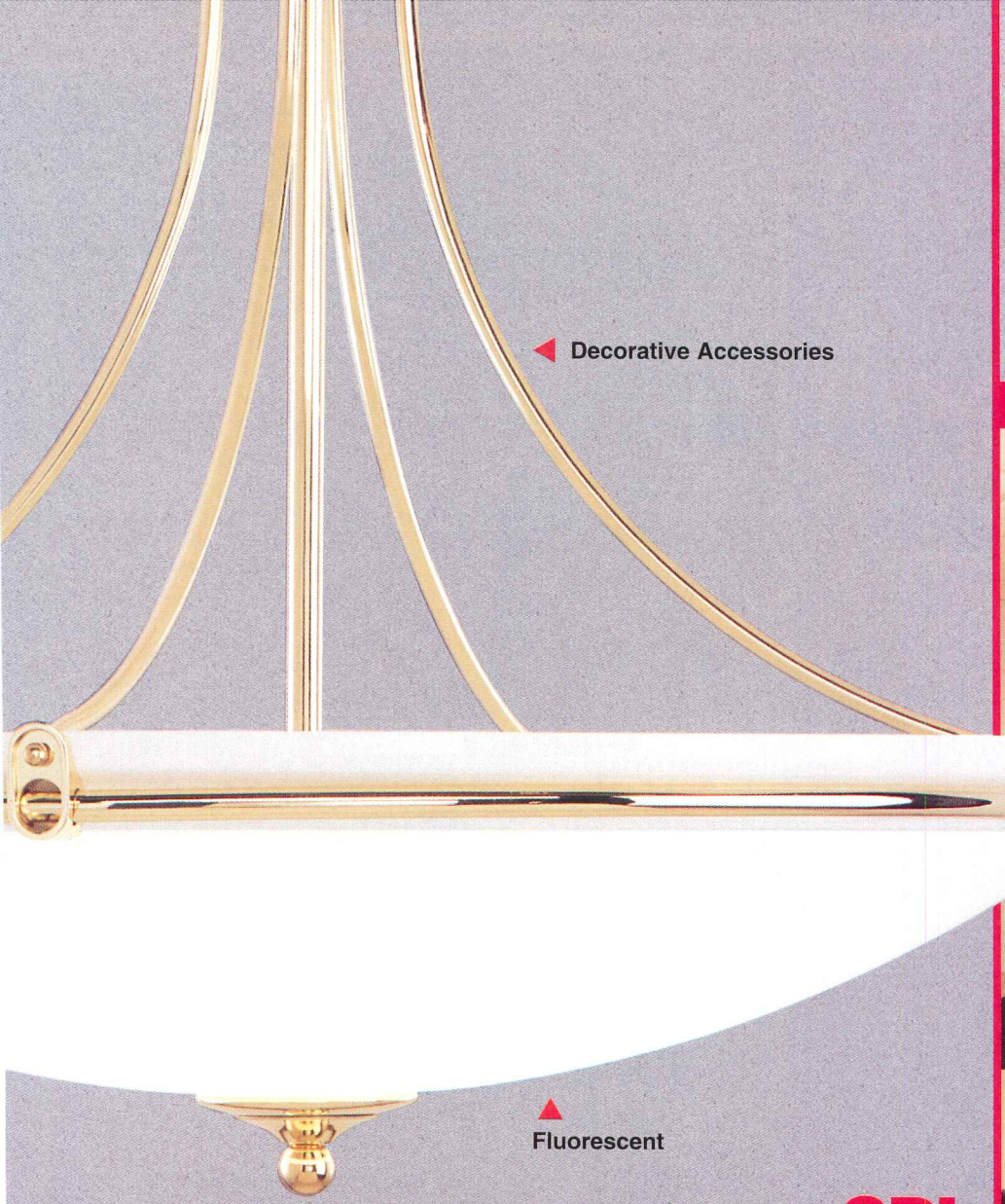
The building is organized around five, two-story, stacked atria, surrounded by large classrooms, smaller administrative spaces, and offices. The canopy-shaped ceiling of each atrium features an oculus at its nadir. Concealed fluorescents within each oculus add the illusion of depth to their surfaces. Four MR16 fixtures, mounted on "peace pipe" brackets, are positioned to highlight the curve of each canopy. Incandescent PAR38 lamps provide ambient lighting for circulation.

The multipurpose lecture rooms, which accommodate on-site teaching and teleconferencing (sometimes simultaneously) and are connected with Columbia's computer network, require lighting that is both flexible and highly controlled. "The lighting had to be able to spotlight a speaker at the podium and also permit students to take notes while watching the projection screen or their laptops," Mintz says. "That requires multiple presets." An indirect system of dimmable compact fluorescents provides general room illumination. Separately dimmed and switched compact fluorescent downlights are carefully shielded to yield lower levels of illumination without creating glare on video or computer screens. Incandescents highlight the lecturer; their controlled distribution does not interfere with teleconferencing screens. ■

Sources

Recessed downlights, wall washers: *Indy Lighting*
Direct/indirect pendants, recessed linear wall washers: *Neoray Lighting*
Classroom step lights: *Bega Lighting*
Lobby chandeliers: *Winona Lighting*
Low-voltage uplight in oculus: *Modular Lighting*
Exterior uplight: *Kim Lighting*

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

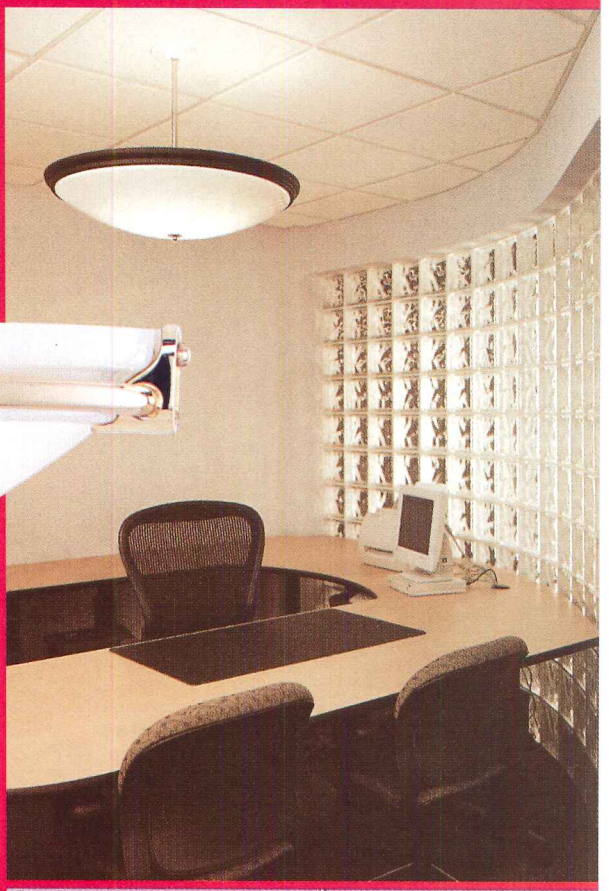


Decorative Accessories

Fluorescent

SPI

CONTINUUM



Moving onward with high-efficiency fluorescent lamps and high lumen output.

Continuum begins with a classic shallow-profile housing.

Expands with elegant brass plated trims, finials and decorative stem accessories.

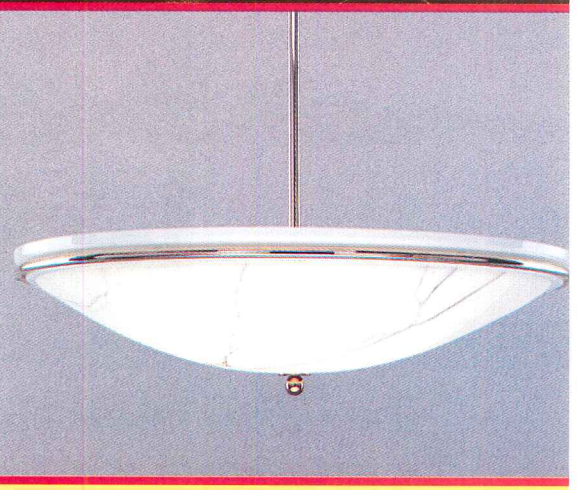
Multiple switching creates different lighting levels without costly dimmers.

And is completed with ceiling mounts and wall sconces.

Continuum. Another in a steady stream of advances from SPI.

TEL: 262-242-1420 FAX: 262-242-6414 E-mail: spi@spilighting.com

c UL us LISTED

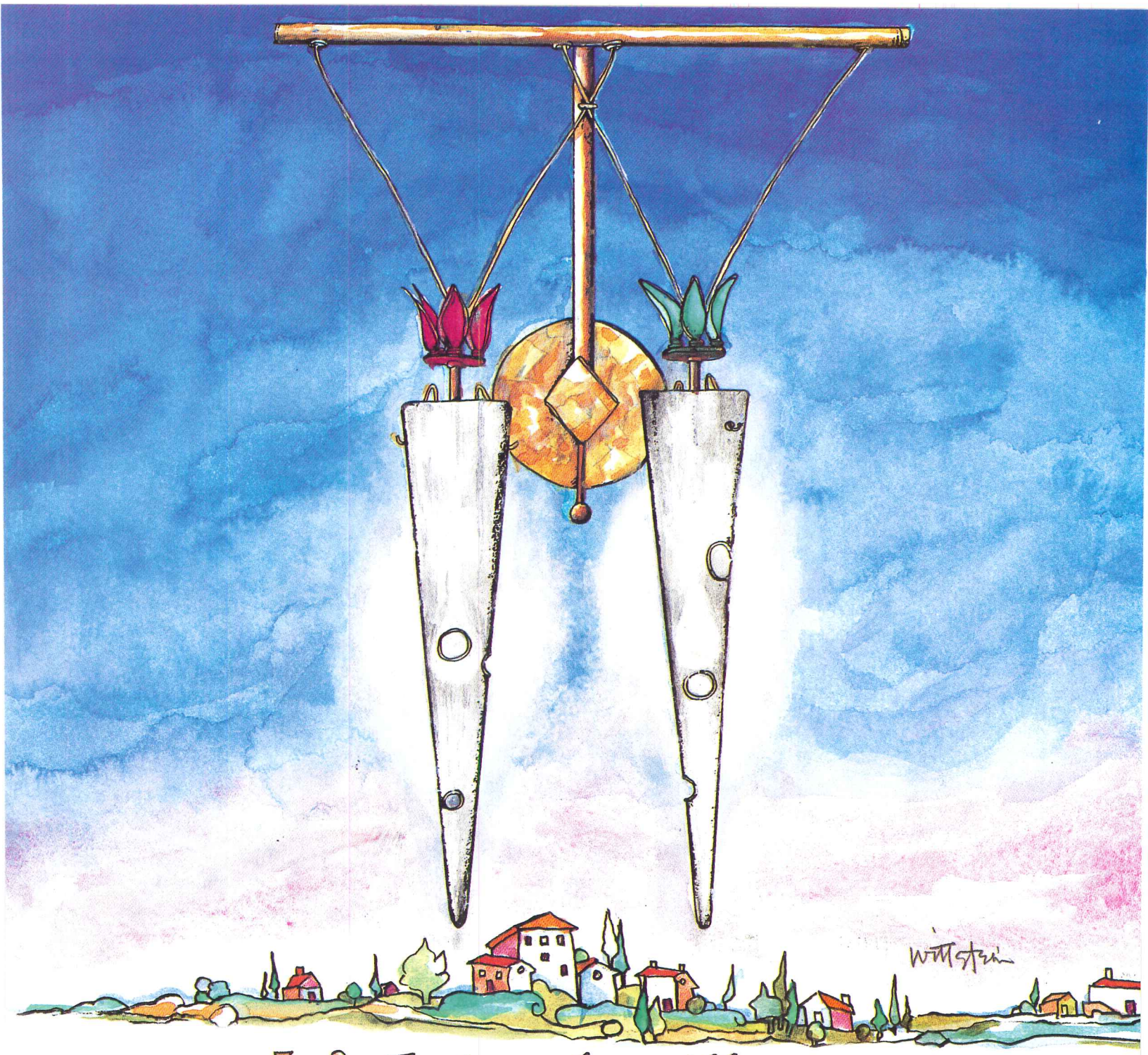


SPI Lighting Group

SPI

Advent

CIRCLE 137 ON INQUIRY CARD



L'Arte che illumina

The **Lamp International** Collection ▪ Designer **Enzo Ciampalini**

The Luna series includes floor, table, chandelier, suspension, wall, and ceiling design with clear, frosted, green and amber glass with crown details of blue, red, green and clear glass. Metal available in 12 finishes

illuminating experiences

CIRCLE 138 ON INQUIRY CARD

233 Cleveland Avenue ▪ Highland Park, NJ 08904 ▪ Phone (732) 745-5858 ▪ Fax (732) 745-9710

Light + Building Show an education

REVIEW: GERMANY'S LIGHT + BUILDING SHOW PROVES THAT, IN SOME WAYS, THE EUROPEANS ARE STILL A STEP AHEAD.

By Charles Linn, AIA

Using a minimalist approach to marketing their products at Light + Building, companies such as Iguzzini Illuminazione SPA create a subtle association between brand and image.

Until this year, the largest lighting trade show on earth was an annual event in Hannover, Germany, and it was big. Walking it once, just up and down the aisles, could easily take one exhausting day. Now the Germans just did Hannover one better. Today, because building is all about the integration of systems, they moved the lighting show to the fairgrounds in Frankfurt and added electrical technology, building automation, air conditioning, and other architectural technologies. The resulting event, which ran from March 19 through 22, was a smash. Eighteen hundred exhibitors showed their wares to 100,000 visitors. Walking the lighting exhibition, an American designer familiar with Lightfair would immediately be struck by the immensity of this show (I got lost) and by the elaborate design of its booths. The size of the show makes good sense, however, considering that the European manufacturers have long used trade shows to reach customers. These exhibitions appeal to a marketplace that is normally hard to reach because it is spread throughout a dozen countries over an entire continent. But the real knockout there was the quality and imagination put into the design of the lighting equipment and the quality of its production. Unless an American building owner was especially interested in having these kinds of products installed in a building, few of the products would ever see the shores of this country. It brings up the age-old question: What is the deal with these Europeans and design?

Allison Craig, marketing communications manager at Zumtobel Staff Lighting, an Austrian company operating in partnership with a company in Highland, New York, says, "We used to see products at the Hannover Fair three to five years before we saw them here, because Europeans became concerned about energy efficiency first. There is also a higher market demand there for quality." This statement presents a paradox, particularly in Europe, where there are fewer independent designers dedicated to lighting than in the States (manufacturers there frequently provide lighting design services along with fixture packages). If low price is the driver, why offer fittings of such high quality?

Lee Prince, a principal at Light & Design Associates in Kent, England, says that this custom is changing throughout Europe, and he credits owners for catching on to the value of good lighting. "Here in Britain and other parts of Europe, decision makers have realized that good lighting adds value to a development, particularly in key areas such as lobbies, exterior landscaping, facade, and reception rooms. These are the 'point-of-purchase' areas, where the potential client really decides whether or not to accept a leasing deal. Developers have learned from bad experiences." In Britain's recovering economy, developers want to lease space at the highest possible rates, even though it is hard to distinguish one developer's building from another. Prince comments that high-quality lighting and equipment are being used to good effect to distinguish one building from its competing properties. "Designers can do it at marginal cost, and, after all, a building has to be lit. Why not do it properly?"

There is also the matter of product-profit margin versus volume, an idea that may have been lost here as so many U.S. lighting manufacturers consolidated into megafirms over the last 20 years. Midsize European firms—and there are dozens—often offer highly designed products aimed at grabbing the specifier market because these items can be sold at a higher profit. And, because the market in Europe is much smaller, competition among these manufacturers is quite fierce. This is survival of the cleverest.

Gene di Nicolais, director of international marketing for Lutron, which is based in Coopersburg, Pa., but sells its products all over the world, notes, "Marketers in Europe are more brand- and image-focused and much more conscious and expert in the craft of brand building and marketing by association to the brand—generally, an upscale association. They try to associate their brand with high quality and cutting-edge design." By contrast, he continues, "American lighting manufacturers tend to be more gizmo-driven. They look for quick positioning through technical innovation. Europeans depend on subtle marketing to create a long-term identification between the brand and the product."

At Light + Building, this strategy was certainly not lost on Iguzzini Illuminazione SPA, an Italian lighting manufacturer. Only three fixtures were displayed in their booth. Unforgettable. If one can take anything away from the experience of going to a show like this, it would be that other cultures have a lot to offer and we have a lot to learn. ■

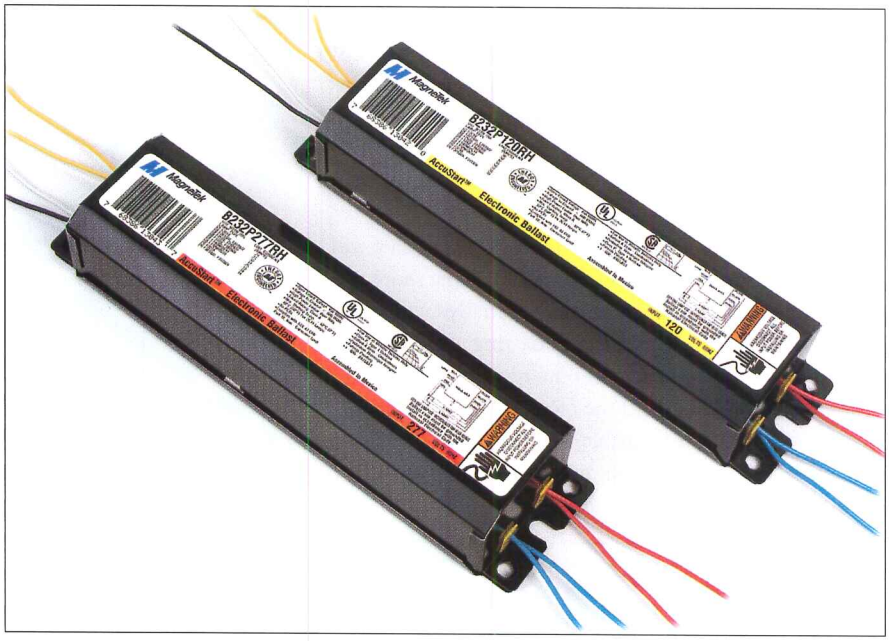
B®
LIGHT
THIS IS THE LIGHT THAT LIT THE LOUVRE
What architectural masterpiece do you need to light?
Now this revolutionary fixture is available in the US. Utilizing a Xenon 20,000 hour lamp, this tiny fixture virtually disappears from sight when mounted to the face of a building. No more hot spots, no more blinding flood lights. At last, you can highlight the true architectural detail of a building with the perfect amount of light.
Distributed in the USA by
LIGHT-PROJECT INTL INC®
105 Executive Drive #210
Sterling, VA 20166-9558
Phone (703) 471-6411
Fax (703) 471-0312
Visit our web page at http://www.lightproject.com
CIRCLE 139 ON INQUIRY CARD

Soft-start ballasts meet thick-phosphor lamps

NEW BALLASTS SOLVE PREMATURE FLUORESCENT LAMP-BURNOUT BLUES. CAN THEY BE IN LONG-LIFE LIGHTING SYSTEMS?

By Lindsay Audin

Imagine a new fluorescent lamp and ballast combination so durable that it would last as long as the fixtures containing it. Such an innovation could allow light fixtures to be manufactured with lamps sealed inside them so that relamping and the need to clean lamps and reflectors would be a thing of the past.



Soft-start ballasts allow fluorescent lamps to go through up to 40,000 on-off cycles before they burn out. They are ideal for applications where occupancy sensors may turn lights on and off many times over the course of a day.

Better ballasts: a solution to a different problem

The need for better ballasts showed up in the 1980s and '90s—not because inventors wanted to break lamp-life records, but because designers and owners started installing occupancy sensors to save energy. In settings where frequent on-off cycling occurred, fluorescent lamps were failing long before manufacturers' ratings said they should. Occupancy sensors were indirectly responsible for the problem, as they turned the lights off and on dozens of times a day in a place like a washroom or storeroom. But the true source of the problem was the ballasts. The more often the lights were cycled, the more wear and tear they inflicted on the fluorescent lamps' electrodes, and the sooner they failed. The problems were significant enough to convince many designers to shy away from using sensors to shut off unused lighting. This wasn't possible in some states where building codes (California and New York, for example) require the use of sensor controls.

Designers also thought that electronic rapid-start ballasts damaged the lamp's electrodes less than other types, like magnetic rapid-start and electronic instant-start. Scientists at the Lighting Research Center (LRC) began to study the compatibility of lamps and ballasts using an obscure factor called Rh/Rc ratio—hot-electrode resistance divided by cold-electrode resistance. They found that manufacturers offered so many different models of ballasts that no single type—not even magnetic rapid-starts—proved to be consistently less damaging to lamp electrodes than any other.

Using what the LRC scientists had learned about Rh/Rc ratios, ballast designers working for ballast manufacturers such as Magnetek and Motorola (now part of Osram Sylvania) introduced "program-start" (also known as "soft-start") ballasts. These products have high Rh/Rc ratios, use a different power-wave form than conventional ballasts, and greatly reduce a phenomenon called emissive sputtering, which degrades the lamp electrodes, and is the major cause of fluorescent lamp burnout. The effect of emissive sputtering is easy to observe—the lamp ends become blackened. Before this technology was developed, a room full of lamps, with rated lifetimes of 20,000 hours each, would tolerate about 7,000 to 10,000 starts before half the lamps burned out. That figure has now been increased to over 40,000 starts (see graph, following page).

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

The ultimate long-life lighting system's missing piece?

Soft-start ballasts do such a good job of extending the life of lamps with frequent on-off cycles that when a lamp is operated with more typical 8- to 12-hour-long cycles, the phosphors of the lamp may wear out before its electrodes do.

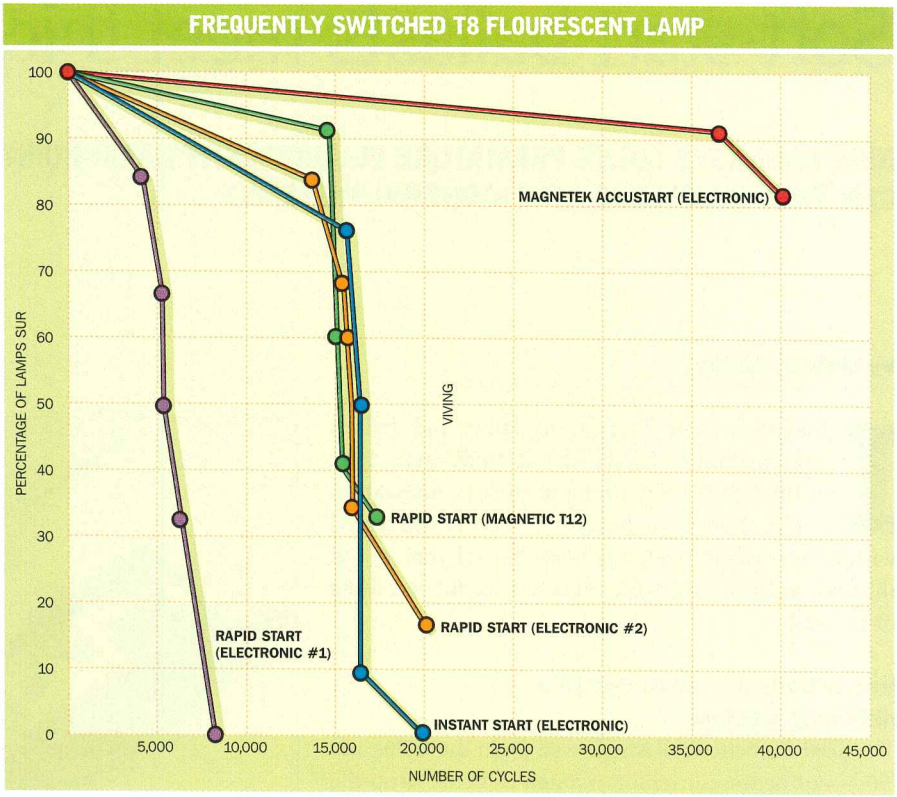
But this problem was solved about the same time soft-start ballasts were introduced—new thick-coat phosphor lamps became available that maintain light output at a much higher level at the usual point of burnout. General Electric's Starcoat lamp series, for example, boasts lumen maintenance of over 92 percent when a normal fluorescent lamp would have burned out. Based on the Starcoat lamp's lumen-depreciation curve (a graph that indicates how much light output the lamp will lose as it is used), this lamp's high light output remains nearly constant well beyond a normal lamp's 20,000-hour-rated life. Because such lifetimes are based on standards

using magnetic rapid-start ballasts, much greater lamp lifetimes with very good lumen maintenance may occur when used in conjunction with the soft-start technology.

None of the major lamp manufacturers would go on record as saying that lamps operated on soft-start ballasts would last any longer when used with normal 8- to 12-hour on-off cycles than they would under the heavy cycling caused by occupancy sensors, all saying that there is no evidence now to support this logic. "Although we are researching this subject as we speak," says Dwight Kitchen, Osram Sylvania's manager of commercial engineering, "you have to consider that some electrode degradation is occurring whenever a lamp is being operated, even with long burn times." (One ballast manufacturer did point out that such drastic extensions of lamp life could harm manufacturers who depend on lamp burnouts for their livelihoods).

What lies ahead

Undoubtedly, these ballast and lamp technologies will continue to improve. That's what makes all the more real the possibility that one day sealed luminaires will arrive on the job already lamped, each boasting a digital LCD clock showing the number of hours remaining before it's time to send them back to the factory to be rebuilt into new ones. It is already possible for a fixture that's failing to send a signal through its power line directly to the facility management department. ■



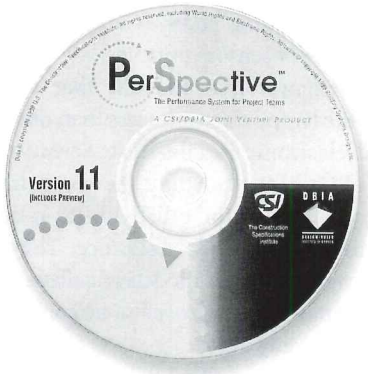
This chart shows how 20-minute cycles of 15 minutes on and 5 minutes off affect the life of ordinary T8 fluorescent lamps. One-hundred percent of lamps started by one type of electronic rapid-start ballast burned out after only 7,000 starts. Using electronic soft-start ballasts, 82 percent of lamps were still operating after 40,000 starts.

Don't reinvent the wheel...

...we've already smoothed out the bumps for you.

Do you chisel out your RFPs and proposals by hand every time?
Streamline the process using Uniformat and our master database of pre-formulated easy-to-edit statements. Our clear performance criteria, hard numbers, and phased substantiation requirements offer a smooth ride on your next design-build project.

The power and flexibility of a database, as easy to use as word processing.



The Construction Specifications Institute

DBIA Design-Build Institute of America

PerSpective™
The Performance System for Project Teams
A CSI/DBIA Joint Venture Product

(PEAR)

For your 30-day free trial of PerSpective™, call toll-free 1.877.893.0896 or visit www.PerSpectiveNet.com

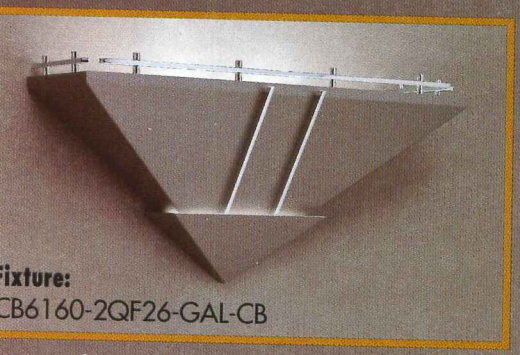
CD runs on Microsoft® Windows 95, 98, or NT

SPHINX II™

Ancient geometry combines with energy efficient lamping to create a unique lighting solution suited for a variety of architectural spaces.

Solid metal trim, available in a variety of hand-finished natural metals, accent the housings. Adapt the Sphinx II™ pendant's unique appearance to your visual requirements by selecting from a choice of three stem options. With a fixture efficiency up to 80%, Sphinx™ pendants offer a multitude of lamping selections.

xture:
P3614-8QF26-GAL-CB-SDA
tents Pending



ixture:
CB6160-2QF26-GAL-CB

)A compliant sconces complement the pendant series.

For more information, contact:

VISA LIGHTING
An Oldenburg Group Company

8600 West Bradley Road • Milwaukee, Wisconsin 53224
414-354-6600 • Fax: 414 354-7436
www.visalighting.com

1-800-788-VISA

CIRCLE 141 ON INQUIRY CARD

BRUCK

LIGHTING SYSTEMS

FLEX-LINE, the intelligent track with memory

The track flexes to allow for curved or linear installation, and with two independent electrical circuits it is listed for a total of 600 watts.

FLEX-LINE is one of seven different systems manufactured by **BRUCK LIGHTING SYSTEMS.**

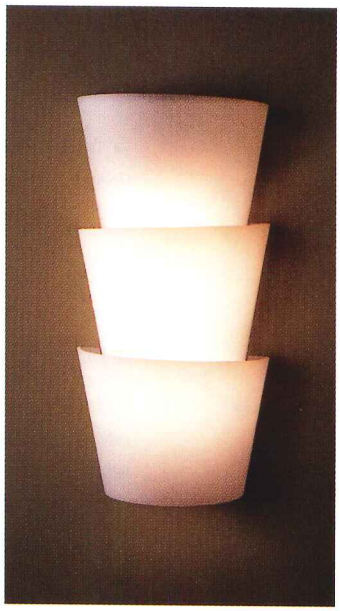
Booth 101

Light fair international 2000

714 424-0500 Fax 714 424-0505 Costa Mesa, California www.brucklighting.com

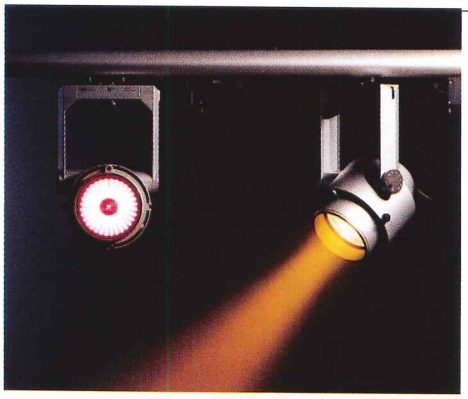
CIRCLE 142 ON INQUIRY CARD

Lighting Briefs



► Nesting sconce

The Scala-3 sconce, with its trio of off-kilter nesting diffuser rings, provides a touch of whimsy in hospitality locations as well as the home. Specifiers can choose rings of etched opal acrylic or Aramid, and incandescent, fluorescent, or LED light sources. The sconces are UL-listed, and ADA compliant. 800/755-0471. Charles Loomis, Inc. Kirkland, Wash. **CIRCLE 200**



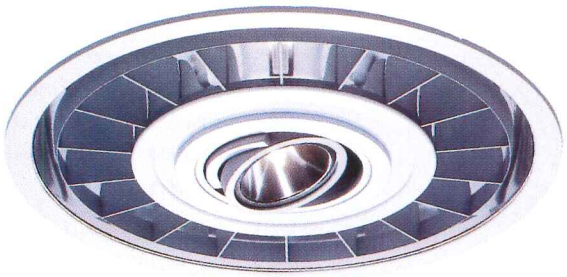
▲ Projector series

The experience acquired by Erco Lighting in their development of compact lighting projector fixtures for the Guggenheim Museum in Bilbao—specifically, long beam throw photometrics, which allow a fixture to accent light an object 150 feet away—has been incorporated into the Stella series, designed by Franco Clivio. All of the movable parts of a projector can be locked into place—even positioning of the lens, and the rotation and tilt of the fixture. Cross baffles and anti-dazzle attachments ensure visual comfort. Specifiers can choose between capsule halogen and compact metal halide lamps. 49/2351 551 345. Erco, Lüdenscheid, Germany. **CIRCLE 202**

▼ Downlight for circular T5 lamp

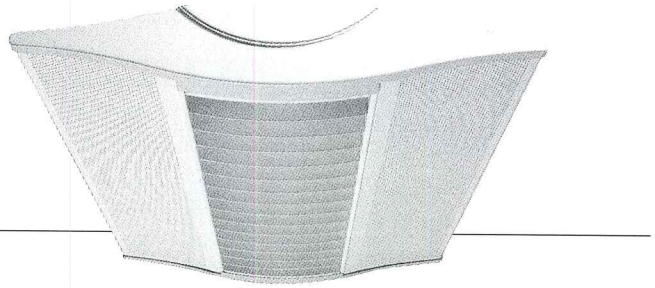
The CircLet is Wila Lighting's new multifunctional downlight. It uses the new 300-millimeter-diameter, 55-watt, circular T5 fluorescent lamp. The modular construction of the fixture allows the open space in the center of the fixture to be used with several different devices: an accent light, speaker, video camera, sprinkler head, or smoke detector can be installed. 714/546-8999. Wila Lighting, Costa Mesa, Calif.

CIRCLE 204



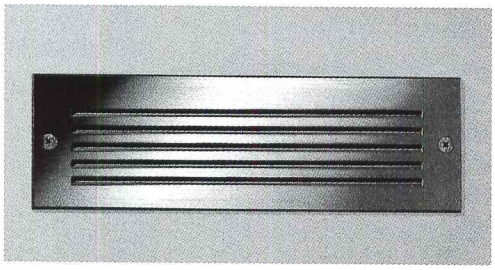
▼ Integrated direct/indirect

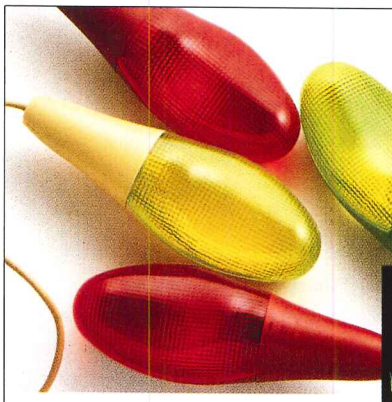
Aerial, a surface-mount direct/indirect luminaire, takes advantage of research done by Metalux, which determined that specifiers wanted a T5 fluorescent fixture that would provide an excellent luminous environment and could be integrated into a room's architecture. The company teamed with Bubble Design of San Francisco to develop the new fixture. It is 2 ½-inches deep, 16-inches wide and comes in 2- or 4-foot lengths. 912\924-8000. Metalux, Cooper Lighting, Elk Grove Village, Ill. **CIRCLE 201**



▼ Wall luminaire line

The number of locations that demand a recessed wall luminaire are innumerable: steps, stairs, ramps, aisles—anywhere that guidance or security lighting may be needed. Bega has introduced a comprehensive line to accommodate almost any requirement. The luminaires come with durable 3/16-inch-thick stainless steel faces—with louvers cut into the material at a 45-degree angle. They are available with compact fluorescent lamps in three sizes, either vertical or horizontal slots, and are UL-listed for wet locations. 805/684-0533. Bega, Cupertino, Calif. **CIRCLE 203**





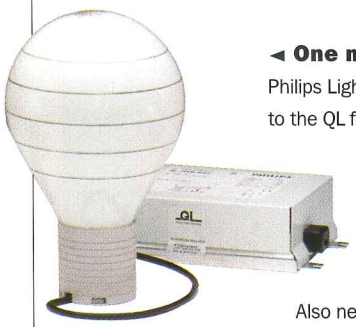
▲ ► Award winners

The Chicago Museum of Architecture and Design has given Luceplan an unprecedented four awards at once for its light fixture designs. One of the awards went to its Pod Ens (above), pod-shaped indoor/outdoor lamps that can be suspended, or pole- or ground-mounted. A second of the four awards went to the Solar Bud Walkway lamps, solar-powered pathway lights that emit a red glow at night. 212/989-6265. Luceplan USA Inc., New York City. **CIRCLE 205**

Lighting Briefs

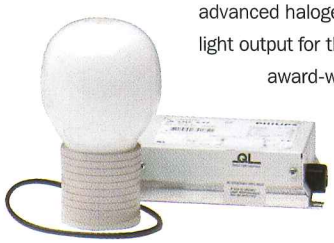
▼ Outdoor color-changers

A new fountain outside the headquarters of Martin Professional lighting's headquarters in Denmark is lit by four of the luminaires from the firm's own product line, the Martin Exterior 600 color changers. The fixtures—which the manufacturer says are durable enough to have withstood the typical sub-zero temperatures of Scandinavia, and an atypical Scandinavian hurricane as well—house a CMY color-mixing system and are capable of producing a range of color combinations. The fixtures have a built-in light sensor switch to turn them on in the absence of daylight. 45/8740 0000. Martin Professional, Aarhus, Denmark. **CIRCLE 206**



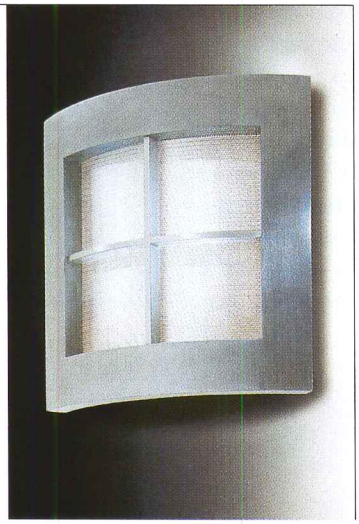
◄ One more induction lamp

Philips Lighting has added the 165-Watt System (shown) to the QL family of long life electrodeless lighting solutions. The introduction of the QL 165-Watt System allows Philips to offer double the lumens with the same 100,000 hours of high quality white light. The QL family includes a 55-watt, 85-watt, and now a 165-watt system. Also new from Philips is the MasterLine ES IRC, an advanced halogen infrared lamp that delivers increased light output for the same energy consumption, and the award-winning MasterColor Metal Halide collection. 732/563-3455. Philips Lighting, Somerset, N.J. **CIRCLE 207**

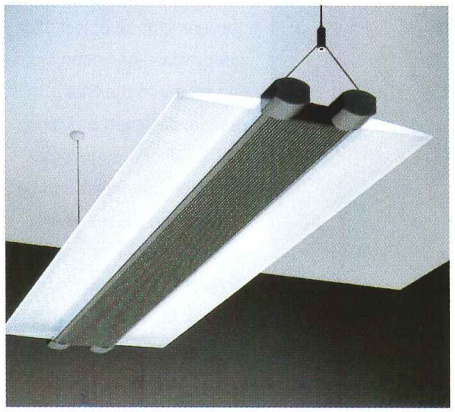


► Multiple diffuser options

Davis/Muller Lighting's Element Series S5510 sconce is shown here with a perforated diffuser, but it is also available with a frosted glass or white acrylic diffuser. All of the ADA-compliant designs can be complemented with matching pendants and surface mounts. Davis Muller fixtures are available in numerous sizes, lamping options, and finishes. 888/DAV-MULL. Davis/Muller Lighting, Pawtucket, R.I. **CIRCLE 208**



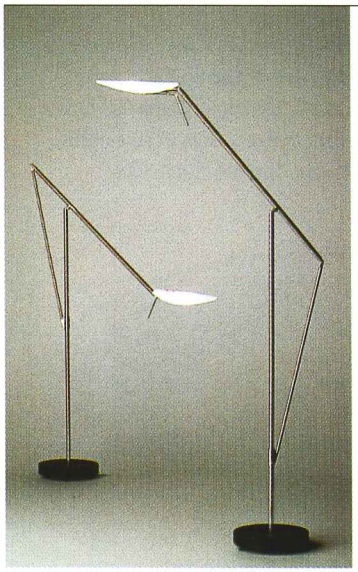
▼ Direct/indirect phenomenon



No matter where it is positioned in a room, the Orea's patented microprisms will direct low-glare light to the work plane that is suitable for display terminals and flat screen displays, according to Zumtobel Staff. Orea, based on "Waveguide" technology, uses a T5 fluorescent lamp. The ballast and hardware are concealed in the rails that run down the center of the fixture. A two-volume product binder is available. 800/932-0633. Zumtobel Staff Lighting, Highland, N.Y. **CIRCLE 209**

▼ Blast from the future

ColorBlast is a digital lighting fixture designed to wash interior and exterior walls with rich, saturated colors and color-changing effects. ColorBlast utilizes Color Kinetic's patented Chromacore technology to generate over 16.7 million colors and color-changing effects via microprocessor-controlled red, green, and blue LEDs. ColorBlast's compact design projects a 24-degree angle soft-edge beam of light, which washes interior and exterior walls up to 10-feet high with color. Equipped with an industrial-grade constant torque hinge, the fixture can be mounted inside or outside, to a wall, ceiling, or floor. ColorBlast can run an assortment of pre-programmed colored lighting shows. 888/FULL-RGB. Color Kinetics Inc., Boston. **CIRCLE 210**



◄ Bird-like lamps

Minyas is a new light from ClassiCon sold exclusively through Luminaire. Minyas is a height-adjustable floor lamp with a rotating lampshade of white opaline glass. The fixture's frame is made of chromium-plated steel tube, and the base is powder coated in black. The lamp uses a 100-watt halogen bulb. The light will be available June 1 at Luminaire's showrooms in Chicago and Coral Gables. 312/664-9582. Luminaire, Chicago. **CIRCLE 211**

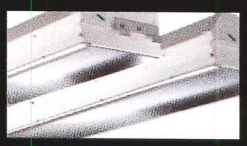
For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

Metalux

Leading the Industry in T5 Product Development

HI 5

AERIAL T5 SURFACE LUMINAIRE
HORIZON T5 WALL WASH
OVATION T5 RECESSED DIRECT/INDIRECT
CRICKET T5 MICRO STRIP-LIGHTS



COOPER Lighting

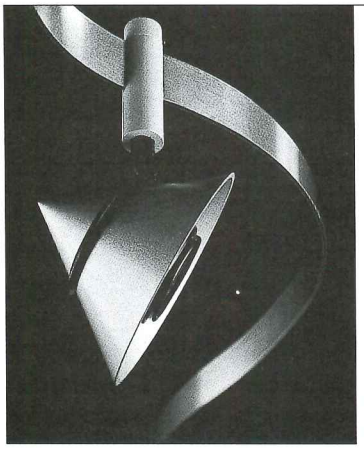
CIRCLE 143 ON INQUIRY CARD

www.cooperlighting.com

Lighting Briefs

▼ Slimmer profiles

The new slim-profile Sylvania Pentron T5 lighting systems can save energy with better lumen output and a thinner lamp, providing a highly concentrated light source that can enhance the performance of the luminaire. One Pentron HO T5 lamp produces almost twice the light output of a T8 lamp. They are designed to meet a variety of lighting applications, including commercial, hospitality, and retail. 978/777-1900. Osram Sylvania, Danvers, Mass. **CIRCLE 212**

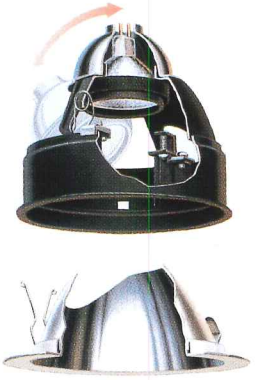


► New twist in track lighting

Flex12, Juno Lighting's new decorative low-voltage track lighting system, features geometric forms and matte silver finishes. Flex12 can be curved in the field and offers an infinite number of installed configurations. The light is ideal for high-end residential, retail boutiques, department stores, galleries, museums, and exhibits. 847/827-9880. Juno Lighting Inc., Des Plaines, Ill. **CIRCLE 213**

► Recessed incandescents

Calculite Evolution recessed incandescent lighting offers a complete selection of general downlight, wall wash, adjustable accent, and wet location reflector trims that incorporate a wide variety of incandescent and low-voltage lamp choices. Calculite Evolution downlights are available in 4-inch and 6-inch apertures to ensure useful lumen output of different ceiling heights. 800/215-1068. Lightolier, Fall River, Mass. **CIRCLE 214**



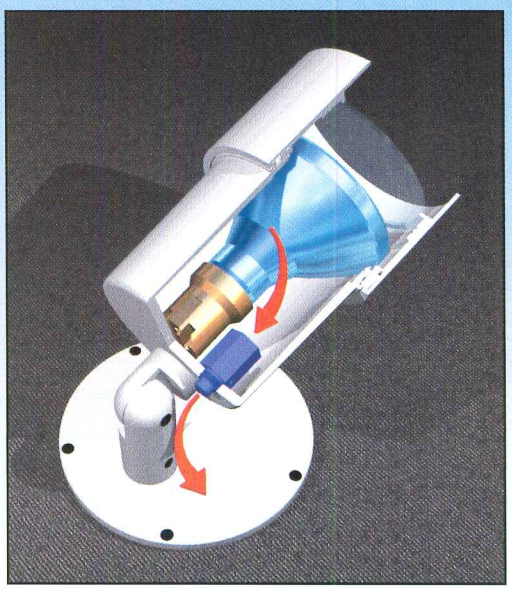
▼ Metal band

The T-9025 ⅛-inch surface mount fixture from Estiluz comes with a decorative metal band available in satin nickel. Lamp options for the fixture include 300 watt T-3 Quartz halogen or 2x13 watt compact fluorescent. The light comes with a glass diffuser of white opal or slumped glass. The light is also available in a 12 ¼ inch size (model T-9022) and in a 16 ⅛-inch-diameter size (model T-9024). 201/641-1997. Estiluz Inc., Moonachie, N.J. **CIRCLE 215**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

The ACV™ Valve System

(patent pending)



The ACV™ Valve System (Anti-Condensation Valve) utilized in B-K Lighting's PAR30/PAR38 fixtures expels moisture-laden air from the hermetically sealed optical compartment, creating an internal vacuum and eliminating the possibility of condensation. Leading industry organizations have awarded the ACV™ Valve System for it's unique and significant advancement to the art and science of lighting. Contact us today for more information.

PROGRESS REPORT COMMITTEE IES NEW PRODUCT ADVANCEMENT

ADEX PLATINUM

DESIGN BEST OF SHOW

LIGHTFAIR INTERNATIONAL 99 Exterior Products Innovator Award

See us at Lightfair 2000, booth number 518.

B-K LIGHTING... the number one choice in specification-grade, outdoor architectural lighting.

7595 N. Del Mar Avenue • Fresno, CA 93711 • (559) 438-5800 Fax: (559) 438-5900 • email: info@bklighting.com • web: www.bklighting.com

CIRCLE 144 ON INQUIRY CARD

"Did you cut the joist to make that downlight fit?"

"Huh, what...?"

Should'a used Iris!

You had to expect it would be Iris. The pioneer of spec-grade luminaires for the home now leads the way with a true spec-grade *remodel* fixture for the home.

The unit's adjustable platform accommodates ceiling thicknesses up to 1½", always assuring proper lamp position. Variable lamp adjustment (up to 35° elevation, 361° rotation) with Center Beam Optics maximizes light output. And because the remodeler's performance is locked in, relamping never alters aiming.

This luminaire's platform cuts labor time. Its precise fit, featuring a narrow, easy-slip frame sized to a 4½" hole-saw, eliminates call-backs. Transformer placement and steel retention springs guard against unit tear-out. Two torsion springs keep the element tight to the ceiling, preventing light leaks.

Best of all, the remodeler shares family aesthetics with all Iris products.

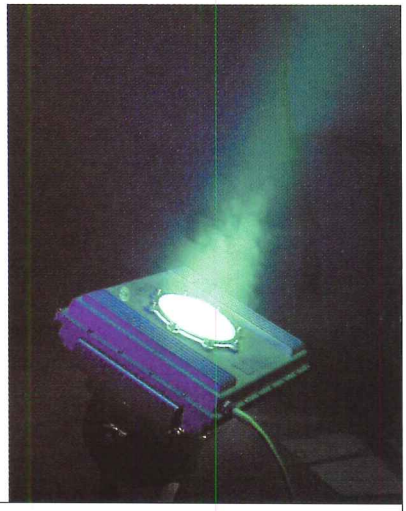
Iris...a distinctive achievement in rennovation style.

IRiS™
LIGHTING SYSTEMS

COOPER Lighting
CIRCLE 145 ON INQUIRY CARD

www.cooperlighting.com

Lighting Briefs

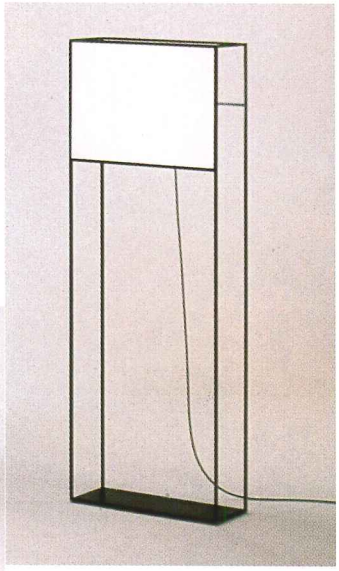


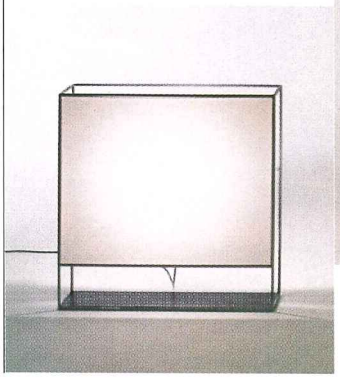
► From the deep

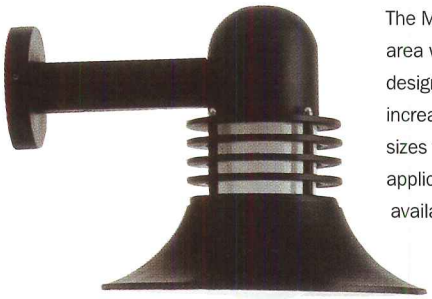
Morpheus Lights claims that the WetFader is the first and only CYM color-mixing fader to be able to withstand any environment, from the scorching heat of the arid desert to the underwater depths of both salt and fresh water. The housing is made from sealed cast bronze or aluminum. 877/MORPHEUS. Morpheus Lights, Cedar Park, Tex. **CIRCLE 216**

▼ Italian space

The Spazio 1 and Spazio 2 floor lamps, designed by Carlo Tamborini for Pallucco Italia, are additional examples of new Italian furnishings available exclusively through Luminaire. Each lamp features a steel frame with an epoxy powder finish in a matte aluminum and matte black color. The lamp element is manufactured in a polycarbonate translucent white color, and uses a 250-watt halogen bulb. The dimmer has a built-in safety fuse. Spazio 1 and Spazio 2 will be available June 1 at Luminaire's showrooms in Chicago and Coral Gables. 312/664-9582. Luminaire, Chicago. **CIRCLE 217**



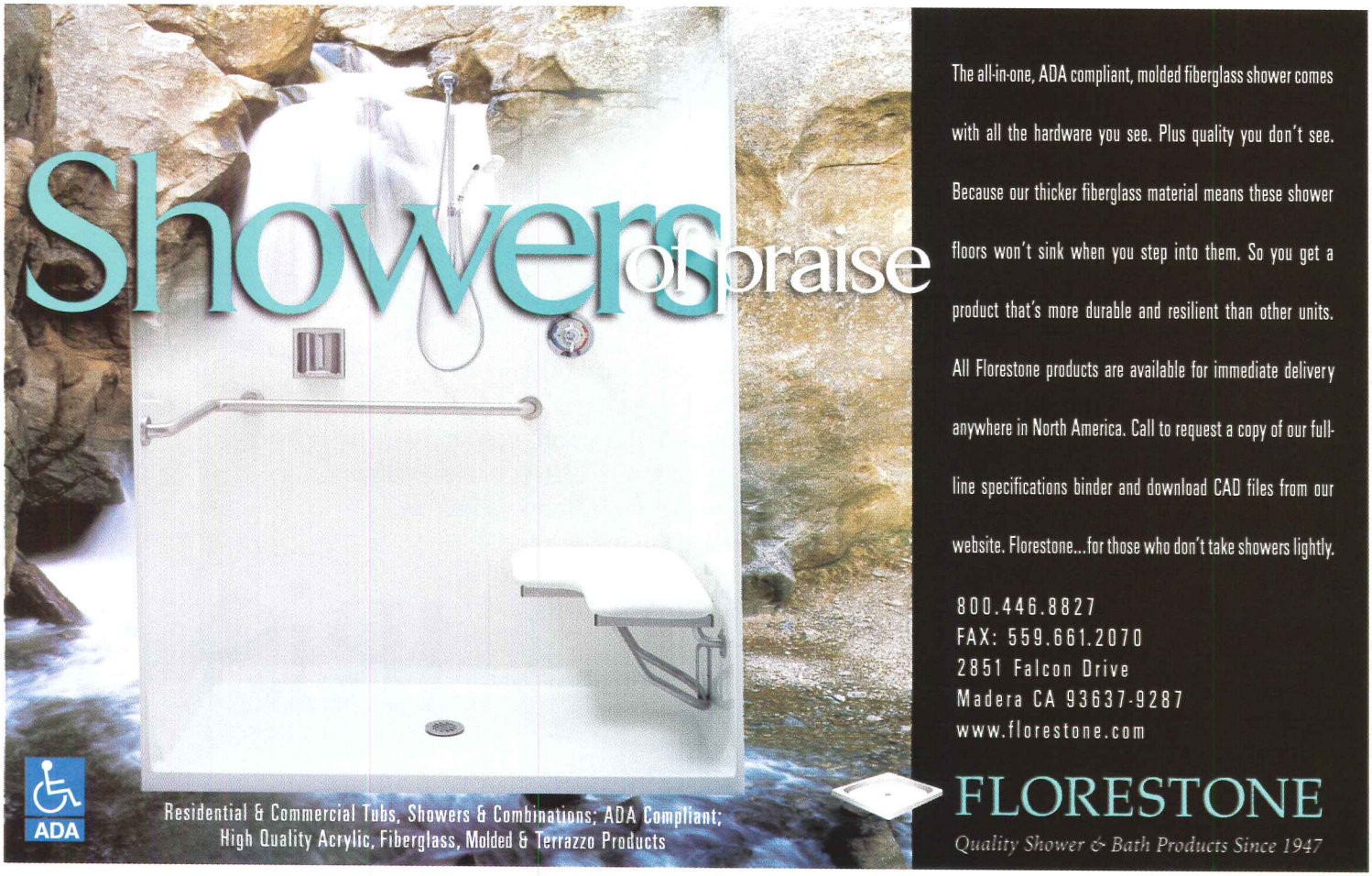




◄ Street smarts

The Metro Series features an open light area with solid rings and a modern design for good glare control and increased ambient light. Available in two sizes for pole, wall, and pendant mount applications. Corresponding bollard also available. 414/431-2353. Phoenix Products Company Inc., Milwaukee. **CIRCLE 218**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

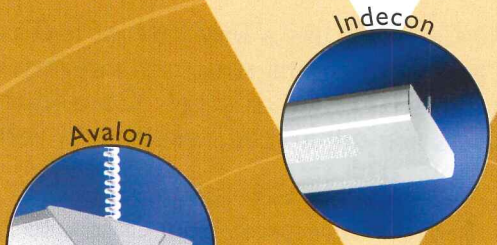


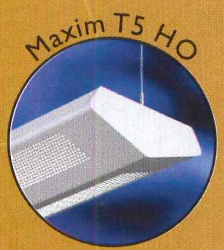
CIRCLE 146 ON INQUIRY CARD

INSPIRED ILLUMINATION

ALERA™ LIGHTING

AN INDIRECT WAY TO EXPERIENCE LIGHT





Inspired lighting puts the finishing touch in your workspace. The highest quality design, made affordable. That's Alera Lighting. Your direct source for indirect lighting.

CIRCLE 147 ON INQUIRY CARD

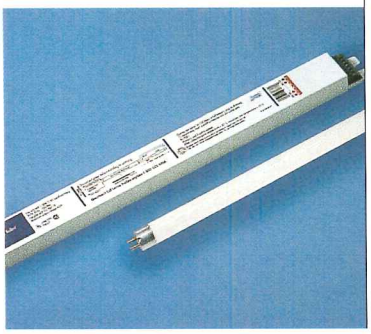
ALERA LIGHTING • 3808 NORTH SULLIVAN • SPOKANE, WA 99216 • 509.921.8300 • FAX 509.921.8360

LIGHTING CORPORATION OF AMERICA

Lighting Briefs

▼ T5 HO dimming ballast

Lutron has introduced a Hi-lume electronic fluorescent dimming ballast that provides one percent architectural dimming for 54-watt, T5 High Output linear fluorescent lamps. Its physical cross section of 1-inch-high by 1.18-inches-wide makes it ideal for one- and two-lamp profile fixtures. 800/523-9466. Lutron Electronics Co. Inc., Coopersburg, Pa. **CIRCLE 219**

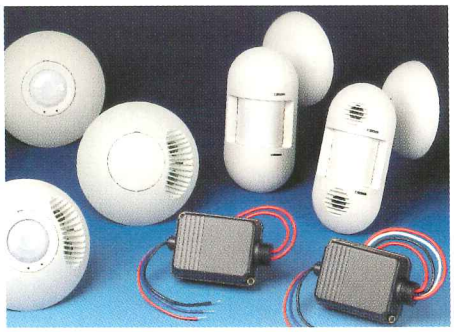


▲ Fluted pendant

The Opus pendant is composed of hand-cast Cytron, a clear resin polymer that looks and feels like glass. Opus features a fluted edge column detail and is available in 13 light-reactive Cytron colors to complement any interior landscape. 718/786-5920. Sirmos, Long Island City, N.Y. **CIRCLE 221**

◄ A display of color

ConstantColor CMH lamps provide a crisp, "halogen-like" light that offers excellent color rendering ideal for retail lighting. The lamps feature a new advanced three-piece arc tube design that allows for a 96 percent survival rate at 4,000 hours. 800/GE-LAMPS. GE Lighting, Cleveland. **CIRCLE 220**

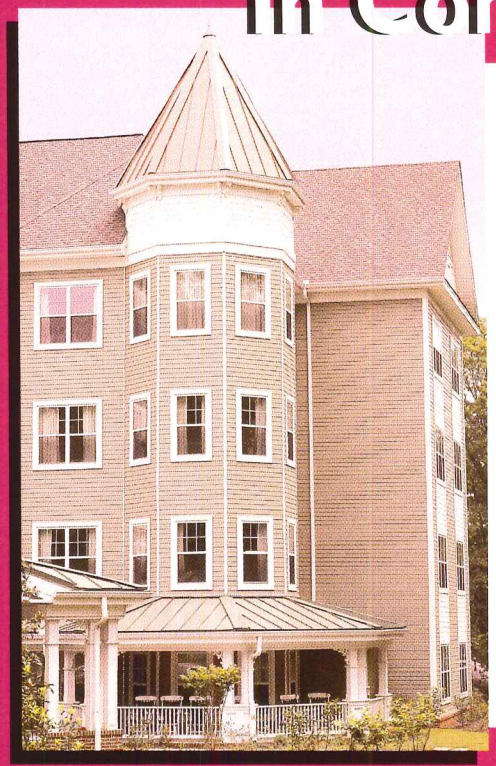


◄ Commercial-grade sensors

Leviton Manufacturing has introduced a new line of commercial-grade occupancy sensors featuring a self-adjusting technology that analyzes real-time occupancy patterns to continually adjust delayed off-times and sensitivity for maximum energy efficiency. The products include: passive infrared, ultrasonic, and state-of-the-art multi-technology occupancy sensors that integrate passive infrared and ultrasonic sensing in the same device. 800/367-5424. Leviton Manufacturing Co. Inc., Leviton, N.Y. **CIRCLE 222**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

The Concern For Fire Safety In Commercial Structures.



One Answer is PYRO-GUARD® Interior Fire Retardant Treated Wood.

PYRO-GUARD has a low rate of fuel contribution and heat release, and it maintains *structural integrity* longer than other building materials such as steel. Consequently, fire damages and repair costs are minimized, resulting in reduced insurance rates.

- Recognized by all building codes.
- Reduces flamespread from Class C to 25 or less (Class A).
- Pressure impregnated for uniform protection.
- In-plant third party quality control.
- Each piece is UL labeled.

PYRO-GUARD®
FIRE RETARDANT TREATED WOOD

Hoover Treated Wood Products, Inc. • P. O. Box 746 • Thomson, GA 30824
For Technical Information Call: **1-800-TEC-WOOD**

http://www.FRTW.com • E-mail hoover@frtw.com • Fax: (706) 595-1326

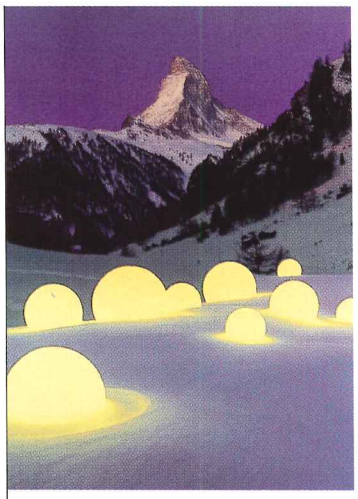
CIRCLE 148 ON INQUIRY CARD

Advent quality...
Elegant in any space
For a complete specification grade architectural lighting catalog, please contact us at 262-242-1420 or spi@spilighting.com
Advent
SPI Lighting Group
SPI
Advent
c UL us
LISTED
CIRCLE 149 ON INQUIRY CARD

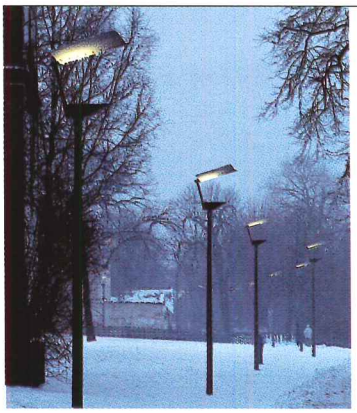
Lighting Briefs

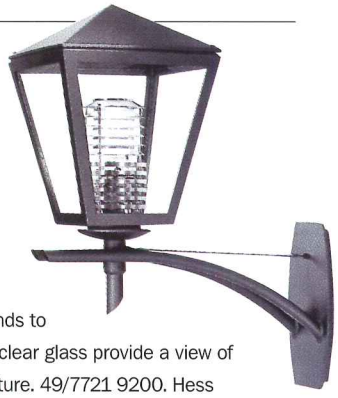
THE LATEST FROM EUROPE
Record visited Light+Building, the Frankfurt lighting show, this past March. Over 100,000 visitors checked out new products from 1800 manufacturers. Here are a scant few that we espied.

▲ Protective tube lights
One of the many new products from Waldmann Lighting are protective tube lights with linear fluorescent lamps between 18- and 58-watts. Models come in both standard and custom lengths, and the lights allow continuous wiring. Waldmann has equipped a large number of projects with protective tube lighting throughout the world, from railway station buildings, railway platforms, and shopping centers to the facade illumination of the Italian Parliament in Rome. 49/7720 6010. Waldmann Lighting, Villingen-Schwennigen, Germany. **CIRCLE 223**



▲ Unidentified lighted objects
These eerily glowing balls appear extraterrestrial in origin on this snowbank. The award-winning indoor/outdoor lights are offered in four different sizes and base variations. The balls and hemispheres are waterproof, impact- and UV-resistant, and come with 12 color filters. They can be installed in soil, fastened to solid foundations, and floated in pools or ponds. 49/7762 1018. Moonlight, Wehr, Germany. **CIRCLE 225**





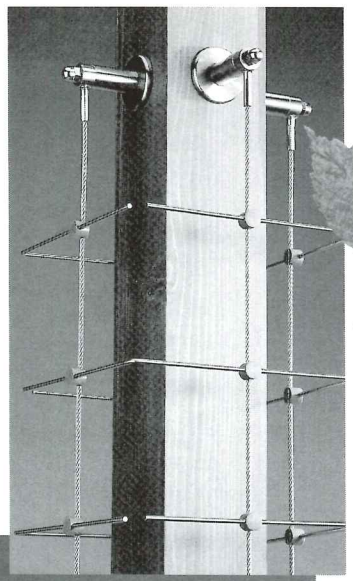
◄ ► Classics reinvented
Ariano (left) is a wide radiating, indirect light fixture from Hess. The reflector is lifted above the light casing and gives the impression of an object hovering in the sky. The fixture casing of cast-aluminum displays the typical ribbed structure in the collection used for dissipating heat. The Burgos lantern's (right) angular lamp body corresponds to the archetype of a lantern, but the panes of clear glass provide a view of a filigree cylinder with a horizontal ring structure. 49/7721 9200. Hess Form + Licht, Villingen-Schwennigen, Germany. **CIRCLE 224**

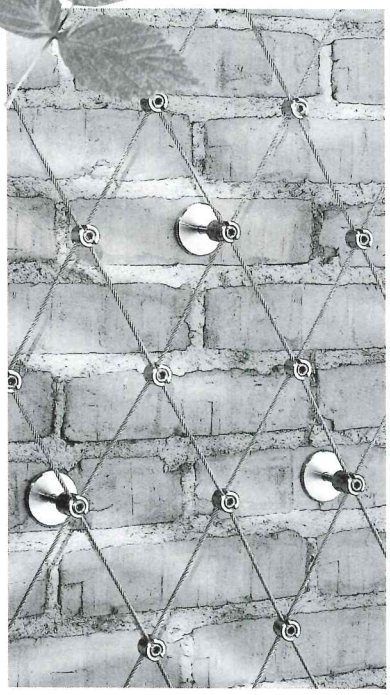
For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

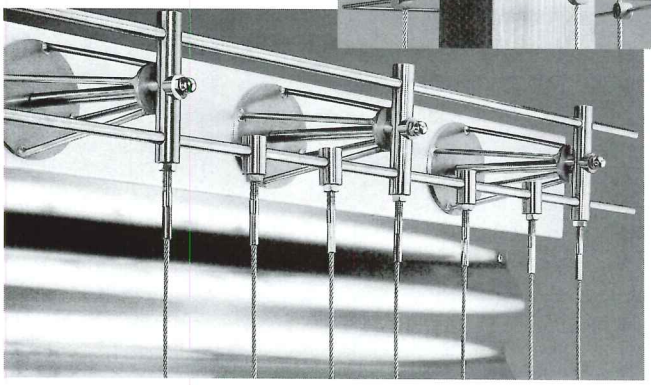
Green Solutions

DecorCable Innovations is proud to introduce the new Jakob® INOX LINE GreenSystem that is specifically designed for vertical plantscapes and outdoor greening projects.

Whether classic or avant-garde, our wire rope and connector products represent the state-of-the-art in all architectural styles. Ask for a copy of the Jakob® INOX LINE G1 catalog.







DÉCOR CABLE INNOVATIONS

DécorCable Innovations, LLC
660 West Randolph St.
Chicago, IL 60661
Tel 312.474.1100
1-800.444.6271
Fax 312.474.1789
E-mail sales@decorcable.com
Website: www.decorcable.com

CIRCLE 288 ON INQUIRY CARD

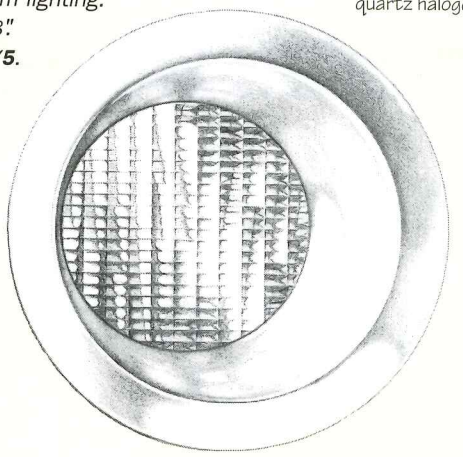
NEAT TRICK!

Introducing Darklite Washlite® 30/5. Floor-to-ceiling wallwashing from a 5" aperture. For standard height walls that need museum-quality incandescent lighting. The trick? A new 40° x 70° spread lens and 'kicker' reflector sized for 75-watt PAR-30 lamps. Dimmable full-spectrum lighting. Overall depth of just 8".

Darklite Washlite 30/5.

For information and the name of your local representative call 212-521-6900; fax 212-888-7981; email info@epl.com

PAR-30
quartz halogen

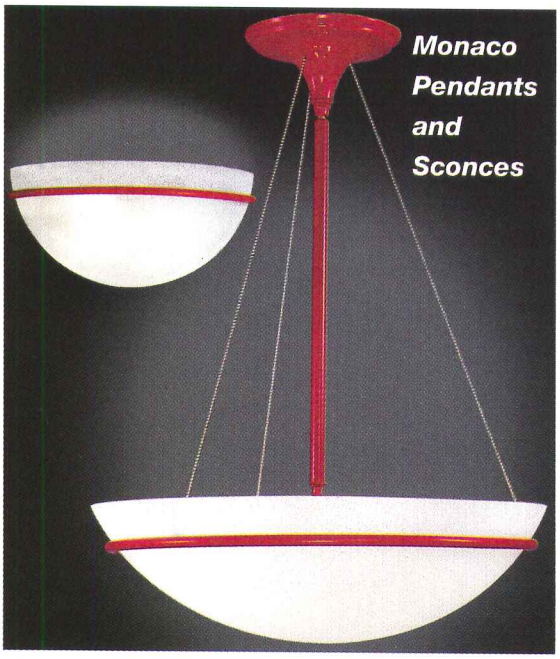


uniform illumination on walls

EDISON PRICE LIGHTING

because light matters.

CIRCLE 289 ON INQUIRY CARD



THE ORIGINAL CAST LIGHTING™

6120 DELMAR BLVD. • ST. LOUIS, MO 63112
314.863.1895 • FAX: 314.863.3278
www.theOCL.com

CIRCLE 290 ON INQUIRY CARD

BALDINGER

Inspired by the great masters of the Art Deco Era, La Clarinette Wall Sconce is an elegant new addition to The Classic Collection.

The new vanity lights from Baldinger are available in a range of styles, prices, finishes and sizes.

BALDINGER ARCHITECTURAL LIGHTING, INC
19-02 STEINWAY STREET, ASTORIA, NY 11105
TEL: 718-204-5700 FAX: 718-721-4986
visit our website at www.baldinger.com

CIRCLE 362 ON INQUIRY CARD

PAREXEIFS

EXTERIOR INSULATION AND FINISH SYSTEM

We have the System you need.

If you need a secondary moisture barrier...

YOU NEED KEYCOAT

New Liquid Membrane Adhesive 395A

A proven 100% acrylic water resistant membrane **plus** an EPS adhesive in a single coat.

PAREX®

800-537-2739 PAREX Inc. Headquarters: 1870 Stone Mountain-Lithonia Rd, Redan, GA 30074
800-780-6953 Western Region: 11290 South Vallejo Court, French Camp, CA 95231
www.parex.com

100% ACRYLIC POLYMERS

MEMBER OF EIMA

CIRCLE 291 ON INQUIRY CARD

New Products

Today, solid surfacing can be specified in a variety of strange places, including down in a subway system and as exterior cladding. According to writer Russ Lee, architects should take another look at this material's potential. This month we also profile several laminates that bedeck surfaces with alternative colors, textures, and patterns. *Rita F. Catinella*

SOLID NEW IDEAS FOR SURFACING

Solid surface is a constantly evolving building product, and most industry experts say architects haven't begun to realize its potential applications for the home and industry.

Originally developed as an alumina trihydrate (ATH) filled resin product, solid surface was invented in 1963 by DuPont Corporation, which marketed its acrylic resin product under the name of Corian. Since that time, other solid surfaces have emerged using polyester and modified polyester/acrylic as their resin bases. Today, there are six major international manufacturers of solid surface: Avonite, Corian, Fountainhead by Formica, Gibraltar by Wilsonart, LG Hi-Macs, and Surell by Formica.

Most manufacturers offer a 10-year installed warranty on solid surface when the product is fabricated and installed by a "certified fabricator." Two years ago, the International Solid Surface Fabricators Association (ISSFA) released its definition and performance standard for solid surface, titled ISSFA-1-98. This document divides solid surface into three major categories and specifies the testing criteria for minimum performance standards in each category.

Solid surface is most commonly produced in ½-inch-thick sheets, which are then fabricated into usable shapes, such as countertops, wall cladding, flooring, architectural molding, furniture, and signage. The appeal of solid surface is its machinability; other benefits include the ability to seam two pieces together invisibly, it is non-porous, and it offers a large selection of colors and textures.

Take it outside

Placing the product outside is a new application option. Aristech Acrylic Corporation has developed a ¼-inch thick exterior cladding material called Acrystone (bottom).

"Other products, such as brick, stone, or concrete are very porous," says marketing manager Jeff Dvorak. "You put them outside, they soak up the acid rain and dirt, and they look old and dirty after a couple of years. On the other hand, solid surface will look the same in 15 or 20 years as it did when it was first installed, because it is non-porous and renewable." Dvorak says the ballpark figure for the installed price for solid surface cladding is in the $20 to $25 per square foot range. When you take into consideration that panels can be thermoformed to virtually any shape, are considerably lighter than glass or stone, are easy to maintain and repair (graffiti can be sanded off), and they are cost effective, it's easy to imagine the skylines of the future gleaming with solid surface.

Moving in a new direction

As hard working as solid surface is three stories up, however, it is also ideal for underground applications where the wear, tear, grease, and grime of subterranean public transportation put it to the test in both function and form. In Pusan, Korea, the entire subway system has been renovated to include 2,500 sheets of Hi-Macs solid surface in every conceivable usage. "The decision to install solid surface in the subway system was based primarily on the need for low maintenance and durability," says Andrew Ballard of LG Decorative Surfaces, the company which distributes Hi-Macs in the U.S. He says that Pusan elected to use solid surface on the station walls, support columns, benches, elevator enclosures, and ticket booths. Even the directional signage is made from the product.

More than just the counter

The Kentucky Tourist Welcome Center chose solid surface for architectural millwork in a high traffic environment because of its maintenance-free properties (top). Gibraltar solid surface was fabricated into columns, dentil moldings, picture frames, wainscoting, window and door frames, as well as the main reception desk.

Even the bathroom is a place where uses for solid surfacing eclipse simple vanity top applications. Solid surface seems made-to-order for the Americans with Disabilities Act, because it can be customized quickly and efficiently, and offers an easy-to-maintain surface. In fact, it is an ideal product for moisture-rich applications anywhere. One case in point is the bathroom shown here (center) that features a two-bowl Corian vanity top, solid surface tub surrounds, and soap dish all trimmed with an inlaid accent stripe. The shower wetwalls, as well as the shower seat, knee-wall wainscoting, and window trim also are made from the product. Even the floor comprises beveled solid surface tiles.

Other innovations—which include combining natural and man-made materials into the product matrix, increasing translucency, and altering aesthetics through manipulation of texture and color—demonstrate that solid surface is an evolving cladding option. Architects should make sure that solid surfacing, like any other material, has the properties that are most appropriate for the project at hand. *Russ Lee*

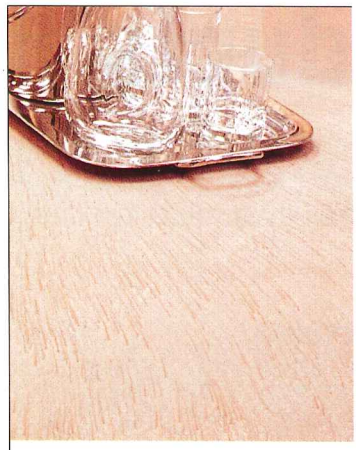
For more product information:
800/4-CORIAN. DuPont Corian, Wilmington, Del. CIRCLE 226
254/207-7000. Wilsonart International, Temple, Tex. CIRCLE 227
800/354-9858. Aristech Acrylics Corporation, Florence, Ky. CIRCLE 228
888/659-8677. LG Hi-Macs, Belfair, Wash. CIRCLE 229

Russ Lee is editor-in-chief of SolidSurface *magazine.*

New Products

◄ Clearly solid

Sky Glass (top), part of Avonite's Soladium Crystal family, is a new formulation of solid surface developed to resonate the translucency and dimension of natural glass. Subtle, ghostly particulates create a quartz-like appearance that refracts light into an array of textures. Also new from Avonite are genuine abalone and mother of pearl inlays, as well as new colors, including cement, iris, saffron, pistachio, parade, and moon dust (below). The textured solids include large clear particulates that make the surfaces appear porous and crude. Finishes can be matte, satin, or gloss. 800/428-6648. Avonite, Albuquerque, N.M. **CIRCLE 230**

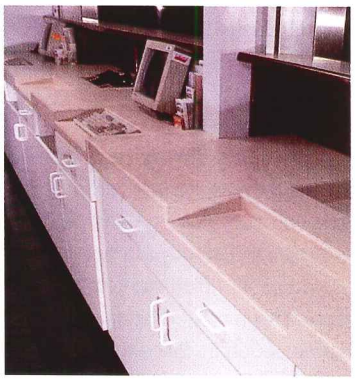


▲ Flexible texture

Kinon is a handmade decorative surface that utilizes light spectrums creating a texture with depth. The material is easily fabricated for any application, including as wall paneling and as a surface for executive office furniture (shown above). 908/558-0011. Kinon, Hillside, N.J. **CIRCLE 231**

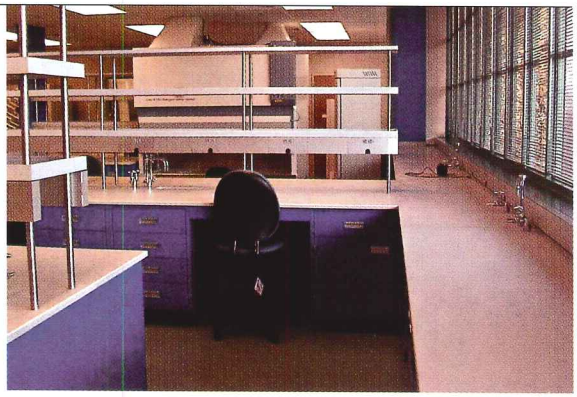
▼ New ¼-inch sheets

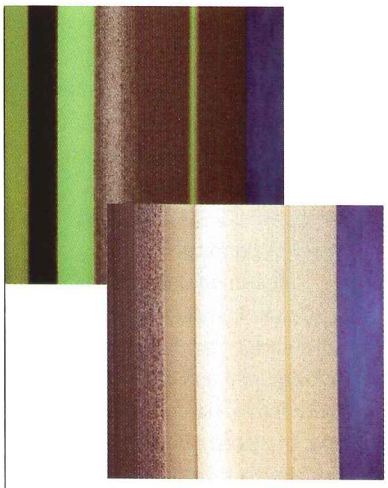
Swanstone reinforced solid surface sheets are now available for custom fabrication in a variety of ¼-inch sheets. The solid surface is available in an economical thickness for a limitless variety of vertical, horizontal, or curved applications such as backwalls, custom countertops, islands, tabletops, and retail fixtures. Swanstone sheets work well when placed over a base of high-density particle board or high-grade interior plywood. 314/231-8148. The Swan Corp., St. Louis. **CIRCLE 232**



► Laboratory tested

The homogenous character of Kemresin Lite offers protection against most acids, alkalis, and solvents. The chemical resistance is deeply ingrained in the epoxy worksurface material. Kemresin Lite combines a ¼-inch modified epoxy resin surface with an engineered substrate, providing a 1-inch-thick worksurface. Integrally molded exposed edges are rounded to a ¼-inch radius and have a drip groove for added protection. 800/932-3296. Kewaunee Scientific Corporation, Statesville, N.C. **CIRCLE 233**





▲ Glow-in-the-dark surfacing

Midnight Visions is a clear solid surfacing material (bottom) that is transformed into a glow-in-the-dark surface (top) through the process of phosphorescence. Exposure to 10 minutes of bright sunlight or 45 minutes of office light allows the product to radiate for eight to 10 hours. Non-toxic and FDA approved, Midnight Visions can be fabricated for stairs, light switch covers, signage, floor markers, chair rails, and base moldings. 877/386-4323. Fountainhead, a division of Formica Corp., Odenton, Md. **CIRCLE 234**

◄ ► Solid show pieces

DuPont Corian and the Chicago Furniture Designers' Association (CFDA) are currently co-sponsoring *New Ideas in Furniture-CFDA Competition 2000* at the Chicago Cultural Center. For the show, 21 CFDA designers combined a wide array of Corian colors with a variety of materials to create pieces ranging from tables to lights. Shown here is a chair designed of Corian in bone with chenille, steel, and aluminum, and a light combining stainless steel and Corian in glacier white. The show will be on display through May 14, 2000. 800/4-CORIAN. DuPont Corian, Wilmington, Del. **CIRCLE 226**

J. Windom Kimsey, AIA
Tate & Snyder Architects
McCarran International Airport, D Gates
Tate & Snyder Architects Design Studio
Clark County Regional Justice Center

"Within the span of a curve, you capture energy."

Windom Kimsey doesn't have to search to find inspiration for his ceilings. All he really has to do is look up. And soon, the sweeping curves and dramatic forms that infuse his designs begin to take shape. "When you can turn the ceiling into the feature, it gives you more ways to make the space exciting," he says. "Why not push the limits?"

Find out where the curves of our Drywall Suspension System can take *your* designs. Call us today at 1-800-USG-4YOU or visit our website: www.usg.com

© 1999 USG Corporation

USG CEILING SYSTEMS

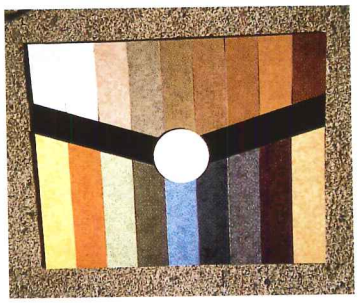
Imagine The Upside.

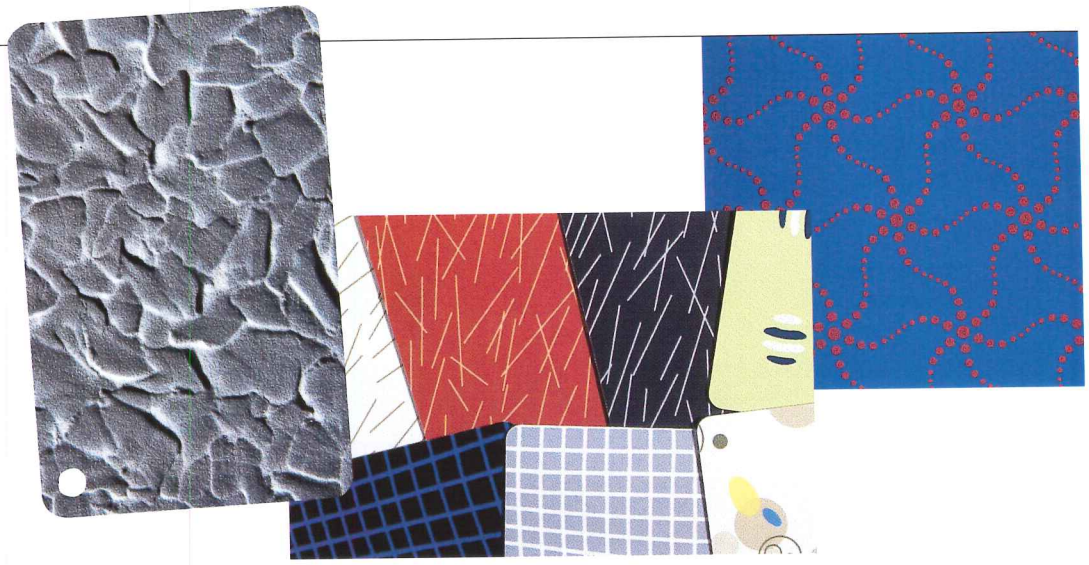
CIRCLE 292 ON INQUIRY CARD

New Products

▼ Sicilian influence

The color palette of the new Palermo line of laminates includes Miele (honey), Cielo (sky), Menta (mint), and Limone (lemon). Since 1997, the Arborite Plus product line has offered wear resistance endurance (it exceeds four times the norm), flame resistance (meets Class A and Class 1 of the U.L.C. and U.L. norms) and offers protection from stains and the extremely noxious effects of many chemical products. 800/996-0366. Arborite, LaSalle, Quebec, Canada. **CIRCLE 235**

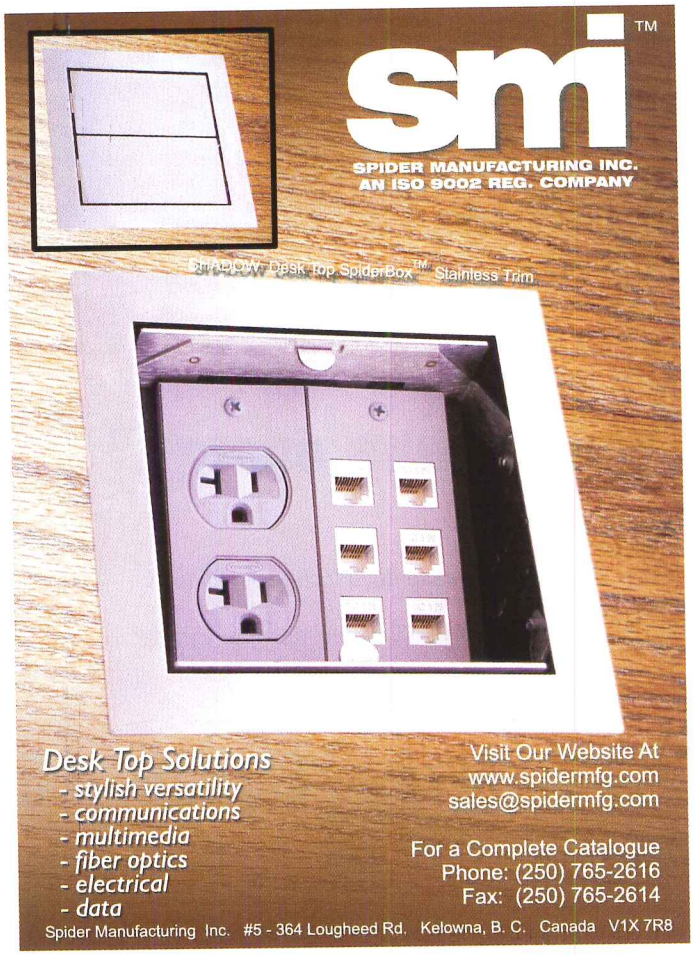




▲ Fantastic laminates

Cresp (top left), new from Abet Laminati, features a crinkled texture with highlighted raised effects that creates an alternative to ordinary laminates. Intended for vertical or non-working horizontal applications, Cresp is available in 15 solid colors ranging from casual neutrals to vibrant hues. The 22 new designs in Serigrafia 2000 (center and top right) are made possible by Abet's special silk-screening techniques. The brightly colored laminates range in style from delicate patterns to wild designs. Each sheet of postforming Serigrafia is 51-by-120 inches. Abet Laminati manufactures over 700 different laminates and reaches the international market in 89 countries. Abet's full line of high pressure laminates includes 130 solid color choices, plus metallics, woodgrains, natural fibers, stone finishes, silk-screen effects, translucent patterns and solids, and finished wood veneers. 800/228-2238. Abet Laminati, Englewood, N.J. **CIRCLE 236**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info



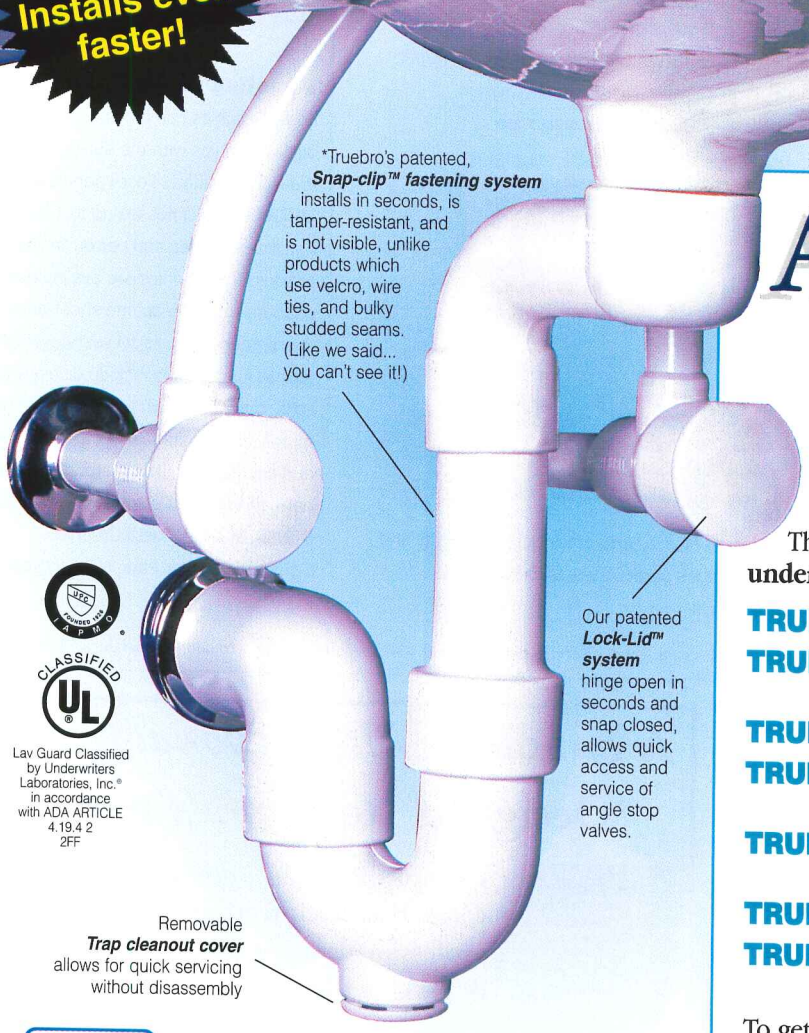
CIRCLE 293 ON INQUIRY CARD

CIRCLE 294 ON INQUIRY CARD

10800/TRU
BuyLine 9143

NEW DESIGN! Installs even faster!

EXCEEDS ADA REQUIREMENTS



CLASSIFIED UL

Lav Guard Classified by Underwriters Laboratories, Inc.® in accordance with ADA ARTICLE 4.19.4 2 2FF

Affordable... and a Snap* to install!

LAV GUARD by TRUEBRO

The *truly* better, federally mandated solution to **under-sink protection** that...

- **TRUE**-ly meets and exceeds ADA regulations
- **TRUE**-ly is ASTM tested and certified by *UL*, *IAPMO*, and the City of Los Angeles
- **TRUE**-ly is affordable for any budget
- **TRUE**-ly is quick and easy to install and fully rotatable
- **TRUE**-ly is tough enough to stand up to commercial traffic
- **TRUE**-ly is anti-microbial
- **TRUE**-ly makes an attractive and professional installation

Proudly Made in the U.S.A.

To get all the facts request your FREE brochure today! There's no obligation... and you'll quickly see why TRUEBRO is *truly better!*

LAV GUARD™
UNDERSINK PROTECTIVE PIPE COVERS

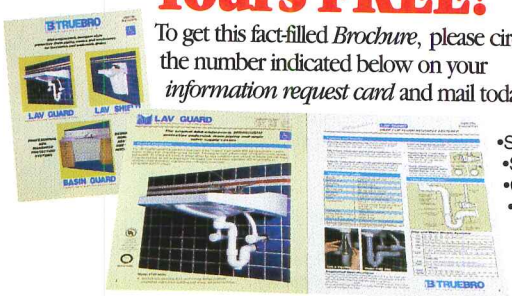
Also available...

LAV SHIELD™
LAVATORY PROTECTIVE ENCLOSURES

BASIN GUARD™
UNDERSINK PROTECTIVE ENCLOSURES

Yours FREE!

To get this fact-filled *Brochure*, please circle the number indicated below on your *information request card* and mail today!



- •Specs!
- •Sizes!
- •Colors!
- •Styles!

TRUEBRO
MAKING AMERICA ACCESSIBLE

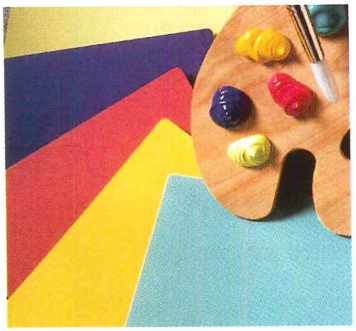
7 Main Street • P.O. Box 440 • Ellington, CT 06029
Tel 800-340-5969 • www.truebro.com

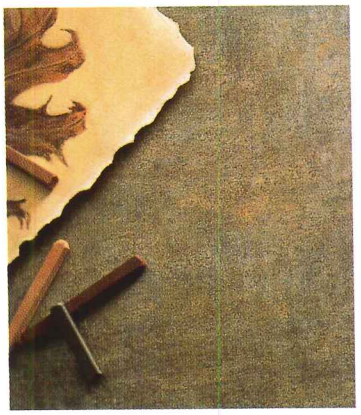
CIRCLE 295 ON INQUIRY CARD

New Products

▼ Primary colors

Color Art is a line of 50 solid color laminates from Lamin-Art. Most of the colors in the range complement and coordinate with each other. The high-pressure decorative laminates are intended for interior horizontal and vertical applications where an impact-, wear-, and stain-resistant decorative surface is required. Other styles include veneer prints and pearl luster pigments. 800/323-7624. Lamin-Art, Elk Grove Village, Ill. **CIRCLE 237**





◄ Touch of the blues

Painted Woodlands, colored by natural greens and blues, is part of the 33 offerings in the Year 2000 high pressure laminate collection from Nevamar. All newly introduced Nevamar high pressure laminate items are offered in general purpose grade, postforming, and vertical forming grades in popular sheet sizes. 800/526-9469. International Paper, Decorative Products Division, Odenton, Md. **CIRCLE 238**

► Look-alike

The Formica brand laminate Envision collection features eight patterns that mirror the 1999 Surell solid surfacing Stone collection. The laminate can stand alone as a countertop material or can be coordinated with the matching Surell solid surfacing material colors. The collection includes neutrals, a jewel-toned translucent blue, a terra cotta with baked clay and black particulates, and a black with deep black particulates. 800/FORMICA. Formica Corporation, Odenton, Md. **CIRCLE 239**

▲ Lasting impressions

Fossil Graphics combines high resolution digital graphics with the durability of high pressure laminate. Fossil panels are available in thicknesses up to 1 inch, with numerous grades and performance options. The graphics are available in quantities as little as one sheet and are guaranteed for up to 10 years against fading. Applications include displays (a U.P.S. office is shown here), signage, wall murals, floor murals, and custom table and countertops. Unlike standard laminate, this product can be used outdoors. 800/244-9809. Fossil Graphics Corporation, Deer Park, N.Y. **CIRCLE 240**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

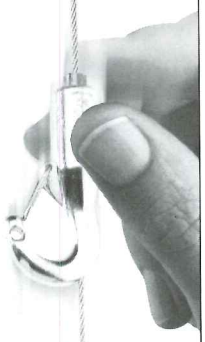
f o r m

and function

The new AF3P auto-lock hook: combining the convenience of the self-arresting Arakawa Gripper™ with the security of a carabiner-like spring to effectively secure your art.

Hang the AF3P from a cable on our wall-mounted rail, and you have an attractive system to quickly position art anywhere on the wall.

And you won't have to patch and paint any more nail holes.



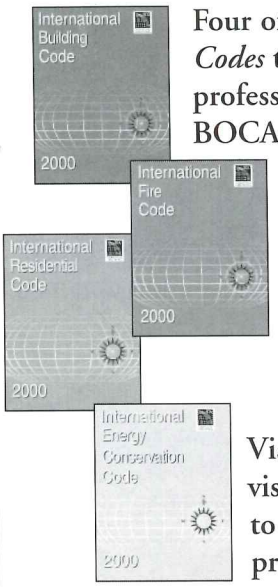
Call us today.

toll free **888.ARAKAWA**

ARAKAWA HANGING SYSTEMS
1020 SE Harrison Portland, Oregon 97214 www.arakawagrip.com

CIRCLE 296 ON INQUIRY CARD

A bundle of *International Codes* "Designed" to fit your needs



Four of the NEW *2000 International Codes* that Architects and other design professionals use most are available as a BOCA bundle.

The Designer Bundle includes the *International Building, Fire, Residential* and *Energy Conservation Codes* at a bundle savings of 15%.
List $179; BOCA member $143

Visit BOCA at the AIA show, or visit our web site at www.bocai.org to see the complete line of BOCA products and services.

For more information or credit card orders, call 1-800-214-4321, ext. 712

FREE and PROMPT shipping.

BOCA BUILDING OFFICIALS CODE ADMINISTRATORS INTERNATIONAL®

CIRCLE 297 ON INQUIRY CARD

A New Flavor of Anodized Aluminum from YKK AP...

White!

Now it's possible to get all the rewarding benefits of Anodized Plus® in white! YKK AP Anodized Plus provides a unique protective coating on anodized finishes. The anodic coating, combined with an organic film, offers the dual benefits of enhanced durability and corrosion resistance. And, our patented vertical immersion process guarantees complete coverage of all exposed surfaces with a delectably smooth finish. So, at last you can have the white color you want, without the "orange peel" commonly seen on painted finishes.

Just the kind of refreshing innovation you've come to expect from YKK AP, a world leader in architectural aluminum.

YKK ap America™

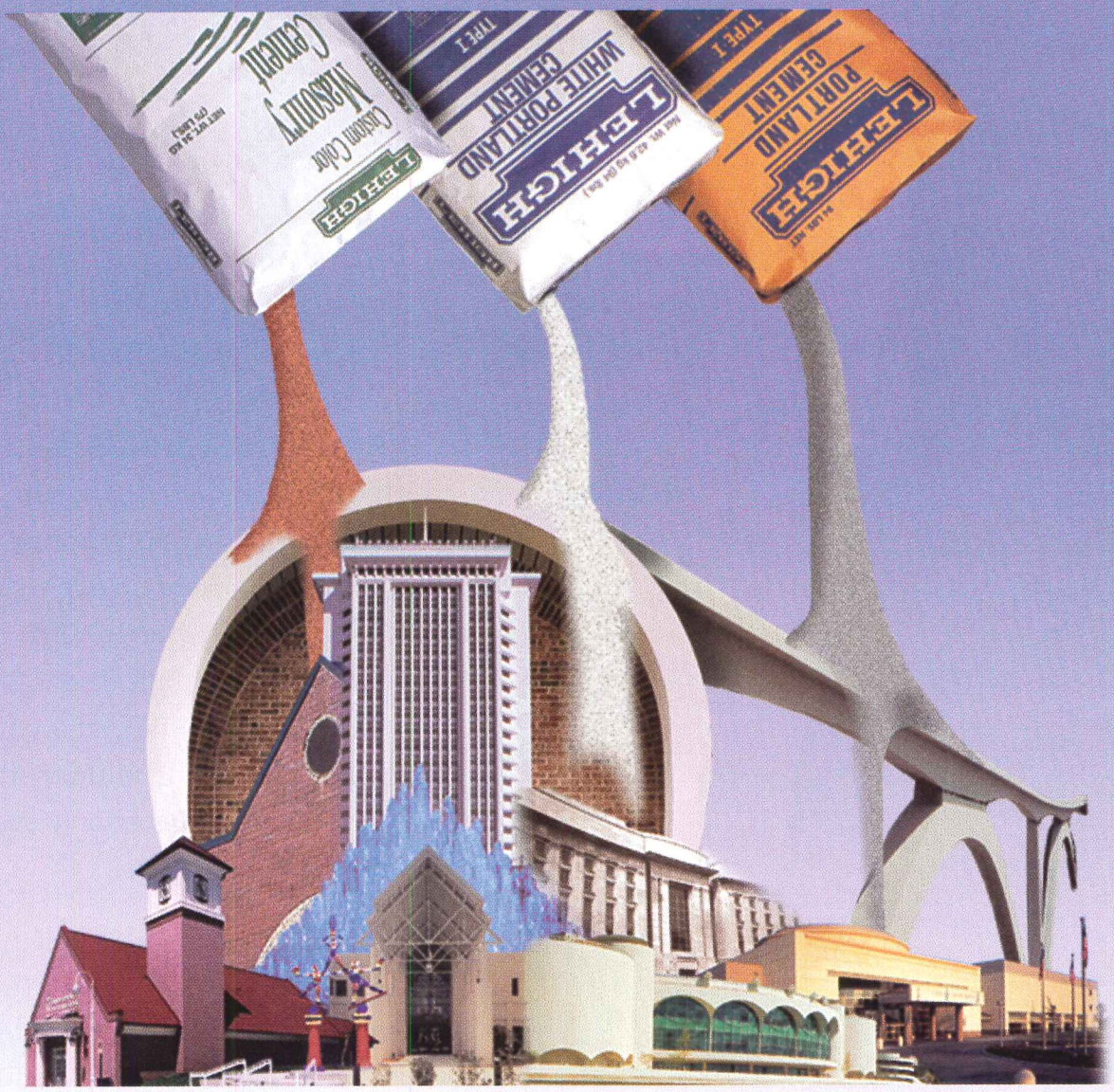
For more information
call 1-800-955-9551.
www.ykkap.com

©2000 YKK AP America Inc. is a subsidiary of YKK Corporation of America.

CIRCLE 298 ON INQUIRY CARD

LEHIGH CEMENTS

Engineered for Quality. Specified for Creativity.



For over 100 years, Lehigh Gray, White, and Custom Color Portland and Masonry Cements have been used in concrete to create architectural masterpieces. With Lehigh products, architects are given the freedom to choose a multitude of applications to achieve an unlimited range of color, texture, shape, size and pattern. Our versatile quality cements are uniquely transformed through your imagination and creativity. Contact us today or visit us on the web.

CONTINUING EDUCATION AIA

LEHIGH

Since 1897

7660 Imperial Way, Allentown, PA 18195
800-523-5488 610-366-4600 Fax: 610-366-4638
www.lehighcement.com

CONVENTION AIA EXPO 2000 PHILADELPHIA

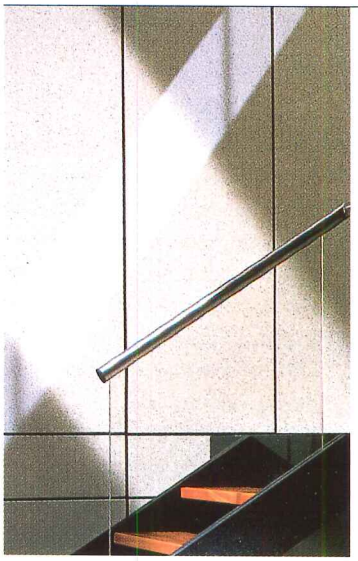
Visit us at Booth #2107 at AIA Expo 2000

CIRCLE 299 ON INQUIRY CARD

Product Briefs

▼ If these walls could talk

Carnegie introduces Xorel Vision (below), a translucent textile intended for upholstery and panel use which is PVC-free, plasticizer-free, and low in VOCs. Xorel is solution-dyed and inherently flame-retardant; no chemical treatments are required. It also comes in a collection of bright and saturated Techno colors. The new Fusion collection features the Xorel yarn mixed with another fiber in eight tactile patterns and nine colorways. Xorel fabrics are durable, easily cleaned, and recognized by Greenpeace as a viable environmental alternative to vinyl. 800/727-6770. Carnegie, Rockville Center, N.Y. **CIRCLE 241**

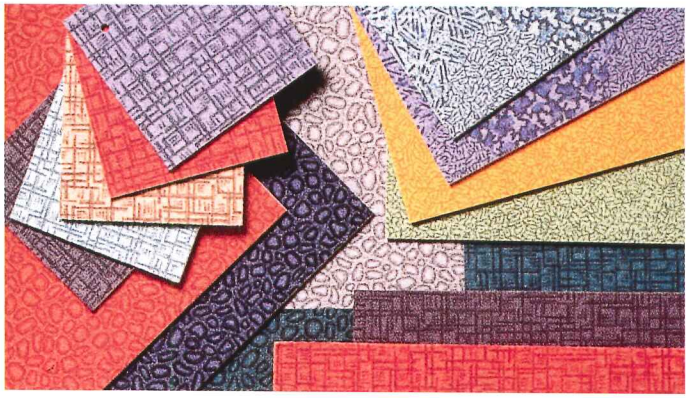


◄ Rock solid

DuPont Zodiaq quartz surfaces is a new brand and category of surfacing from DuPont. The surfaces are made of 93 percent quartz, and are suitable for all interior horizontal and vertical surfaces in both commercial and residential environments. Zodiaq surfaces are non-porous, feature scratch- and stain-resistant properties, can be machined, sandblasted, and inlayed, and are backed by a 10-year limited installed warranty. This office atrium has stairway stringers and fascia made with Zodiaq surfaces in Vortex Black. The wall panels are made with Zodiaq in Astral Pearl. 877/229-3935. DuPont, Wilmington, Del. **CIRCLE 242**

► Getting the message across

Graphic Solutions, working in close coordination with the LEGOLAND design and construction team, created award-winning signs for the theme park which opened in Spring last year in Carlsbad, Calif. Graphic Solutions was retained to add a level of visual excitement to the project's signage and graphics to better appeal to Southern California's sophisticated youth. The firm focused its efforts primarily on attractions such as the futuristic "Maniac Challenge" food services (right), and retail venues which incorporate LEGO characters in action. Other Graphic Solutions projects include Disneyland, entertainment centers, and the Century Stadium Promenade, Orange County, Calif. (far right). 619/239-1335. Graphic Solutions, San Diego. **CIRCLE 243**



▲ Restyled flooring line

In response to the changing aesthetic of hospitality and healthcare facilities worldwide, Bonar Floors recently updated and re-styled its Flotex Tile modular textile flooring product, including three new patterns and 36 colorways. Flotex is a vinyl floor injected with approximately 50,000 upright nylon fibers per square inch, offering high-pile density and resistance to packing and crushing. Flotex's dense pile makes it easy to mesh borders and insets with patterns. 800/852-8292. Bonar Floors, Newnan, Ga. **CIRCLE 244**

► From Cologne to Chicago

Chosen from the range of objects unveiled at this year's international furniture fair in Cologne, Luminaire offers new furniture exclusives from TEAM by WelliS, ClassiCon, Pallucco Italia, and Montis. Among the items being introduced are seating furniture from Montis, including the Lomas easy chair (right), and the Paso sofa. From Pallucco Italia come the Scoop stool and table, and Max chair. The pieces will be available June 1 at Luminaire's showrooms in Chicago and Coral Gables. 312/664-9582. Luminaire, Chicago. **CIRCLE 245**

Product Briefs

▲ Creating his opus

Orlando Diaz-Azcuy has created his second collection of fabrics for HBF Textiles. Opus II includes six patterns with a total of 47 colorways. Maze, shown above, is a blend of rayon, polyester, and cotton with a light acrylic backing that takes its markings from an interpretation of the Greek key's interlocking lines. Avanti, a 100 percent wool face epingle with a cotton ground, offers a base for the entire collection. 704/328-2064. HBF Textiles, Hickory, N.C. **CIRCLE 246**

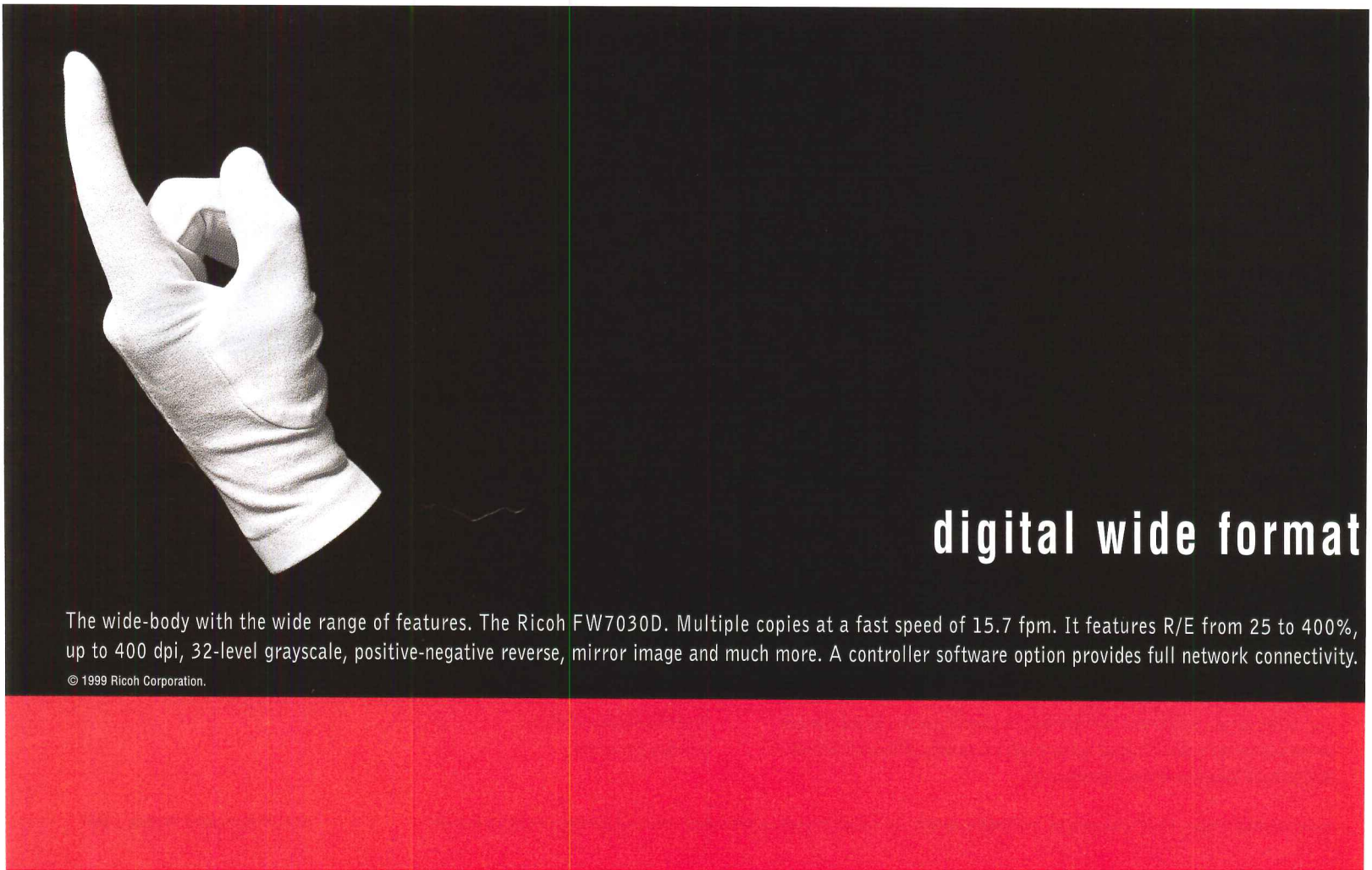
▼ Wrap it up

DuPont Tyvek is a non-perforated continuous microfiber web with microscopic pores large enough for moisture to pass through, yet small enough to resist air and liquid water penetration. The DuPont Tyvek Weatherization System includes HomeWrap, StuccoWrap, CommercialWrap (intended for light commercial construction), and Contractor Tape. Tyvek helps reduce drafts in the winter and keeps out hot air in the summer. 800/44-TYVEK. DuPont Tyvek Weatherization Systems, Wilmington, Del. **CIRCLE 247**

▲ Design treats

"In addition to being a mainstay of Americana, the cookie jar is, in a sense, a 'miniature' building. Who better than an architect to design one," explains Jack Markuse, who asked eight of the world's best-known architects to put their signature styles on these functional pieces of sculpture. The eight pieces in the collection, each made of porcelain and ceramic, are by Michael Graves, FAIA, Richard Meier, FAIA, Richard Gluckman, FAIA, Laurinda Spear, FAIA, Clodagh, Cesar Pelli, FAIA, (Volcano, top right), Antoine Predock, FAIA, and Stanley Tigerman, FAIA (Sam-Emma, top left). In addition, Graves, Spear, Pelli, Tigerman, and Clodagh are creating a limited edition of 99 lithographs, each signed by the architect. The collection will be available in museums and specialty stores worldwide. 978/670-5900. Projects, a division of The Markuse Corporation, Billerica, Mass. **CIRCLE 248**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info



Product Briefs

► Nature trail

The new LonWood Natural flooring line features a real wood look with open grain textures. The resilient sheet vinyl flooring is impervious to water, spills, and most common household and hospital chemicals. It comes in the standard 6-by-60-foot roll and can be welded for a sanitary, seamless installation. LonWood Natural features a subtle plank definition and nine colors including Maple Syrup and Nutshell. 310/830-7111. Lonseal Inc., Carson, Calif. **CIRCLE 250**

► Grid-hiding panels

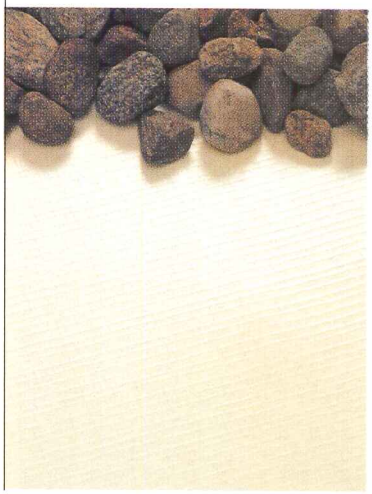
Optima Vector, the new addition to Armstrong's line of open-plan ceilings, uses the Vector grid-hiding edge detail to create a sleek ¼-inch reveal that minimizes the visible grid. The 2-by-2-foot lay-in panels install in a standard 15/16-inch exposed tee suspension system. 888/CEILINGS. Armstrong World Industries Inc., Lancaster, Pa. **CIRCLE 249**

▲ Accepted into Harvard

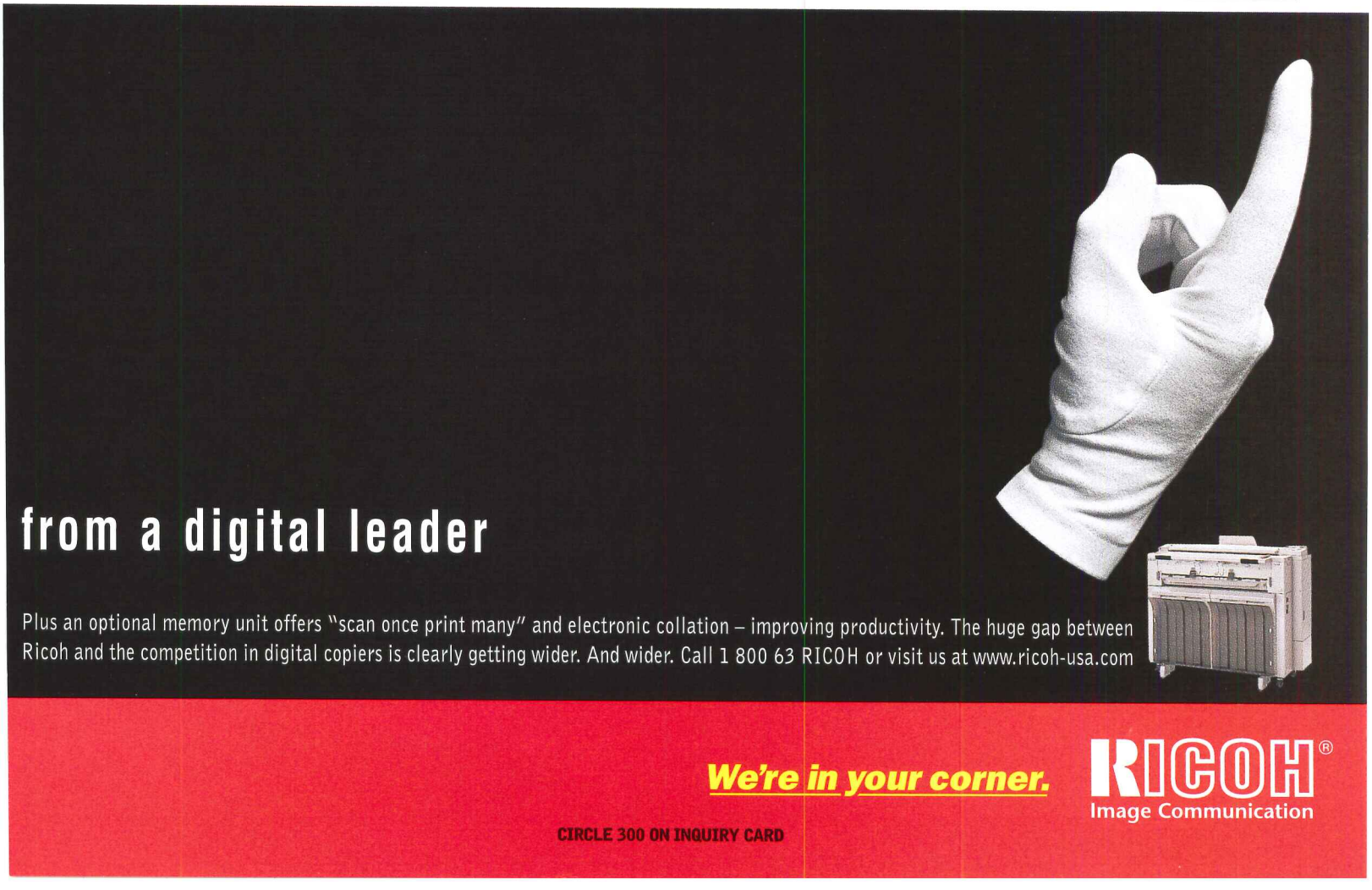
North Country unfading black natural roofing slate was chosen as one of the slate colors to be used in the rebuilding of the long lost tower of Memorial Hall at Harvard University. Built as a memorial to Harvard's Civil War dead, its tower had been destroyed by fire in 1956 and capped with a flat roof for 44 years. 800/975-2835. North Country Slate, Scarborough, Ontario, Canada. **CIRCLE 251**

▼ Special TPO membrane

The Stevens EP-B membrane is a configuration of reinforced thermoplastic polyolefin (TPO) specifically designed for stone or paver ballast roof applications. The membrane's sand-colored topside distinguishes it from the white, black, or gray Stevens EP used primarily for mechanically attached and fully adhered applications. 800/621-ROOF. Stevens Roofing Systems, Holyoke, Mass. **CIRCLE 252**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info



Product Briefs

► First class waiting only

Sir Norman Foster has created Air Line, a seating system for public waiting zones at airports, bus stations, public atria, and shopping malls. Air Line's die-cast aluminum legs support an aluminum beam, while seats and backs are offered in wood, aluminum, or upholstery. 212/539-1900. Vitra Inc., New York City. **CIRCLE 253**

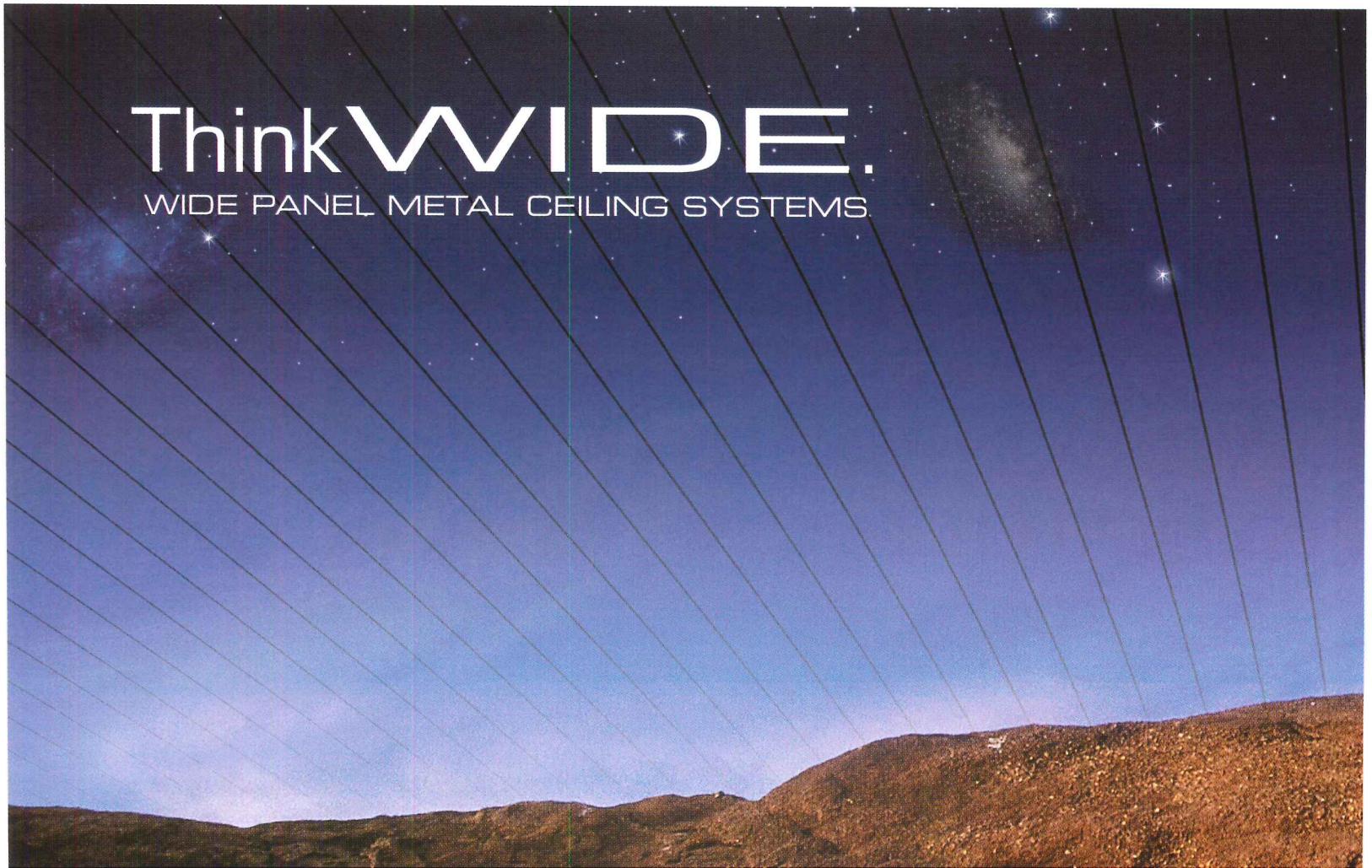
◄ Custom millwork look

The New England Classic raised panel system uses wood panels to accentuate virtually any interior space. The product is made using select grade-A sliced veneer, laminated to a stable engineered wood core. Standard sizes of raised panels, along with precision-machined rails and stiles, create a fully integrated system. 888/880-6324. New England Classic Inc., Portland, Maine. **CIRCLE 254**

► Historic walls

The Manchester Historic Association has created an education center for people to learn more about the history of the area. The visitor's orientation center, which leads to the History Center, represents a good application of digital images and printed wall murals. Working with designer Joe Viamonte, the director of the association decided to use full-size murals from old photos of the mill town a hundred years ago. The 10-by-4-foot panels were printed and then transferred to Rexam's Wallternatives scratch- and graffitti-resistant wallcovering media. 800/628-8604. Rexam Image Products, South Hadley, Mass. **CIRCLE 255**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info



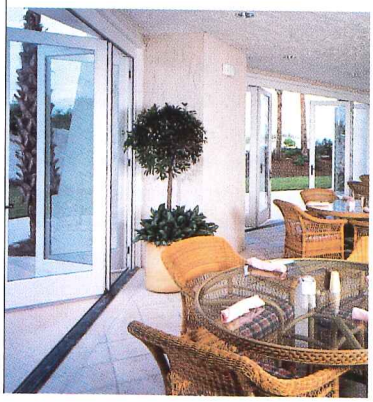
Product Briefs

▲ Saving for a rainy day

Rainstore^3 may help engineers and specifiers who have problems with arched chambers or pipe systems that cannot meet site restrictions. Rainstore^3 is ideal for storm water retention/detention, and can also be utilized for long-term water storage for irrigation, fire protection, and potable applications by encasing the structures in an impervious liner. 800/233-1510. Invisible Structures Inc., Aurora, Colo. **CIRCLE 256**

▼ Positive exposure

Nana Wall Systems offers the Opening Glass Wall, a wood-framed folding French door system. Top-hung panels combined with state-of-the-art German-made hardware provide smooth sliding and folding operation, even when the bottom track has some dirt or sand in it. A concealed multiple-point locking system is used for security against forced entry, to help reduce structural deflection under high wind conditions, and to minimize any chance of warpage. 800/873-5673. Nana Wall Systems Inc., Mill Valley, Calif. **CIRCLE 257**



◄ Alternative combinations

Two of the three introductions from Ted Boerner Furniture Design (to be on display at the International Contemporary Furniture Fair, May 20-23 in New York City) make use of alternative materials. The E-shaped Wedge table (top), guest-designed by Jean Tarantino, offers cork, rubber, and white oak, or white rubber and walnut. These are options to a more traditional all-wood surface. The Block Table (below), combines a solid surface tabletop with a textured wood base. 415/487-0110. Ted Boerner Furniture Designs, San Francisco.

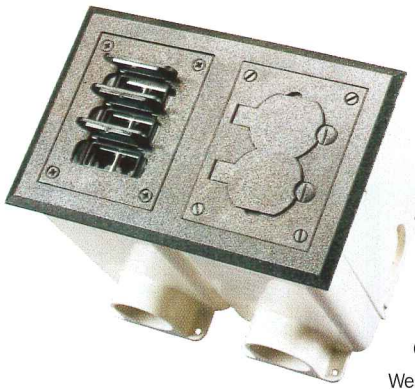
CIRCLE 258

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

Product Briefs

▼ Treasures of the deep

Most of the trees recovered by Goodwin and Company are hundreds and sometimes thousands of years old. When the trees were initially hewn, it was the oldest and most dense trees that rolled off the logging rafts and slipped in the darkness of the Suwannee and Florida Rivers. Many carry the V-bottom cut of the broad ax used more than 100 years ago. The wood is carefully raised, kiln-dried, then cut to the specifications of the particular project. Applications include the Ernest Hemingway House Museum in Key West, Fla. (shown below). 800/336-3118. Goodwin Heart Pine Company, Micanopy, Fla. **CIRCLE 259**



◄ Nonmetallic cover plate

The Wiremold Company has introduced a nonmetallic floor box cover plate that accepts up to six modular communication activation inserts. The nonmetallic Activate cover plate features three flip lids with gaskets that maintain scrub water approval for tile and carpet installation. 800/621-0049. The Wiremold Company, West Hartford, Conn. **CIRCLE 260**

► Sculptured brick fireplace

17th Century Fireplace offers a custom, handcrafted look for the hearth and mantle. Based on Boral's 17th Century series of wood mold bricks, the line comes in a choice of three colors. The ornamental hearth and mantle can be customized further with a choice of four handcrafted, original sculptured brick designs. Custom sculptures can also be commissioned. 800/5-BORAL. Boral Bricks Inc., Roswell, Ga. **CIRCLE 261**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

ELIASON® EASY SWING® DOUBLE ACTION DOORS

CUSTOM BUILT IMPACT TRAFFIC DOORS FOR A VARIETY OF APPLICATIONS

• SUPERMARKETS
• CONVENIENCE STORES

• RESTAURANTS
• FOOD SERVICE

FOR USE IN:

• DRUG
• DEPARTMENT
• SHOPPING MALLS
• RENTAL STORES
• PET SHOPS
• HOTELS
• HOSPITALS

Eliason manufactures a variety of gravity operated double action doors for most interior applications. Offset pivotal hardware facilitates a safe, gentle swinging action. Just a light assist opens the doors and they close automatically with a slight time delay. They can be fabricated in a variety of sizes with many window and decor options. For use in light, medium or high impact traffic doorways.

AIA, ELIASON BOOTH 1056, MAY 4-6 , PHILADELPHIA,PA
CSI, ELIASON BOOTH 1634, JUNE 22-24 , ATLANTA, GA

BUY DIRECT CALL TOLL FREE 1-800-828-3655
OR SEND FOR YOUR FREE PRICE/SPEC CATALOG

ELIASON® CORPORATION

P.O. BOX 2128, KALAMAZOO, MI 49003, U.S.A., Ph: 616-327-7003
P.O. BOX 1026, WOODLAND, CA 95776, U.S.A., Ph: 530-662-5494
CA FAX 800-662-5192 MI FAX 800-828-3577

Web Site: www.eliasoncorp.com E-Mail: eliawest@woodland.net E-Mail: doors@eliasoncorp.com

CIRCLE 318 ON INQUIRY CARD

DESIGN AS HIGH OR AS WIDE AS YOU CAN DREAM...

With Strong, Lightweight and Durable Metal Wall and Cladding Systems

A complete palette of colors and finishes, textures and profiles for the most discriminating designers of high- and low-rise commercial, institutional and industrial buildings.

Contact the Metal Construction Association for some free thought-provoking ideas, technical literature, Merit Awards entry brochure and more information on MCA's Metal Wall Panel Council.

104 S. MICHIGAN AVE.
STE. 1500
CHICAGO, IL 60603
PHONE: 312-201-0193
FAX: 312-201-0214
www.mca1.org

MCA
Metal Construction Association

CIRCLE 319 ON INQUIRY CARD

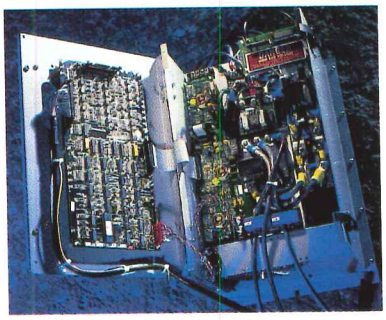
Product Briefs

▼ Play station

The PlayOdyssey system is designed to accommodate nine play events off of one deck. The system consists of pods built around a large 8-sided, 9-foot diameter deck that can be accessed by a ladder at its center. Each Pod's deck supports are at the edge of the deck, making the structure appear to float above the ground while creating more play space underneath. A bubble-topped roof provides shade. 888/4FUNLSI. Landscape Structures Inc., Delano, Minn. **CIRCLE 262**

► Need a lift?

The new TAC50 control system is a totally digital system for new or existing traction elevators. The motor drive system allows for fast response during acceleration, high speed, deceleration, and leveling. The system will operate with most elevator types. 601/393-2110. Dover Elevator Systems, Memphis. **CIRCLE 263**

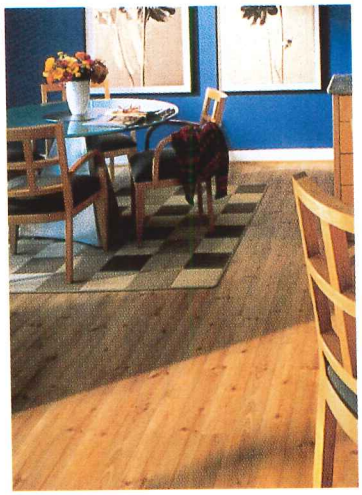


▲ Decorate concrete

Ultra-Tex is a proprietary blend of acrylics, cement, sealers, and colorants that simulate the look of brick, stone, slate, or tile on concrete surfaces. Residential applications include driveways, patios, swimming pools, and interior floors, while commercial uses include theme parks, restaurants, and shopping malls. It can be used in either new construction or renovations. 800/321-7628. The Euclid Chemical Co., Cleveland. **CIRCLE 264**

▼ New tile and wood designs

The Pergo Select product range has added three new tile and two new wood collections. The American Woods collection includes Oregon glazed Pine (shown below), which features glazes in neutral and reddish tones and knots. Like all Pergo products, the tile and wood designs are backed by a new 25-year warranty against fading, stains, wear-through, and water damage. 800/33-PERGO. Pergo Inc., Raleigh. **CIRCLE 265**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

ARCHITECTURAL POTTERY

SHIPPING WORLDWIDE

- Commercial & Residential Containers in GFRC
- Handmade Greek & Italian Terra Cotta
- English Style Sandstone
- Handcarved Vicenza Stone
- Ethnic Reproductions
- Custom Manufacturing & Finishes
- Frank Lloyd Wright Authorized Reproductions

Call or E-mail for Your Free Catalog

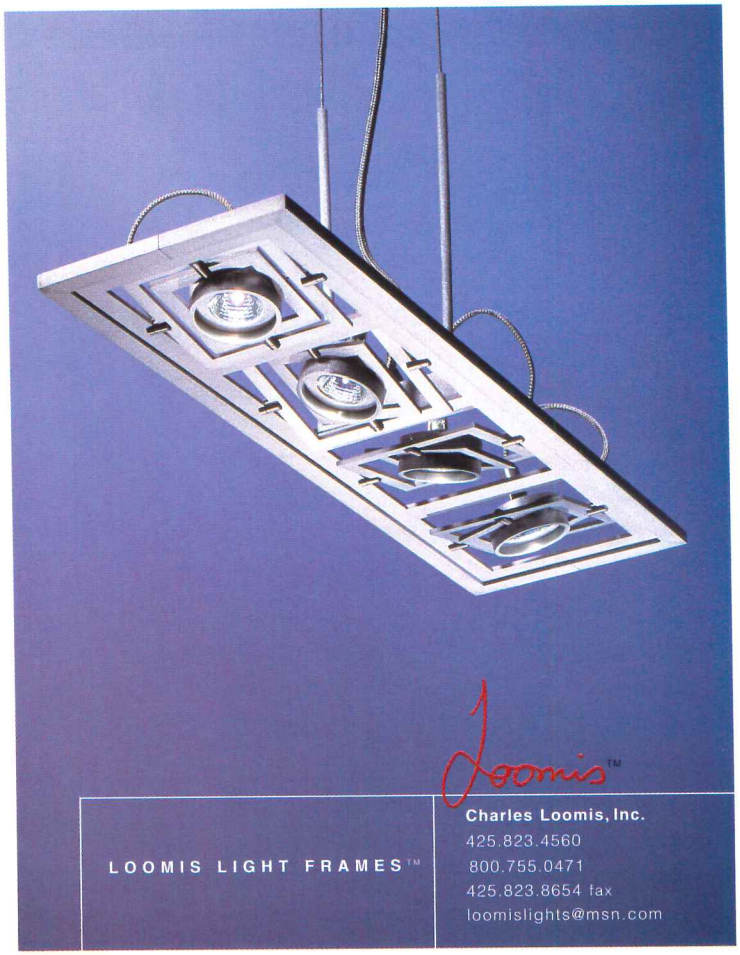
ARCHITECTURAL POTTERY

Ph. 714/895-3359 • 1-888/ARCHPOT • Fax. 714/898-5109

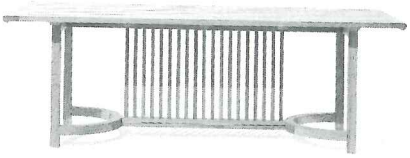
15161 Van Buren, Midway City, California 92655

E-Mail: archpot@msn.com Web: www.archpot.com

CIRCLE 320 ON INQUIRY CARD



CIRCLE 321 ON INQUIRY CARD



TEAK BILBAO TABLE

BEAUTY WITHIN While it's true that Smith & Hawken furniture is virtually synonymous with outdoor living, most of our pieces take up residence indoors with equal élan. Materials like water hyacinth and rattan look just as inviting nestled by the fire as they do on a covered porch. And even outdoor stalwarts such as our blizzard-proof teak cross the threshold in style, adding substance to an indoor grouping.

Smith&Hawken

TEAK SARANAC ARMCHAIR

Trade

WATER HYACINTH CHAIRS

Smith&Hawken

FURNITURE TO THE TRADE

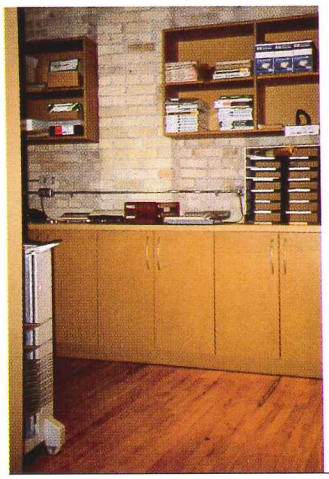
To see our newest product offerings, call (415) 506-3888 for our spring trade catalog. Mention code AR00. Or visit us online at SmithandHawkenTrade.com.

CIRCLE 322 ON INQUIRY CARD

Product Briefs

▲▼ High design for man, and his best friend

555's in-house manufacturing facilities provide the firm's design team with a range of resources. Product designs include the Sling Bench, made of woven and brushed stainless steel, which may be used indoors or out (above). This oversized kennel (below) features a heavy-duty steel tube construction, and champagne gold or stardust silver baked-on powdercoat finishes. It is available from 555's sister company Z-Racks at 773/847-2414. Clients range from Calvin Klein to the Regional Transportation Authority, Chicago. 312/733-6777. 555 Design Fabrication Management Inc., Chicago. **CIRCLE 266**

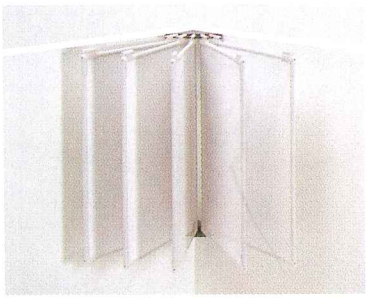


◄ A client who knows

When the Centre for Indigenous Environmental Resources recently renovated its office space located in a 107-year-old building in the historic Exchange District of Winnipeg, Isobord was used for shelving, cabinetry, baseboards, workstations, and a reception desk. Isobord, an engineered strawboard product with non-formaldehyde resins, was also used as door and window trim and bookcases in the 10,000-square-foot office areas. 503/242-7345. Isobord, Portland, Ore. **CIRCLE 268**

► Presentations anywhere, anytime

In response to research showing that teams can reduce cycle time to market by 33 percent using a large visual display, Steelcase developed Huddleboard. This line includes a two-sided marker board that can be hung on any level ledge, a photo album board, mobile easel, and poster rack (right). 800/333-9939. Steelcase Inc., Grand Rapids, Mich. **CIRCLE 267**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

The Garden and Leisure Furniture Specialists™

Country Casual

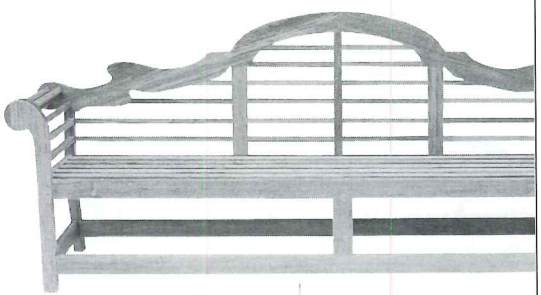
QUALITY & SERVICE SINCE 1977

Solid Teakwood Site Furnishings

FREE SHIPMENT FROM STOCK NATIONWIDE

BENCHES
SWINGS
CHAIRS
TABLES
UMBRELLAS
PLANTERS
TRELLIS

CUSTOM WOOD ENGRAVING



96-page Catalogue

800-284-8325 / www.countrycasual.com

9085 Comprint Court, Suite 1730, Gaithersburg, MD 20877

CIRCLE 323 ON INQUIRY CARD

Call 4 Entries

DESIGN COMPETITION

FOR FURNITURE COMPONENTS, ACCESSORIES AND HARDWARE

The "15th Annual Doug Mockett & Company Design Competition" is seeking entries. ☐ The competition is limited to furniture and cabinet components of any sort including hardware and accessories. Entries will be accepted until September 1, 2000, and winner(s) will be announced by December 15, 2000. ☐ A unique aspect of the competition is that only First Prizes are awarded, and there is no limit to the number of First Prize recipients. Winner(s) will receive US $1,000.00 and an engraved trophy, plus a royalty awarded for each design we accept for manufacture. ☐ All entries must be mailed to the address below REGISTERED, RETURN RECEIPT MAIL. ☐ For further information, please contact us.

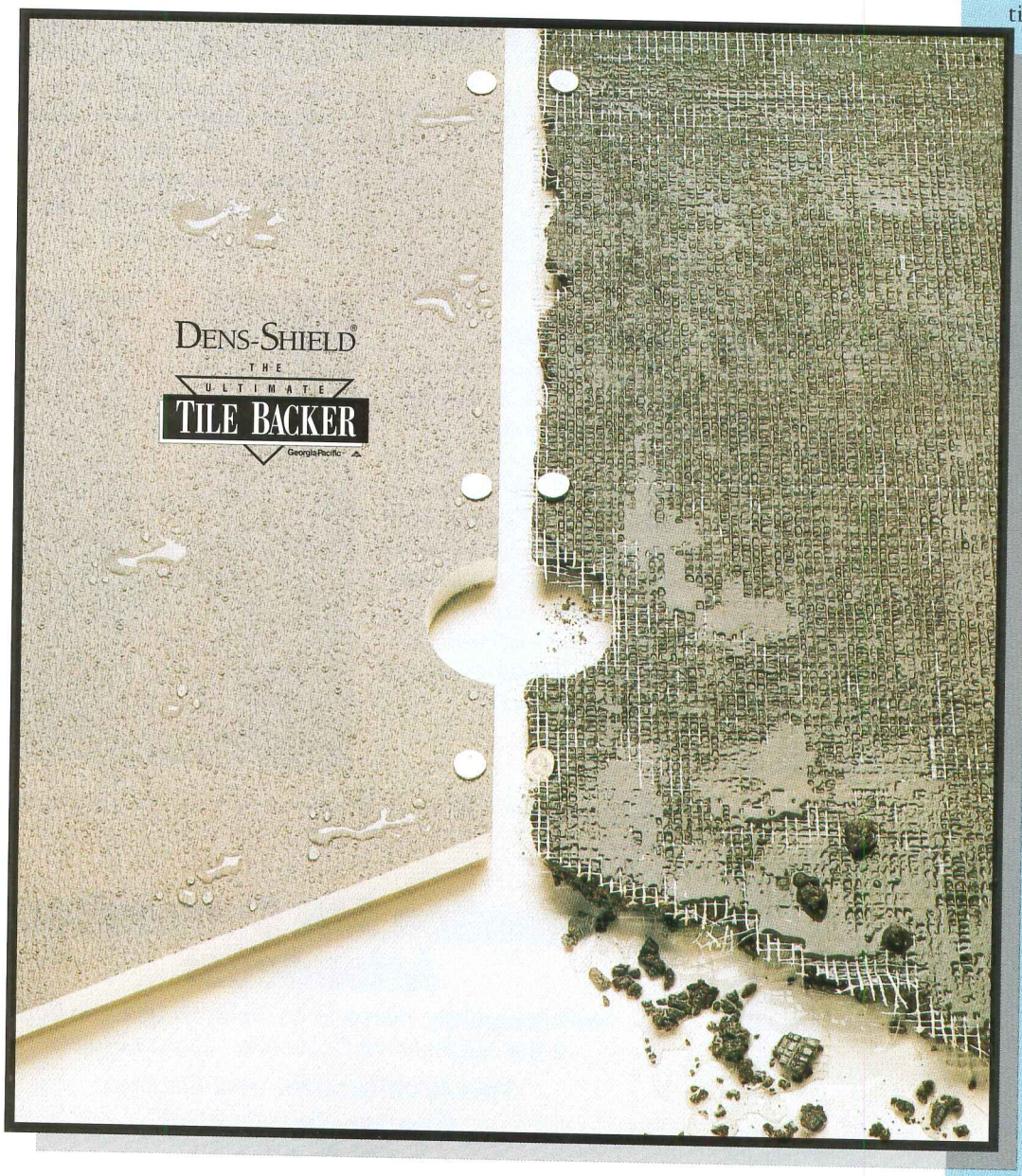
Doug Mockett & Company, Inc.

Box 3333 • Manhattan Beach, CA 90266 USA

Tel: 310-318-2491 • FAX: 310-376-7650

Visit us on the Internet at www.mockett.com

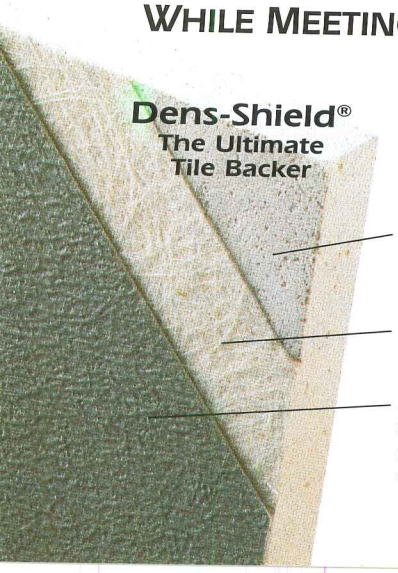
CIRCLE 324 ON INQUIRY CARD



The best, high performance tile backer board on the market is Dens-Shield® the Ultimate Tile Backer from Georgia-Pacific. It installs as easily as greenboard and outperforms heavy, hard to work with cement board. Plus, Dens-Shield features a built-in surface coating that stops water at the surface, protecting the wall cavity and tile installation. Our 5/8" Dens-Shield is the only backer board that's both fire-and water-resistant and meets ASTM C1178 criteria. And, Dens-Shield is backed by a 20-year limited warranty* For tile and non-tile, wet and high humidity installations specify Dens-Shield, the Ultimate Tile Backer.

WANT A TILE BACKER THAT PROTECTS YOUR WALL SYSTEM FROM MOISTURE RELATED PROBLEMS, WHILE MEETING YOUR FIRE RATED SYSTEM NEEDS?

NOT A PROBLEM.



SOLVE IT WITH G-P℠

1-800-BUILD G-P
For technical information
call 1-800-225-6119
http://www.gp.com

CIRCLE 325 ON INQUIRY CARD

G-P Dens-Shield®
Performance cement board and greenboard can't touch.

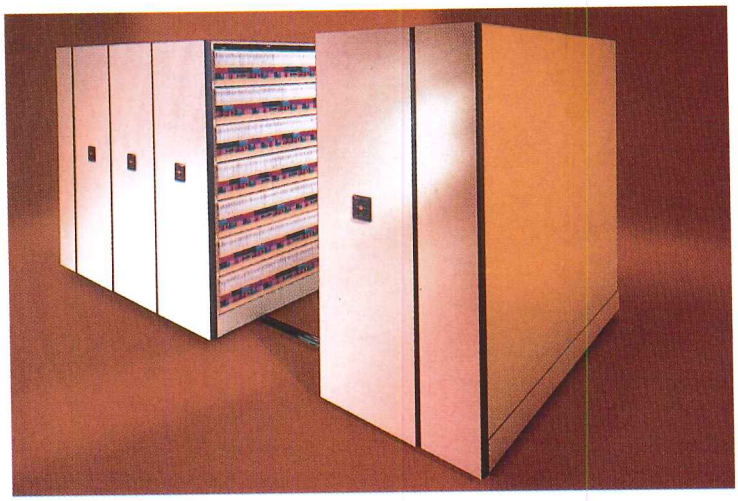
GP
Georgia-Pacific

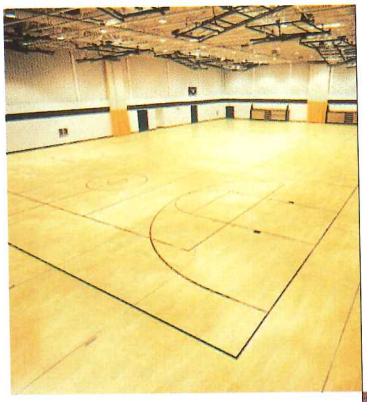
DENS-SHIELD is a registered trademark and SOLVE IT WITH G-P is a servicemark of Georgia-Pacific Corporation. ©1999 Georgia-Pacific Corporation. All rights reserved.
*See Warranty for details.

Product Briefs

▼ An ace with your space

Spacesaver Corporation now offers an enhanced line of electrical mobile storage systems, including the new Power Assist Plus. This system has all the features of the electrical mobile Power Assist system, plus optional, programmable movable or stationary aisles and multiple safety alternatives. Custom features include a remote system that controls admittance to the system, multiple aisle options and aisle resets for high-use systems, and an automatic closing feature that protects valuable materials from fire, light, and dust. All systems may be configured or programmed for ADA compliance. 800/492-3434. Spacesaver Corporation, Fort Atkinson, Wis. **CIRCLE 269**



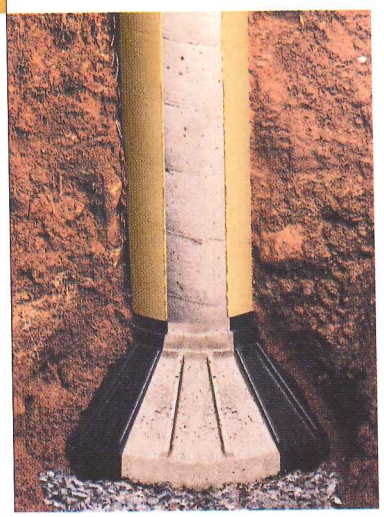


▲ Home advantage

Amerisport II sports floor offers the visual appeal of wood with the advantages inherent to a vinyl floor. Amerisport II features a hardwood plank design that incorporates the three most popular species used in athletic installations—maple, beech, and oak. The wear layer is ½ thicker than its predecessor, and it is reinforced with polyurethane to provide the right amount of surface friction. 800/225-6500. Tarkett Inc, Whitehall, Pa. **CIRCLE 270**

▼ Sure-footed

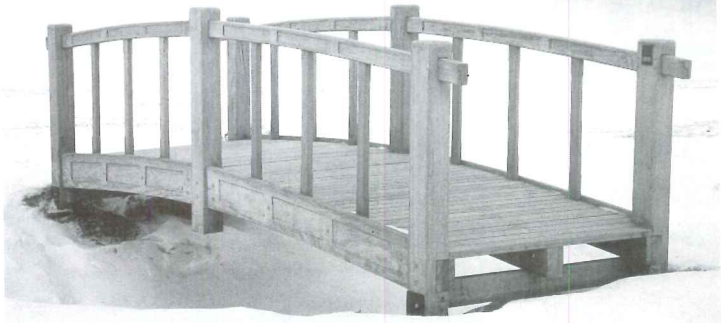
Bigfoot Systems is an easy-to-use footing form made of sturdy, lightweight, post-consumer, recycled, high-density polyethylene plastic. Construction tube and footing form are poured as one unit, eliminating the hassle of building individual wooden boxes and effectively shedding water away from the footing. 800/934-0393. F&S Manufacturing, Nova Scotia, Canada. **CIRCLE 271**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

For *Elegance* and **Durability**

CONTINENTAL® HARDWOOD BRIDGES



Naturally Durable Hardwood Bridges.
Maintenance friendly and requires no preservative treating.
Customized to compliment your architectural statement.

1-800-328-2047

CONTINENTAL™ BRIDGE

www.continentalbridge.com E-mail: conbridg@continentalbridge.com

CIRCLE 326 ON INQUIRY CARD

Attention AIA Convention Attendees:

You are cordially invited to an **Open House and Tour** of the AIA National Convention Legacy Project

The Architecture and Design Charter High School of Philadelphia
Saturday, May 6, 2000
10:00 am until 2:00 pm
105 South 7th St.
(entrance on Sansom St.)
Philadelphia, PA

Be sure to visit the exhibit in the Reading Terminal Train Shed.

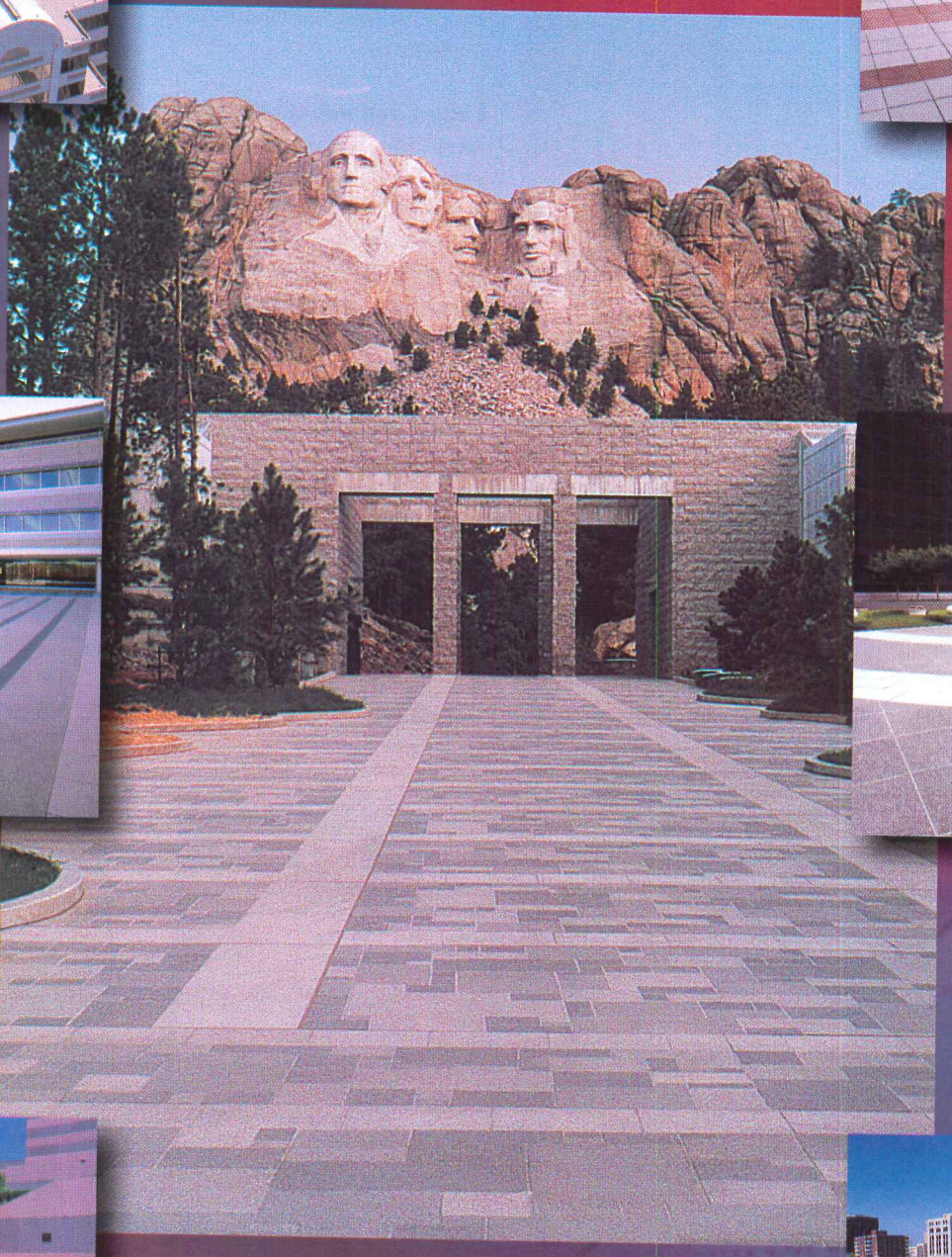
For more information on how you can support the Charter High School, please contact Pat Schwartz at AIA Philadelphia, 215/569-3186.

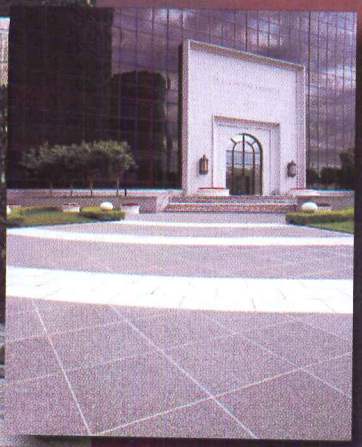
AIA PHILADELPHIA

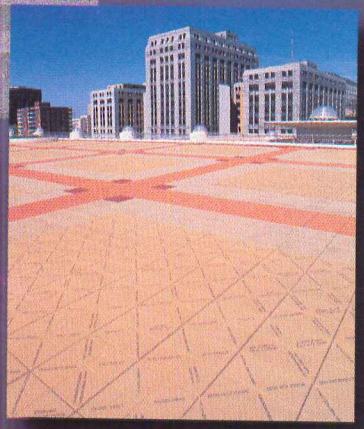
adchsp

WAUSAU TILE

THE SINGLE SOURCE FOR PRECAST CONCRETE PAVERS, TERRAZZO TILE & CUSTOM PRODUCTS







WAUSAU TILE

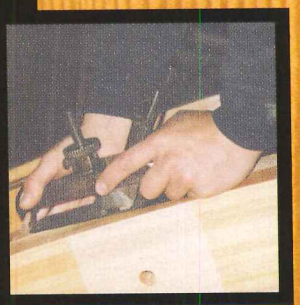
P.O. Box 1520
Wausau, WI 54402-1520
800-388-8728
Fax 715-359-7456
www.wausautile.com

CIRCLE 327 ON INQUIRY CARD

Modern Masters of Architectural Timbers

The G.R. Plume Company sets the standard for integrating the beauty of natural wood into today's architecture. Our masterful architectural timbers grace distinctive homes and businesses around the world. We provide beautiful and ingenious solutions, insightful collaborations, and a thorough understanding of wood and its applications. Our twenty years of creative and technical woodworking expertise can help you realize your architectural vision. For more information,

call (360) 384-2800.



THE G.R. PLUME COMPANY
ARCHITECTURAL TIMBER DIVISION

CIRCLE 328 ON INQUIRY CARD

Product Literature

Artist directory

GUILD.com has published the 15th annual *Architect's Sourcebook*. Focused on architectural arts and sculpture, this directory helps architects find the right professional artist for a commission project. 877/34-GUILD. The Guild, Madison, Wis. **CIRCLE 272**

Ceiling and wall product guide

Armstrong's new catalogue features ceiling system and acoustical wall performance criteria, product information, and design considerations. 888/CEILINGS. Armstrong World Industries Inc. Lancaster, Pa. **CIRCLE 273**

Exterior color design software

Norandex Building Products offers two interactive design software packages that allow builders and remodelers to show customers the different exterior looks possible by using Norandex vinyl siding and accessories. 800/528-0942. Norandex Inc., Macedonia, Ohio. **CIRCLE 274**

Commercial insulation catalogue

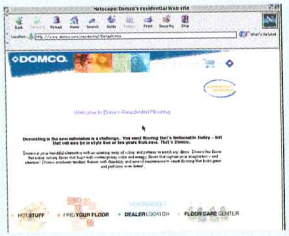
CertainTeed is offering a 50-page, four-color brochure featuring its new commercial insulation product line, CertaPro. The brochure also offers guide specifications for commercial building insulation as well as a glossary of thermal, acoustical, and pre-engineered metal building terms. 800/723-4866. CertainTeed Corporation, Valley Forge, Pa. **CIRCLE 275**

Roofing systems catalogue

The 2000 Modified Bitumen Roofing Systems catalogue describes the complete line of Siplast's engineered roofing systems in detail, including Paratread, the SBS-modified bitumen walkpad. 800/922-8800. Siplast, Irving, Tex. **CIRCLE 276**

NEW SITES FOR CYBERSURFING

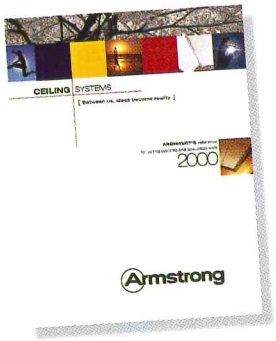
New residential flooring section on Domco's site **www.domco.com**

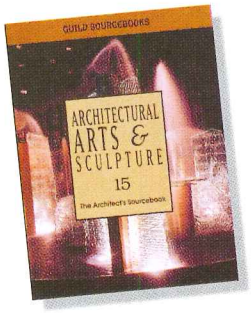


Thomas Register will distribute its CADBlocks content through **www.buzz.com**

Edison Price Lighting has joined this marketplace for the commercial construction industry **www.c-z.com**

Outdoor commercial furnishings site includes CAD details and CSI specifications **www.landscapeforms.com**





For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

IT COULD BE WORSE.

YOU COULD BE HAVING OUR

ANNUAL CERTIFICATION EXAM.

Compared to our AISC–MB certification exam, your annual checkup is no sweat.

Each year, every member is required to pass a thorough engineering and manufacturing audit that combines a written submission and on-site inspections by an independent consulting engineer.

How thorough is it? The auditors scrutinize order entry, purchasing, fabrication, and design and detail documents randomly selected from a list of 200 projects over the past six months. In addition, they probe the manufacturer's internal workings from receiving to welding to shipping.

These rigorous standards drive the quality, long-term integrity and design flexibility you demand in your metal building.

For your free AISC–MB certification brochure and more information on metal building systems, call or visit our web site today.

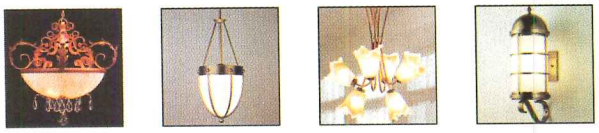
So, while this guy can be glad he doesn't have to sweat out our annual AISC–MB exam, you can be very glad your metal building systems manufacturer does.

MBMA
METAL BUILDING MANUFACTURERS ASSOCIATION

(216) 241-7333

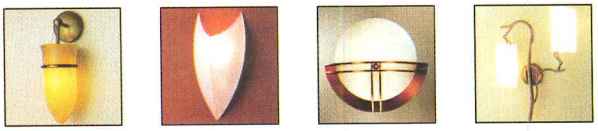
www.mbma.com

CIRCLE 329 ON INQUIRY CARD



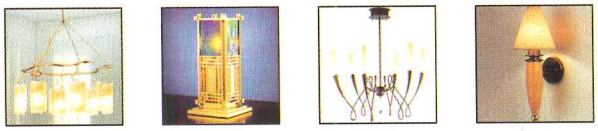
7000
Products

Choose from categories which include Commercial, Residential, Theatrical, Landscape, Photographic, Bulbs, Parts and Accessories.



Project Management

- *Catalog Wizard* will design a customized catalog to e-mail to your clients to make their selections. The original catalog can also be saved for future use for other projects.
- *Project Builder* lets you create a bill of materials to e-mail to clients.
- *Resources* allow access to a calendar of events, industry books, and other trade specific information.



Value

Trade professionals save time and money by shopping at LightingUniverse.com.

Selection • Business Tools • Value

LightingUniverse.com
"The Professional's Lighting Store"

888.404.2744 • www.LightingUniverse.com • Rep Territories Available

CIRCLE 330 ON INQUIRY CARD

Product Literature

Post-frame construction guide

A new edition of the *Post-Frame Construction Guide* has been jointly published by the Southern Pine Council, the Engineered Wood Association, and the National Frame Builders Association. The guide highlights the advantages of Southern Pine post-frame construction used in applications such as riding arenas, churches, and retail stores. Additional information is provided on fire performance, sprinklers, sound transmission, and insurance considerations. 504/443-4464. Southern Pine Council, Kenner, La. **CIRCLE 277**

A guide to glulam

A new guide from Willamette offers architects a comprehensive reference for specifying, designing with, and installing Willamette classic glulam. The 60-page guide offers product descriptions, design stress and property tables, and a glulam span guide. 888/650-6332. Willamette Industries, Inc., Portland, Ore. **CIRCLE 278**

Residential lighting CD

A new CD from Progress Lighting allows users to try special residential lighting applications on-screen and to view technical information and photographs of products. 864/599-6000. Progress Lighting, Spartanburg, S.C. **CIRCLE 279**

Historical window designs

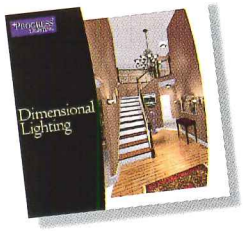
EFCO's Replication Windows brochure features color photos of historical replication projects. The brochure diagrams how the custom-replication windows, in conjunction with EFCO Trim-All interior trim and panning system, recreate historical window designs. 800/221-4169. EFCO Corp., Monett, Mo. **CIRCLE 280**

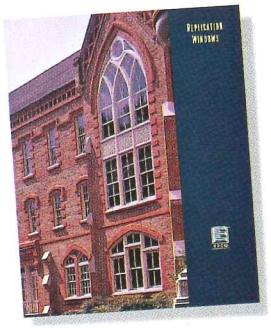
Pool lighting guide

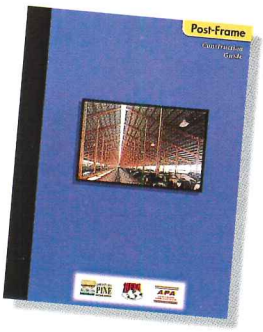
Fiberstars' 2000 product book is a comprehensive guide to fiber-optic lighting for swimming pools and spas. The book contains fiber-optic sizing and placement guides, frequently asked questions about fiber optics, specification sheets, detailed parts diagrams, and a products listing. 510/490-0719. Fiberstars Inc., Fremont, Calif. **CIRCLE 281**

Ballast brochure

MagneTek Lighting Products has introduced two new brochures highlighting its comprehensive lines of compact fluorescent and its Multi-5 HID (high-intensity discharge) ballasts. Both brochures provide specification information, including catalogue numbers and appropriate lamp applications. 800/BALLAST. MagneTek, Nashville, Tenn. **CIRCLE 282**

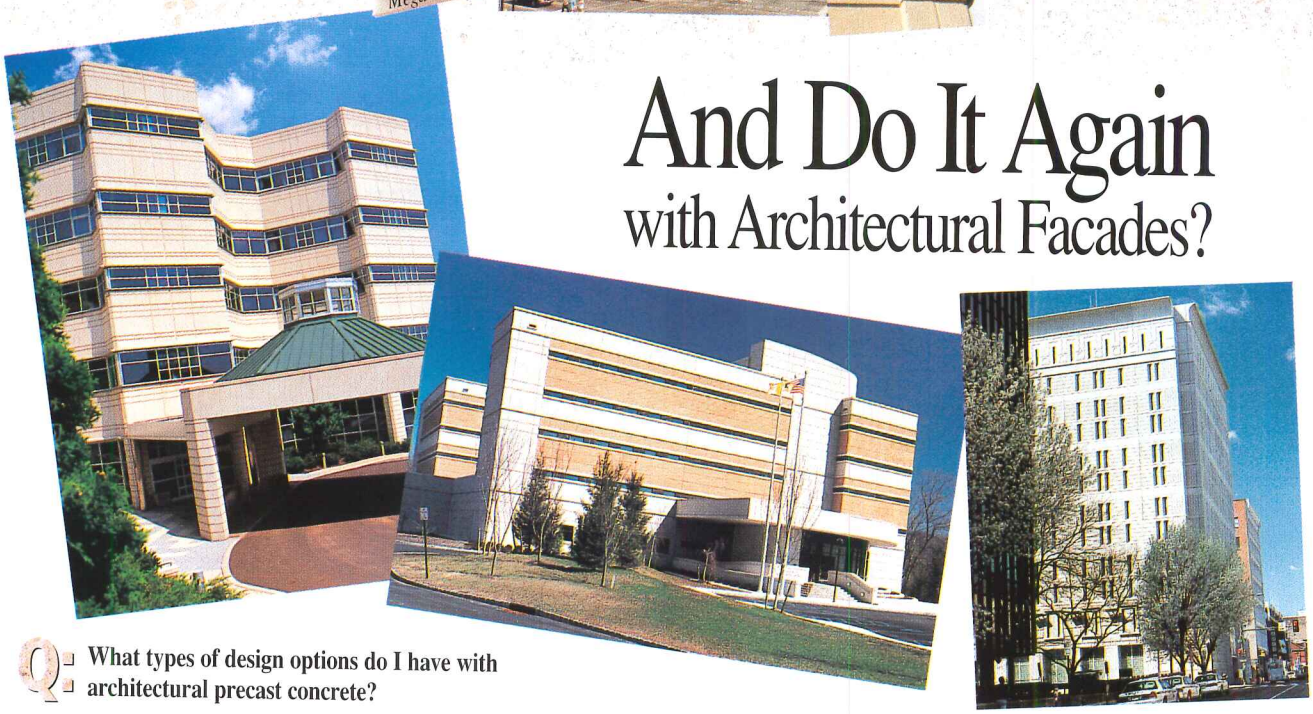






For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

How Does the Nation's Leading Producer of Parking Garages Do It?



And Do It Again with Architectural Facades?

Q: What types of design options do I have with architectural precast concrete?

A: When casting architectural precast concrete, an array of colors with various pigments, aggregates, and sand can be used as well as a wide range of textures including smooth, ribbed, sandblasted, and exposed aggregate finishes. Precast panels can also be faced with materials such as tile, stone, or brick.

Q: Why should I choose architectural precast concrete over alternative materials such as glass, brick, masonry, etc. for my next building project?

A: With architectural precast concrete you get design flexibility for dramatic facades, curvatures, reveals and other unique architectural details not available with other materials.

Q: What are the costs associated with architectural precast concrete versus other building materials?

A: The life-cycle costs combined with low maintenance, speed of construction and durability will save money over the life of the building. Owners will be able to get into their new building sooner when architectural precast concrete is used.

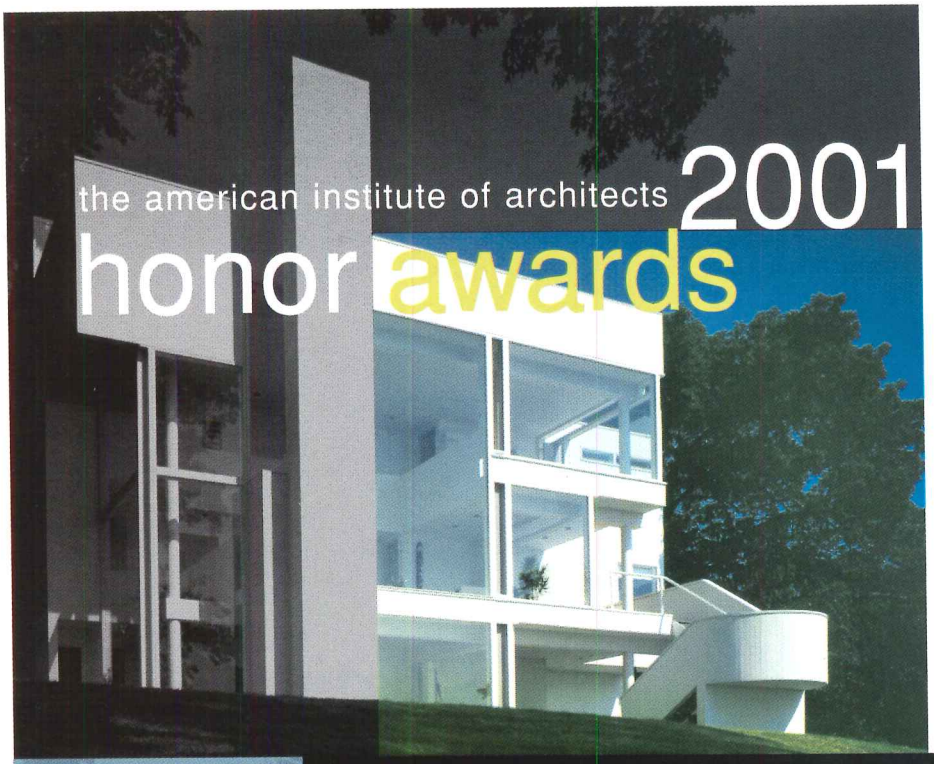
www.highconcrete.com
Everything you need to know about precast concrete.

HIGH CONCRETE STRUCTURES, INC.
A Division of High Industries, Inc.

We Set the Highest Standards.

*Call **1-800-PRECAST** or visit our web site at **www.highconcrete.com** to receive pictorial guides and design aides for your next project.*

CIRCLE 331 ON INQUIRY CARD



the american institute of architects 2001
honor awards

ARCHITECTURE
Entry deadline: August 4, 2000
Submission deadline: September 1, 2000

INTERIOR ARCHITECTURE
Entry deadline: August 18, 2000
Submission deadline: September 15, 2000

REGIONAL & URBAN DESIGN
Entry deadline: September 8, 2000
Submission deadline: October 6, 2000

TWENTY-FIVE YEAR AWARD
Submission deadline: September 1, 2000

Call 202.626.7586 for detailed entry information, or go to www.aiaonline.com.

CELEBRATING THE BEST IN CONTEMPORARY ARCHITECTURE

the twenty-five year award

architecture
interiors
urban design

AIA

The Smith House: Architect–Richard Meier & Partners; Owner–Carole Littlefield; Photographer–Ezra Stoller and Scott Frances/Esto

The National Building Museum is pleased to announce the 2000 Honor Award

Setting a Standard for Design and Innovation:

A Salute to Gerald D. Hines

June 20, 2000 • National Building Museum
401 F Street, NW • Washington, DC 20001

The National Building Museum in Washington, D.C. will present its 2000 Honor Award to Gerald D. Hines, one of America's premier developers. Mr. Hines will be recognized for his long-standing commitment to the highest standards of design, construction, and building management. The award will be presented at an elegant dinner in the Museum's spectacular Great Hall. Leaders from business, real estate, architecture, engineering, and construction will be in attendance.

For information about tickets or sponsorship opportunities please contact Lisanna Novey (202) 272-2448, extension 3454, e-mail lnovey@nbm.org or visit our website at www.nbm.org.

NATIONAL BUILDING MUSEUM

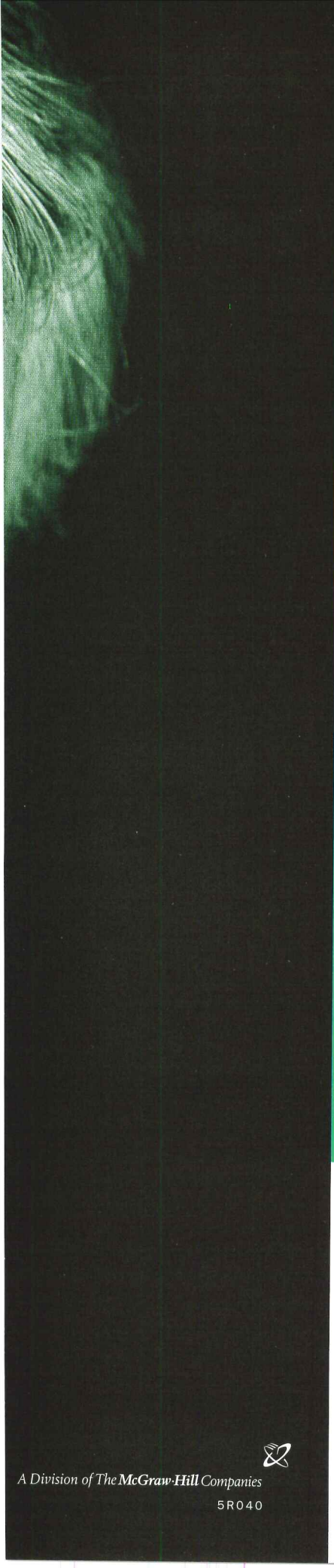
Chairs and Co-Chairs include:
Harold L. Adams
James A. Baker III
David M. Childs
Peter C. Forster
Frank O. Gehry
M. Arthur Gensler, Jr.
Debra Lehman-Smith
Cesar Pelli
Jerry I. Speyer
Robert A. M. Stern

Other Event Leadership includes:

Benefactors
Baker Botts, LLP
Goldman, Sachs & Co.
TishmanSpeyer Properties, Inc.
Turner Construction Company

Patrons
Cigna Investment Management
Cornerstone Properties Inc.
Kohn Pedersen Fox Associates, PC
McGraw-Hill Construction Information Group
Pickard Chilton
RTKL Associates Inc.
Skidmore, Owings & Merrill, LLP
UNICCO Service Company

Sponsors
Bechtel Group, Inc.
The Clark Construction Group, Inc.
Charles E. Smith Management, Inc.
The Truland Foundation
Urban Land Institute
The Whiting-Turner Contracting Company



Leading the Construction Industry into a New Century.

Sweet's is your connection to the construction marketplace. 24 hours a day. 365 days a year. From the comprehensive information of Sweet's Catalog Files to the leading edge technology of sweets.com, Sweet's provides the tools you need to help you work faster, smarter and more profitably.

Register Now at **www.sweets.com** and Make Sweet's Work for You.

Gain access to some of the most powerful research and productivity tools available on the Internet, including:

Comprehensive Product Information: With over 25,000 products from over 1,600 manufacturers, sweets.com gives you a searchable edition of Sweet's Catalog Files, online.

Construction News Updates: Up-to-the-minute construction news sent via email keeps you informed and one step ahead of what's happening in today's construction marketplace.

Sweet's BuyLine® online: Access local manufacturer's rep data and have your request for information or a proposal e-mailed directly—just click the BuyLine link and get contact information in an instant.

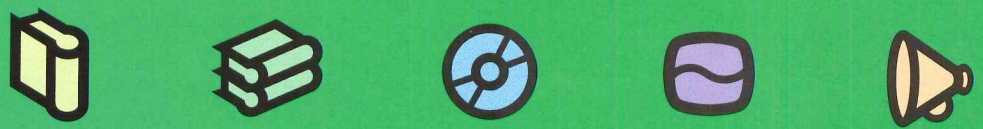
Downloadable CAD Files: Our database of over 13,000 CAD details lets you import specification information and schematics directly into your files.

Product News: The latest products and industry trends, updated and accessible, in an instant.

Any Format. Any Time You Need It.

Sweet's Is the Shortest Distance Between You and the Construction Marketplace.

Register Now at www.sweets.com.



Sweet's

The Construction Marketplace℠

The Most Manufacturers.
The Most Buyers.
The Most Opportunity.

CIRCLE 335 ON INQUIRY CARD

www.sweets.com 1.800.422.2258

A Division of The McGraw-Hill Companies

5R040

When it comes to new or retrofit roofing,

AMERICAN'S

20-Year Replacement Warranty...

PLATINUM PLUS

Is In A Class By Itself

American's new **Platinum Plus** all metal standing seam weathertightness roofing warranty includes both labor and materials for 20 years.

Better yet, it's backed by a third-party independent inspection and quality certification.

American's Standing Seam Roofs can be installed year round without interrupting classes below.

Properly insulated, these systems can also lower your heating and cooling costs by up to 30% or more.

Using recyclable materials, these roofs can reduce maintenance costs over a time period measured in decades not years.

CERTIFIED CATEGORY MB

MBMA METAL BUILDING MANUFACTURERS ASSOCIATION

AMERICAN BUILDINGS COMPANY
ROOFING & ARCHITECTURAL PRODUCTS
1150 State Docks Road Eufaula, AL 36027-3344
www.americanbuildings.com
Call Toll Free: 888-307-4338

energy EPA DOE

NATIONAL ROOFING CONTRACTORS ASSOCIATION MEMBER

CIRCLE 336 ON INQUIRY CARD

Dates & Events

Calendar

A Way of Life: Apprenticeship with Frank Lloyd Wright, 1948-49
Washington, D.C.
May 4–June 23
Fifty-five color slides taken by former Wright apprentice Lois Davidson Gottlieb are teamed with her commentary on the experience and with first-hand observations for this display. The Octagon. 202/638-3105.

James Welling: Photographs 1974-1999
Columbus, Ohio
May 6–August 13
Prominent in this expo of 129 images by Welling are prints from the artist's small-scale *L.A. Architecture* series (structures in Santa Monica and Venice) and detail photographs of massive buildings by H. H. Richardson. Wexner Center for the Arts, The Ohio State University. 614/292-0330.

Land, Sea, and Air: Digital Maps Survey
New York City
Through May 12
Curated by Michael Silver and Marc Tsurumaki, the exhibition accompanies programs on the aesthetic, cultural, and political effects of new forms of mapping. Parsons School of Design. 212/229-8955.

Making Sense of Place
Portland, Ore.
May 17–20
The Society for Environmental Graphic Design's annual three-day conference explores the roles played by environmental graphic designers of wayfinding, placemaking, and experience-enhanced environments. 202/638-5555.

Public Architecture Exhibitions
Philadelphia
May 4–6
Throughout the city, 12 individual exhibitions coincide with the AIA National convention, themed *New Century, New Vision: Livable Communities for America's Future*. AIA Philadelphia. 215/569-3186.

See the U.S.A.: Automobile Travel and the American Landscape
Washington, D.C.
Through May 7
This exhibition celebrates roadside architecture and the culture of the automobile, featuring photos by John Margolies, author of 10 books on the subject. National Building Museum. 202/272-2448.

For Art's Sake: Recent Developments in Museum Design
Fort Worth
May 13
At this all-day symposium, talks will be presented by architect Mario Bellini, critic Martin Filler, museum director Kurt W. Forster, and historian Charles Jencks. Kimbell Art Museum. 817/332-8451.

Ten Shades of Green
New York City
Through May 13
Critic Peter Buchanan has curated this major traveling exhibition of sustainable design work by Norman Foster, Thomas Herzog, Michael Hopkins, and Francoise Jourda. The Architectural League of New York. 212/753-9173.

Spirited Away: A Design Odyssey
New York City
May 17
This one-night-only benefit exhibition and reception boasts techno-interior vignettes by architects Henry Stolzman, Arthur Gensler, and Laurinda Spear—among others. Steelcase Worklife New York. 800/392-8654.

Finance for Designers
Boston
May 18
This class explores core concepts and principals, record-keeping and documentation, and key actions that contribute to profitability. Young Designers Professional Development Institute. 617/951-0845.

International Contemporary Furniture Fair
New York City
May 20–23
Sponsored collectively by *Metropolis*, *Abitare*, *Interni*, *Intramuros*, and *Wallpaper* magazines, this large American exposition centers on high-design furniture and interiors product introductions. Jacob K. Javits Center. 914/421-3200.

Custom Double Hung Window Designed by Kurt Dubbe A.I.A. Custom Manufactured by... **BERGERSON**

It isn't that we mill our Export Grade Clear Western Red Cedar to a four thousandth of an inch tolerance that defines our uniqueness. It's that every window and door is custom manufactured to your specifications.

When ordinary run of the mill just won't do, and cost is a consideration but not an issue . . .

CEDAR WINDOWS & DOORS
By BERGERSON
P.O. Box 184, Hammond, OR 97121
Tel. 503/861-3534 • Fax 503/861-0316
E-mail bcw@pacifier.com
Visit our web page www. bergersonwindow.com
Call 1-800-240-4365
For FREE BROUCHUE and more information...We're ready when you are.
CIRCLE 365 ON INQUIRY CARD

Dates & Events

Brigitte Shim
Shim-Sutcliffe Architects
Los Angeles
May 22
The award-winning Toronto architect lectures in Perloff hall. University of California at Los Angeles. 310/825-7857, x58.

Building Community-Based Commerce
New York City
May 24
At this evening forum, panelists Barry Benepe and David Sweeney examine small-scale urban economic development as the alternative to further globalization. CUNY Graduate Center. 212/817-7292.

Giacometti
Barcelona
Through May 28
The sculptor's paintings and a pivotal sculpture, *L'objet invisible* (1934), join his famous stick figures on display. Fundació Caixa Catalunya. 93/484-5900.

Ralph Rapson: Sixty Years of Modern Design
Washington, D.C.
Through May 28
The first comprehensive exhibit of work by this Midwestern modernist, whose achievements encompass architecture, furniture design, and urban planning. The Octagon. 202/638-3105.

Oswald Haerdtl: Architect and Designer 1899-1959
Vienna
31 May–July 14
This exhibition of Haerdtl's long career in Austria spans from early modernism through the World War II period and into the fifties. Architecture Centre Vienna (Architektur Zentrum Wien). 43-1/522-3115.

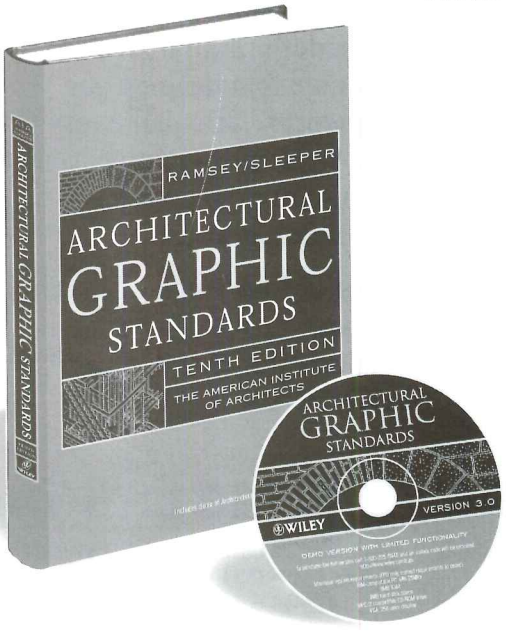
Anything Conference
New York City
June 1–3
This last annual conference of the 10-year A.N.Y. series features speakers Elizabeth Diller, Frank Gehry, Hani Rashid, Arata Isozaki, Saskia Sassen, Bruce Mau, Zaha Hadid, Jean Nouvel, Ben van Berkel, and Rem Koolhaas among others. Solomon R. Guggenheim Museum. 212/423-3587.

Chicago Architects
Chicago
June 3–March 2001
Selected architectural drawings on display from the permanent collection are linked with the Institute's oral histories of 50 Chicago designers, including Mies van der Rohe, Harry Weese, Paul Schweikher, and Myron Goldsmith. The Art Institute of Chicago. 312/443-3600.

Harnessing Technology and Utilizing Intranet/Internet Based Communications Solutions to Manage Construction Projects and Claims
Atlantic City, N.J.
June 5–6
This day-and-a-half seminar is presented by Construction Education Management Corporation. Hilton Casino Resort. 800/257-8677.

Retail Lighting Conference
Fort Worth
June 7–9
This gathering, titled "Illuminate 2000," promises the latest techniques and hands-on learning for lighting designers, specifiers, and project managers. Texas Christian University. 800/828-7134.

ANNOUNCING THE NEW, EXPANDED AND UPDATED ARCHITECTURAL GRAPHIC STANDARDS, TENTH EDITION AND CD-ROM VERSION 3.0.



Tool for Design

Finally, it's here: the new ***Architectural Graphic Standards, Tenth Edition,*** **with CD-ROM Version 3.0.**

With more than half of its 1,088 pages updated or revised, the *Tenth Edition* is now a better tool than ever, designed to carry architects well into the next century. Updated and new material covers new security designs, seven new building systems, new Green Building and ADA guidelines, MasterFormat™* upgrade to the latest 1995 edition, new paints and coatings, new lighting designs—and much more.

CD-ROM Version 3.0 designed for unparalleled productivity. This powerful electronic companion tool contains every word, every drawing, every reference and every spec found in the book, and much more. With its five powerful search engines, CAD-format drawings, and Web links for lightning-quick access to industry information on the Internet, the CD-ROM represents the fastest, most comprehensive collection of productivity tools available. Each book comes with a fully functional demo CD-ROM; ordering the book and full CD-ROM package saves you $75 off the regular price!

Order now and save $75. For a limited time†, you can save $75 off the regular price when you order the book and fully functional CD-ROM package for $600. Book available separately at $225, $25 off regular price. CD-ROM also available separately at $425.

To order, call toll free 1-800-225-5945. In Canada, please call 1-800-567-4797. Call Monday–Friday, 8:30 a.m. to 5:30 p.m., ET

For more details, visit our Web site: www.wiley.com/ags

AIA

*MasterFormat™ is a joint publication of the Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC) and is used with permission.
†Special Offer prices shown are valid through April 30, 2000. *Ramsey/Sleeper Architectural Graphic Standards, Tenth Edition.* Prepared by The American Institute of Architects. Edited by John Ray Hoke, Jr., FAIA. *Architectural Graphic Standards* CD-ROM Version 3.0 developed by Jordani Multimedia and published by John Wiley & Sons, Inc. ©2000 John Wiley & Sons.

WILEY Publishers Since 1807

CIRCLE 338 ON INQUIRY CARD

OLGA DE AMARAL

UMBRA 15 1999
fiber, gold leaf, acrylic
77" x 59"

Please inquire about the availability of other works and special commissions

Background: Santa Fe Art Institute
Architect: Ricardo Legorreta

Bellas Artes

653 Canyon Road
Santa Fe, NM 87501
505-983-2745

CIRCLE 339 ON INQUIRY CARD

Dates & Events

Congress of the Future of the Architect
Barcelona
June 7–11
An international conference explores three areas: the impact of the computer in relation to the brain and space, land policy and the city of tomorrow, and "analysis of the cross-cultural and interdisciplinary spatial dimension of our social environment." Universitat Politècnica de Catalunya. 93-401-63-88.

Reinventing Space: Beyond the Boundaries of the Twentieth Century
Jerusalem, Israel
June 11–22
The fifth (since 1992) Jerusalem Seminar in Architecture brings together international architectural experts Wolf Prix, Robert A.M. Stern, Bernard Tschumi, Kenneth Yeang, Cecil Balmond, Thom Mayne, Enrique Norten, Carmi Pinos, and Bernard Tschumi—with a response by theorist Charles Jencks. Jerusalem International Convention Center. 972-3-512-0000.

NeoCon World's Trade Fair 2000
Chicago
June 12–14
Some 800,000 square feet of space is dedicated to commercial furnishings, services, forums, and networking opportunities in this annual must-see stop for design and construction professionals. Merchandise Mart. 800/677-6278.

50th International Design Conference: The Spirit of Design
Aspen
June 14–17
To investigate meanings in architecture, this three-day event explores broad themes: the inner spirit; beauty, aesthetics, and perception; and meaning (or the "chi" factor). Speakers will address a range of topics within these themes. 970/925-2257.

Structure and Surface: Contemporary Japanese Textiles
San Francisco
Through June 20
Japanese masters combine traditional techniques with modern industrial methods, in woven metals and other materials suitable for interior design and clothing. San Francisco Museum of Modern Art. 415/357-4000.

Buildings/NY Show
New York City
June 20–21
The 20th anniversary of this annual construction industry event. Jacob Javits Convention Center. To register call 888/334-8702, or go to www.buildingsny.com.

Construction Specifiers Institute 2000 Convention and Exhibition
Atlanta, Ga.
June 22–25
Educational seminars and demonstrations introduce nonresidential construction products, materials, and services offered by some 600 exhibitors. Georgia World Congress Center-East. 800/689-2900.

Bilbao: The Transformation of a City
Chicago
Through July 16
Models, plans, photographs, and drawings illuminate a dozen architectural projects—Frank Gehry's Guggenheim, Norman Foster's subway, Santiago Calatrava's observation tower/airport—that have recently energized the ancient city in Northern Spain. The Art Institute of Chicago. 312/443-3600.

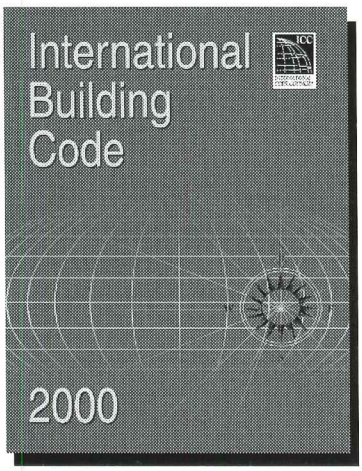
Piet Mondrian: The Transatlantic Paintings
Cambridge, Mass.
Through July 22, 2001
Some 15 late paintings by the master abstrac-

Get "Up to Code" Fast
with the QuickStart Solution

Only from ICBO

Building departments across the United States are buying and adopting the new 2000 *International Building Code*.

That's why ICBO created the QuickStart solution to help you get up to speed on the new code requirements fast. When you purchase an *International Building Code*® (IBC) from ICBO, we give you a complimentary copy of *IBC Code Highlights—A QuickStart Guide to the Code* and a set of Turbo Tabs. The *QuickStart Guide* will streamline your understanding of the IBC. The Turbo Tabs mark key sections of the code for easy access to the section you need. This all means faster, easier, more confident application of the code provisions in your design, plan review and inspections. Bottom line, these products will save you money and time.



QuickStart Solution (2000 IBC, IBC Code Highlights—A QuickStart Guide to the Code, Turbo Tabs)

Soft Cover Item No. 100S2K $77.80
(ICBO Member Discounts Available)
Loose Leaf Item No. 100L2K $87.80

Order Today!
(800) 284-4406
www.icbo.org

More Exclusive Offers from ICBO

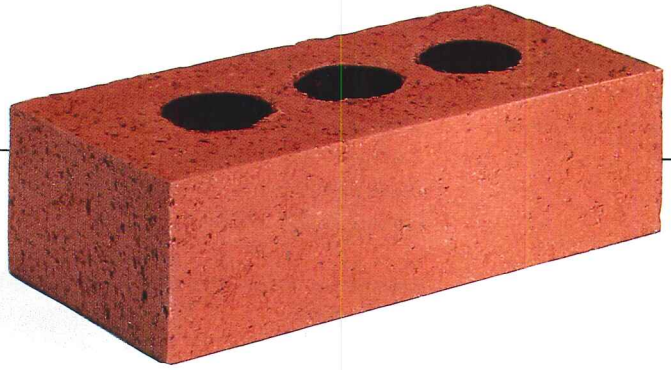
✓ 2000 IBC Exclusive Hard Cover Edition - Quantities are limited.
✓ ASTM Referenced Standards - Contains all ASTM Standards that are referenced by, but not included in, the 2000 IBC. Check out the ASTM/IBC Package.
Call or visit our web page for details and pricing.

More people buy code products from ICBO than from anywhere else in the world!

CIRCLE 340 ON INQUIRY CARD

Sixty second guide to Belden Brick:

COLORS



Belden Brick is made in over 116 colors that include 2 choices in black, 28 browns, 7 tans, 8 buffs, 3 creams, 18 grays, 16 pinks, 26 reds, and 8 whites.

In addition, it is made in 12 different textures, although not all our brick is made in the same range of textures.

Belden also offers a choice of extruded brick or molded brick (with the character of hand-made brick.) Each category includes a wide range of colors and textures providing more than adequate design latitude.

SIZES

Belden Brick is predominantly made in thirteen different sizes, representing the spectrum of Belden Brick colors and textures. Your design opportunities are broadened by the availability of virtually every Belden Brick color choice as pavers.

SHAPES

We've made hundreds of different shapes to provide special structure details, and a week seldom passes without our custom-making a new special shape to meet individual design requirements. If you need an "impossible" special shape to complement the brick structure you're planning, call Belden. We've seen the impossible become reality.

CIRCLE 341 ON INQUIRY CARD

BELDEN

THE BELDEN BRICK COMPANY

(330) 456-0031
An ISO 9002 Registered Company
Canton, Ohio 44701-0910

Dates & Events

tionist will accompany a display of two years' technical research into the artist's methods. Harvard University Busch-Reisinger Museum. 617/495-9400.

Future Focus 2000
Houston
July 22–26
A large annual gathering where futurists explore new business strategies and the challenge of succeeding in the networked modern global marketplace. Westin Galleria. 800/989-8274.

Shigeru Ban: A Paper Arch
New York City
Through August 1
Hot Japanese architect Ban will span the museum's sculpture garden with a high, 5,525-square-foot parasol fabricated from the thin waterproof paper tubes he terms "evolved wood." The Museum of Modern Art Sculpture Garden. 212/708-9750.

Gwathmey Siegel & Associates Exhibition
New York City
Through August 14
A display of 14 institutional projects is augmented by a 50-foot wall that surveys the entire practice of the firm. The Graduate Center, The City University of New York. 212/947-1240 x117.

Skyscrapers: The New Millennium
Chicago
August 19–January 15
Architectural models and drawings show some 50 high-rises currently under construction or recently completed. The Art Institute of Chicago. 312/443-3600.

Frank Lloyd Wright: Windows of the Darwin D. Martin House
Washington, D.C.
Through August 20
An exhibition of some 70 art-glass windows, doors, and skylights (both originals and reproductions) that Wright created for the house in Buffalo. National Building Museum. 202/272-2448.

Giorgio Morandi Etchings
New York City
Through August 22
Seen in this selection of 16 works from the period 1912-1945 is the Italian artist's subdued and architectonic formal style. The Museum of Modern Art. 212/708-9400.

Kahn's Modern Monuments
New York City
Through August 22
Drawings and models explore a pair of the mid-century architect Louis I. Kahn's favored themes: abstracted ancient monumentalism and massive layered enclosure. The Museum of Modern Art. 212/708-9400.

Modern Living 1
New York City
Through August 22
A hundred design objects, architectural drawings, and models explore the clarity, efficiency, and hygiene advocated by designers Gerrit Reitveld, Eileen Gray, and others who inspired the course for modernism. The Museum of Modern Art. 212/708-9400.

Design Diplomacy: Public Policy and the Practic of Architecture
Copenhagen
September 6–9
At this conference, a panel of architects offer an in-depth look at how architects can shape sound public policy as community leaders. Cosponsored by the McGraw-Hill Construction Information Group; a division of the McGraw-Hill Companies, New York. 888/273-8017.

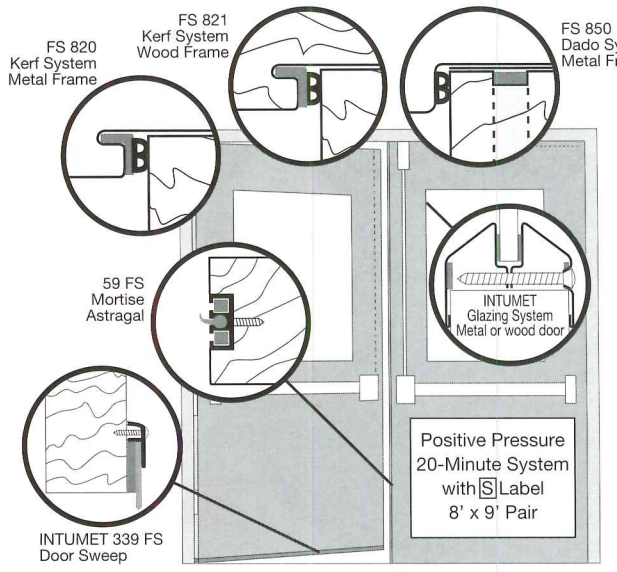
Positive-Pressure Compliance Doesn't Have to be a Gamble. Zero's Assembly Solutions Eliminate the Guesswork.

INTUMET 20-minute intumescent gasketing systems from ZERO are designed to provide the essentials for specifying Smoke & Draft Control doors under the UBC 7-2 1997 Fire Door Standard:

- ***Complete assemblies with fully tested features.*** We provide more than positive-pressure ratings and S-labels. ZERO's systems are engineered and tested for assembly labels. So the entire building team can be confident that door, frame, hardware and lite kits are listed and fully compatible.
- ***Design freedom.*** Frame options, hardware applications and door functions using ZERO's systems are vitually unlimited—for pairs as well as singles.
- ***Reliable, unobtrusive gasketing.*** Our gasketing systems are mortised or concealed to ensure proper function and durability in the installed opening. That safeguard gives essential assurance for inspecting code officials, while avoiding the adverse design impact of surface-applied solutions.

In addition to our 20-minute systems, Zero offers a variety of intumescent gaskets for other door assemblies and higher ratings. We also formulate and manufacture intumescent materials for other applications and needs.

Zero makes positive-pressure compliance a positive experience. Contact us for the names of manufacturers and distributors licensed to provide INTUMET gasketing solutions. Or call our Engineering Department for more information.



FRAME OPTIONS
- Standard Metal
- Kerf Metal
- Kerf Wood

DOOR OPTIONS
- Single
- Pairs in same direction
- Double Egress

HARDWARE OPTIONS
- Concealed Fire Exit
- Surface Fire Exit
- Manual/Automatic Flush Bolts
- Concealed Overhead Closer

LOCK OPTIONS
- Cylindrical
- Mortise
- Panic
- Vertical

ZERO INTERNATIONAL, INC.
415 Concord Avenue, Bronx, New York, 10455-4801
Voice: 1-800-635-5335 718-585-3230
Fax: 1-800-851-0000 718-292-2243
E-Mail: Zero@zerointernational.com
Website: http://www.zerointernational.com

CIRCLE 342 ON INQUIRY CARD

©2000 ZERO

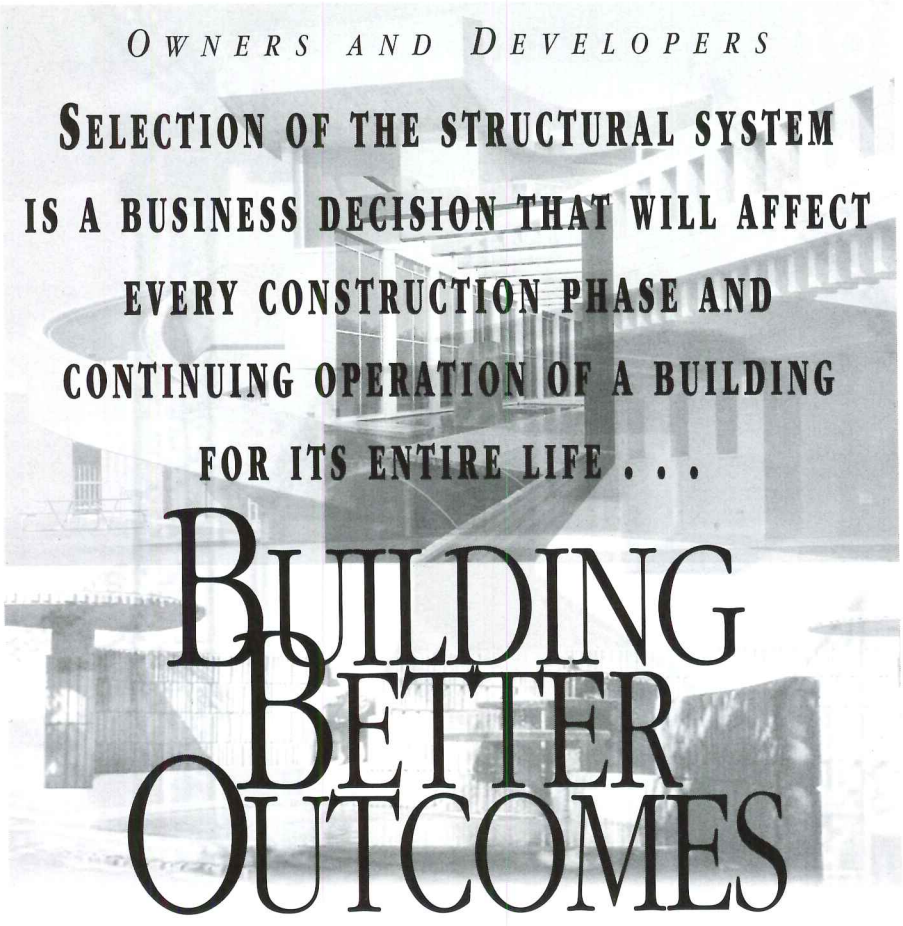
Determination

SmartAge.com℠

Few people would have the guts to walk away from a successful career as an Executive Chef, to start their own business selling recipes over the Internet. But then again, few people can make a Pineapple Upside Down Cake this good.

SmartAge.com℠ is the place for small business eCommerce on the Web, so you'll be attracting new customers in no time. We've already helped over a million small businesses make money on the Web. We can help yours, too. No matter what kind of small business you've cooked up. SmartAge.com. Smart commerce for small business.

©2000 SmartAge Corp. All rights reserved.



Owners and Developers

SELECTION OF THE STRUCTURAL SYSTEM IS A BUSINESS DECISION THAT WILL AFFECT EVERY CONSTRUCTION PHASE AND CONTINUING OPERATION OF A BUILDING FOR ITS ENTIRE LIFE . . .

BUILDING BETTER OUTCOMES

HOW THE STRUCTURAL SYSTEM CAN AFFECT A BUILDING PROJECT IN FIVE VITAL AREAS . . .

- Early occupancy
- Lower cost
- Market appeal
- High performance, low risk
- Building for the information age

You can improve structures in terms of profitability, market appeal and operations. Whether a structure is strictly an investment or your operations facility, you will find out how to focus on a better value and a smoother building process for everyone. Using a representative example, the selection of a structural system, this seminar offers the insight you need to manage and produce better outcomes for your building project.

Find out more about BUILDING BETTER OUTCOMES using reinforced concrete. Call or fax for information about the Building Better Outcome Seminar Series . . . it's FREE!

LEARNING UNITS AWARDED

CRSI

Concrete Reinforcing Steel Institute
933 N. Plum Grove Road
Schaumburg, Illinois 60173-4758
847/517-1200 Fax: 847/517-1206
Website: www.crsi.org

© 2000 CRSI

CIRCLE 343 ON INQUIRY CARD

Dates & Events

At the End of the Century: 100 Years of Architecture
Los Angeles
Through September 24
In 21 parts, this massive international exhibition organized by MOCA surveys countless architectural photographs, scale models, drawings, furnishings, clips, and artifacts. The Museum of Contemporary Art at the Geffen Contemporary. 213/621-2766.

Modern Living 2
New York City
Through September 26
Beginning after World War II, figures such as Eames, Nelson, Saarinen, and Aalto adapted industrial technology for the manufacture of rational, functional, and affordable domestic objects on display. The Museum of Modern Art. 212/708-9400.

Rail-Volution 2000: The Livable Metropolis, Prospects, and Profits
Denver
October 4–8
A definitive national conference on the building of livable communities comprises hands-on workshops, case studies of built examples, workshops, and moderated panel discussions. Adams Mark Hotel. 800/788-7077.

Preserving the Recent Past II
Philadelphia, Pa
October 11–13
Sponsored by the National Park Service, the General Services Administration, the Society of Architectural Historians, DOCOMOMO, and other preservation-minded groups, this weekend of events includes 70 speakers, an exposition, tours, and a curtain wall symposium. Loews Hotel (historic PSFS Building). 202/343-6001.

Competitions

Ermanno Piano Scholarship
Entry deadline: May 31
This $10,000 scholarship open to 1999 architecture graduates offers a six-month internship with the Renzo Piano Building Workshop, in Genoa, Italy. Mail qualifications and vitae, including samples of your work, to: Renzo Piano Workshop Foundation (Ref. 9th Ermanno Piano Scholarship), Via Rubens 29, 16158 Genoa, Italy. E-mail www.rpwf.org.

COOL AND CLEAR.

V-KOOL® Finally a clear window coating that blocks up to 60% of total heat.

Until recently, there were just two ways to protect interiors from solar heat gain. You could either block the heat with a reflective window coating, or you could try a less effective tint.

Now, there's a better alternative—V-KOOL (formerly known as Solis). V-KOOL uses a patented, high tech process to embed tiny particles of exotic metals in optically clear and durable polyester film. When applied to your windows, this high tech product screens out an amazing 90% of the infrared rays responsible for heat build-up while letting in over 70% of visible light. That is almost as much heat reduction as heavy silver window films and significantly more than conventional tints. And unlike those products, V-KOOL is virtually transparent, so you are never forced to sacrifice appearance, light or clarity. By comparison heavy silver window films allow just 15 to 20% of the light to enter.

Solis®

V-KOOL also blocks 99% of harmful ultraviolet rays that can damage skin and eyes and cause materials to fade. It is ideal for new construction, or it can be retrofitted right over existing glass for dramatically improved heat protection.

V-KOOL has been chosen one of the top 100 inventions of the past millennium by Popular Science *magazine.*

V-KOOL. So cool, so clear. For more information about how it can reduce solar heat while giving you a clear glass appearance, call 1-800-SUN-2-HOT.

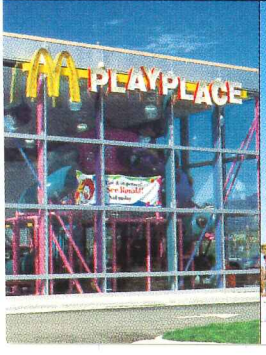
V-KOOL®

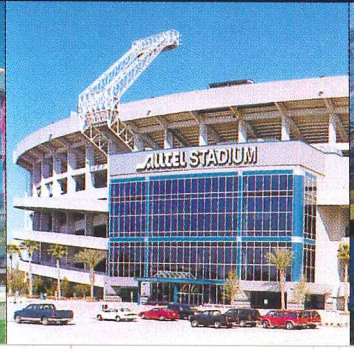
The Clear Sun Barrier for Your Building

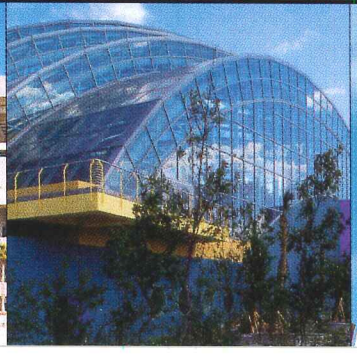
Conventional Window Tint

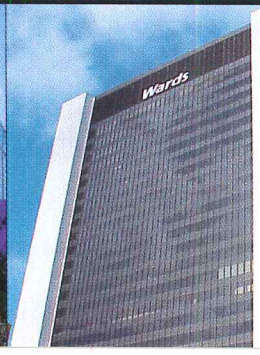
Conventional Reflective Film

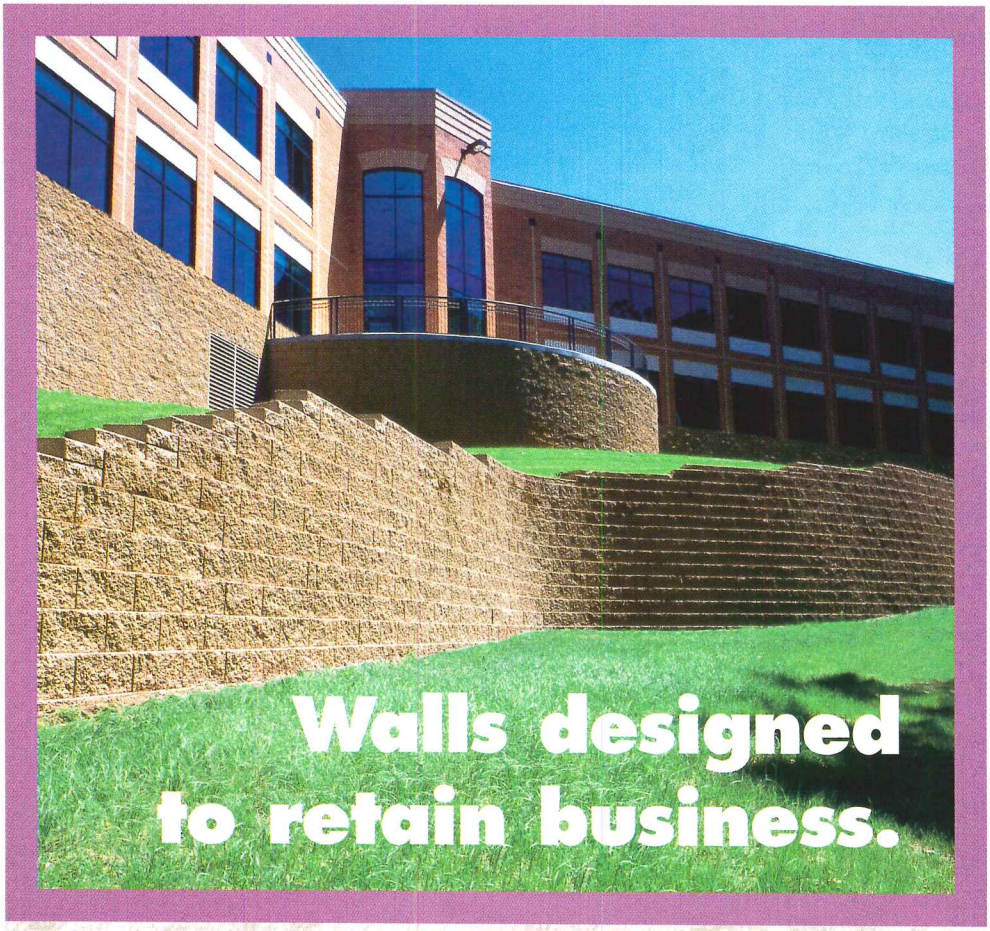
CIRCLE 344 ON INQUIRY CARD











From start to finish, you can count on Anchor Wall Systems for the critical support you need to make every retaining wall project a success. Our international network of producers is there to help you deliver the right product and the right solution, right on time. Behind the scenes, manufacturing and design specialists provide technical and engineering support to help you achieve outstanding results on every wall, every job, every time.

With Anchor, you get more than superior retaining wall systems. It's the solid support and service behind Anchor walls that makes you and your project stand out from the rest. Give your business the Anchor advantage. After all, you're not just building walls, you're building your reputation.

Call ***1-877-295-5415*** *for the Anchor Wall Systems Dealer near you.*

Visit our web site at www.anchorwall.com

ANCHOR WALL SYSTEMS™ ®

5959 Baker Road, Suite 390 Minnetonka, MN 55345-5996

CIRCLE 345 ON INQUIRY CARD

Dates & Events

Shakertown Photo Contest

Entry deadline: May 31

Architects, builders, and homeowners are invited to compete for pullover windbreakers by submitting photographs of residential, light-commercial, remodeling, and multi-family projects built with Shakertown cedar siding panels. 253/661-7333.

***Southern Living* Home Awards**

Entry deadline: May 31

Completed, furnished, and landscaped homes in the Southern states (unpublished) may be submitted in a binder, with descriptions, floor plans, and a minimum of three interior and three exterior photographs. Winners will be featured in *Southern Living* magazine; homeowners will each receive $1,000. For entry information, contact Erin Broussard or Lynn Nesmith 800/366-4712, x6358.

Monument to the Third Millennium

First-stage entry deadline: June 16

At a new park in San Juan, the Puerto Rican government will spend $50-75 million on a monument to the third millennium. Five winners will receive a $10,000 stipend to develop their designs; the second-stage winner receives $50,000 and the commission. At least one member of each design team must be a registered architect in either the U.S. or Puerto Rico. Go to www.monumentcompetition.com for entry information.

The Gifu World Design Competition: Jan Ken Pon (Rock Paper Scissors)

Entry deadline: June 30

The $10,000 first prize (also, prizes of $5,000, $2,500, and $500) will be awarded to the designer of a manufacturable object "usable by the hands or made to fit in the hands." Paper, wood, ceramic, and/or metal must be used. Call 212/966-3722.

Please submit information for the calendar to ingrid_whitehead@mcgraw-hill.com.

ARCHITECTURAL RECORD: (ISSN 0003-858X) May 2000. Vol. 188, No. 5. Title ® reg. in U.S. Patent Office, copyright © 2000 by The McGraw-Hill Companies. All rights reserved. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. 10020. Periodicals postage paid at New York, N.Y. RCSC and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 246565. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **POSTMASTER:** *Please send address changes to* ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 566, Hightstown, N.J. 08520. **SUBSCRIPTION:** Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8; for foreign $10. Subscriber Services: 888/867-6395(U.S. only); 609/426-5129 (outside the U.S.); fax: 609/426-7087.

Another DRAINAGE SOLUTION by Mortar Net™

Mortar Net Block prevents water damage in single wythe concrete masonry unit (CMU) walls by breaking up mortar thereby allowing proper drainage to the weep holes. For more information, please contact Mortar Net at 800-664-6638 or visit our Web site at www.mortarnet.com.

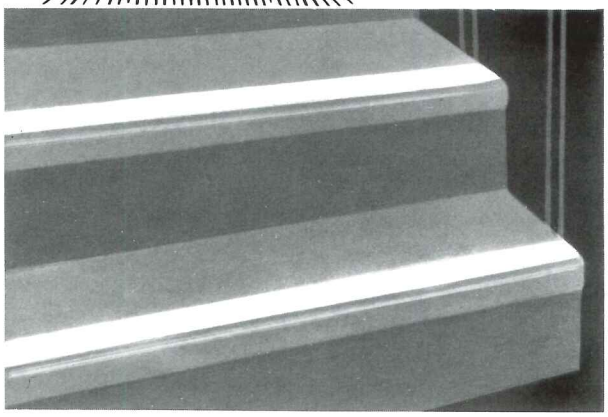
800-664-6638
www.mortarnet.com

Mortar Net™
The Difference Is In *The Cut.*

CIRCLE 346 ON INQUIRY CARD

MUSSON

GLO-STRIP™ Stair Treads



Photoluminescent (Glows in the dark) Glo-Strip™ is available in any Musson Visually Impaired stair tread. 2" wide white grit-strip is made of non-toxic, non-radioactive zinc-sulfide crystals that absorb, and store light. Luminescence can be seen after lights cease operating; helps lead the way to safety. Recharge by exposing to light. Meets ADA slip resistance and high contrast regulations.

For free brochure and samples, contact

MUSSON RUBBER CO.

P.O. Box 7038 • Akron, OH 44306 • Fax (330) 773-3254
800-321-2381 • E-mail info@mussonrubber.com • www.mussonrubber.com

CIRCLE 347 ON INQUIRY CARD

Private Residence
Tilton & Lewis Associates

Designers and Manufacturers of Residential and Commercial Lighting Since 1974

Neo-Classic Alabaster • Arts & Crafts • Mission
Prairie School • Traditional • Classic Exteriors
Vintage Prismatics

BRASS LIGHT GALLERY
MILWAUKEE

1-800-243-9595
www.brasslight.com

CIRCLE 348 ON INQUIRY CARD

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

ANSWERS TO: "WHAT? NO AIR CONDITIONING IN THIS BUILDING?"

Questions appear on page 290. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Natural cooling is boosted when air flow is maximized. This usually works best when the building is less than 50 feet deep and work desks are less than 25 feet from a window. A building oriented toward the paths of sun and wind might have a facade that uses balconies, windows, air intakes, and sunshades to modulate solar heat intake. Passive lighting lowers internal heat buildup, landscaping can provide shade, and a building's color can determine how much solar heat is absorbed.

2. Natural ventilation is more successful in moderate climates than in extremely hot or cold climates. Humidity requires more air flow to evaporate perspiration from the skin and make occupants feel cooler. For fluctuating climates, ventilation may be switched from natural to mechanical on a daily or seasonal basis, bringing in fresh air when it is cool and dry. Climates that are hot during the day and cool at night can use natural ventilation at night to expel the diurnal heat gain.

3. The drawbacks of natural ventilation are that it may bring in pollen and dirt from outdoors if filters are not used. Acoustics are also an issue—both in bringing in noise from outside and in increased sound transmission from openings provided for air flow. Designs for natural ventilation typically require such apertures. This openness may make it more difficult to pressurize corridors and prevent smoke migration in case of fire.

4. Buildings can be designed to incorporate natural cooling with mechanical ventilation in several ways: Operable windows can have restricted openness or seals for use when the air conditioning is on. Another alternative is openings at the top and base of an atrium that introduce cooler air by drawing warm air up and out. Yet another method is night flushing, in which high-mass surfaces store heat during the day and release it at night. This approach requires ceiling space to expose the underside of a concrete floor slab, for instance, so the wire-management and mechanical systems are moved to an underfloor access system.

5. The standards for allowable temperature and humidity ranges in various building types have been narrowly defined at around 70 degrees Fahrenheit. Though this range was developed for centrally controlled, air-conditioned buildings, it is often assumed that it should apply to naturally ventilated buildings as well. A separate standard for naturally ventilated buildings proposes a wider range of temperature and humidity conditions. With a building separated into zones, differing ranges might be determined by season and type of activities.

AIA/CES EDUCATION REPORTING FORM

(Use to report learning unit hours earned for ARCHITECTURAL RECORD only.)

Member information:

Last Name **First Name** **Middle Initial or Name**

AIA ID Number

Program/project title: Architectural Record (05.00)

☐ "What? No Air Conditioning in this Building?" [page 281]
☐ "Analyzing Fire Risks Building by Building" [page 293]
☐ "Using Solid Surfacing as Exterior Wall Cladding" [page 306]
Section sponsored by Aristech Acrylics

Completion date (M/D/Y): _____ / _____ / _____

AIA/CES Credit: Each article or sponsored section will earn you one AIA/CES LU hour of health, safety, and welfare credit.
Fill in: ____ total LU hours.

Material resources used:
Journal article or sponsored section: This article or sponsored section addresses issues concerning the health, safety, or welfare of the public.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**

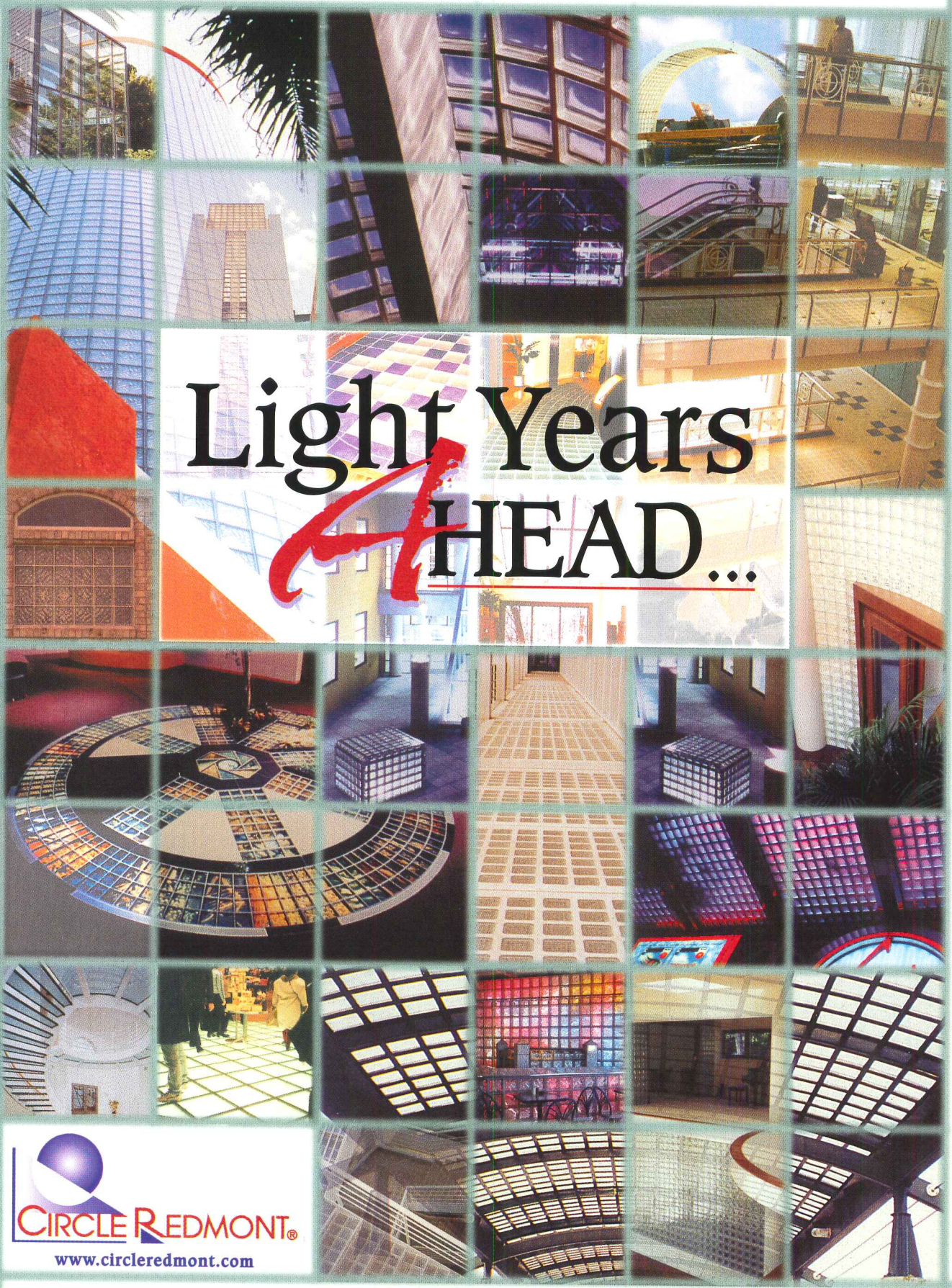
Send completed form to University of Oklahoma, Continuing Education, AIA/CES, Room B-4, 1700 Asp Avenue, Norman, OK 73072-6400; fax 405/325-6965. To respond by E-mail, visit www.architecturalrecord.com and click on Continuing Education. For more information call 800/605-8229.

PREFABRICATED Glass Panel Systems that *e x t e n d* the boundaries of *passive* solar LIGHTING

CIRCLE REDMONT'S *innovative product line includes:*

- SolarWhite™ Hollow Glass Block & Aluminum Panel System
- 71R™ Glass Paver & Precast Concrete Panel System
- 81R™ Glass Bullet & Cast Iron Panels for Historic Restoration
- 91R™ Glass Paver, Glass Plank & Steel Panel Systems
- Elite™ Prefabricated Glass Block Window & Wall Panels
- Outlook® & PSG2000 Custom Skylighting Systems™

Our variety of prefabricated structural grid frames incorporate a large assortment of glass types. These systems, standard or customized will enable virtually any type of application.



CIRCLE REDMONT®
www.circleredmont.com

(800) 358-3888

PH: 321-259-7374
FX: 321-259-7237

Leading Manufacturer of Structural Glass Panel Systems

CIRCLE 349 ON INQUIRY CARD

ANSWERS TO: "ANALYZING FIRE RISKS BUILDING BY BUILDING"

Questions appear on page 304. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

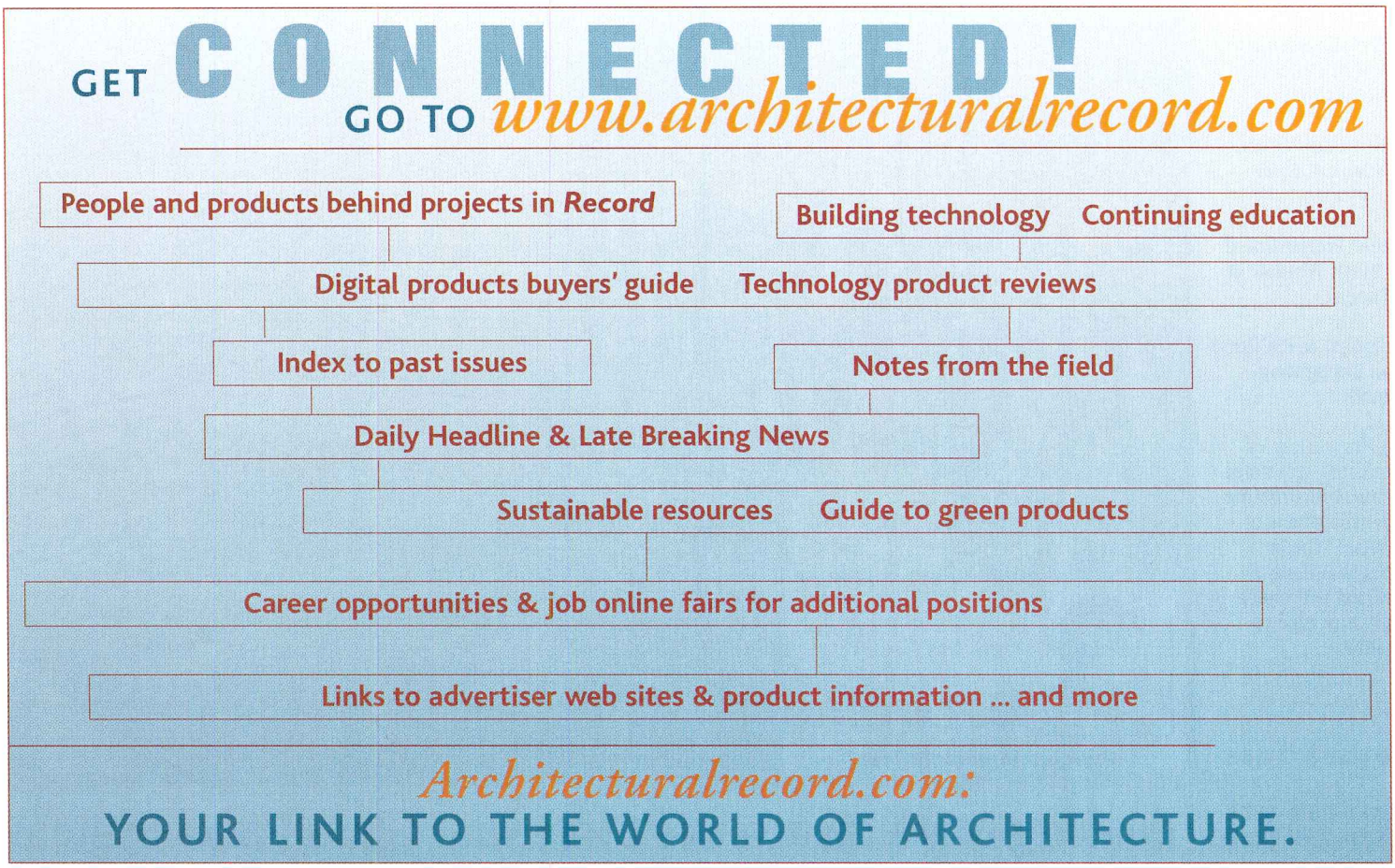
1. Performance-based design may be most effective for complex and unusual structures that don't fit readily within prescribed codes. Examples include convention centers, shopping malls, airport terminals, healthcare facilities, high-rise buildings, museums, and historical structures.

2. A performance-based design will usually cost more in the development stages but can result in cost savings by reducing the size of its structural materials and increasing the amount of rentable space. Also, performance-based designs often reduce the unnecessary costs and redundancies that standard codes normally require.

3. Many U.S. code enforcement agencies do not accept performance-based design but use the one-paragraph alternate-methods-and-materials clause. With this clause, any design methods or materials can meet code requirements, provided the equivalency to the prescriptive provisions is demonstrated. The problem is that it is not always easy to prove the equivalency. The time and costs required in the proof can delay the design process. Performance-based design, however, is widely accepted in such countries as England, New Zealand, and Australia.

4. Fire scenarios are descriptions of all the possible fires that could occur in a building, including unlikely events, such as direct hits by meteorites. The scenarios most likely to occur are then identified and processed through hazard-and-risk-analysis data, tools, and methods. The fire-protection engineer uses mathematical equations, as well as computer modeling, to make assessments. The model characterizes who is at risk (usually the occupants), identifies the source of the risk (smoke, heat, flame), and examines how the risk is posed (or how the smoke gets to the occupants).

5. Once the design-fire analyses are complete, a set of design options can be developed. These trial designs cover the following categories: fire initiation and development, fire spread, control of smoke, fire detection, fire suppression, occupant behavior and egress, and passive fire protection. Successful trial designs control fire or its effects without exceeding the performance criteria. The results of each evaluation indicate whether a trial design will meet performance criteria, and therefore the design objectives. After a set of trial designs is selected, a final design is chosen based on financial considerations, timeliness of installation, system and material availability, ease of installation, and system maintenance.



Online and In Stock. Or call for our catalog: 1-800-944-2233.

CIRCLE 350 ON INQUIRY CARD

ADVERTISERS INDEX

Bold: *indicates page number.*
Italic: indicates Reader Service Number.

PAGE NUMBER	READER SERVICE NUMBER	
300	*115*	A/D Fire Protection Systems Inc
299	*114*	Adams Rite Manufacturing Co
414		AECdirect
392		AIA Call for Entries
429		AIA Contract Documents
430		AIA Online
386		AIA Philadelphia Legacy Project
269	*102*	Altro Floors
285	*108*	Alusuisse Composites Inc
396E	*336*	American Buildings Company
406	*345*	Anchor Wall Systems
90-91	*52*	Andersen Commercial Group
144	*72*	Ann Sacks Tile & Stone
372	*296*	Arakawa Hanging Systems
335	*133*	Architectural Area Lighting
382	*320*	Architectural Pottery
77	*45*	Architectural Precast Association
60, 410		architecturalrecord.com
306-310	*120*	Aristech Acrylics
2cov-1	*1*	Armstrong
80		Autodesk
279	*106*	Autodessys
81	*47*	Avonite
358	*144*	B-K Lighting
365	*362*	Baldinger
45	*22*	BEGA
401	*341*	Belden Brick Company, The
399	*339*	Bellas Artes
172	*78*	Bentley Systems Inc
397	*365*	Bergerson
270-271	*363*	Bidcom Inc
291	*111*	Bilco Company, The
205	*94*	Birdair
372	*297*	BOCA/Bldg Offcls & Code Admins Intl
292	*112*	Boral Bricks
407	*348*	Brass Light Gallery
275	*104*	Bricsnet US
354	*142*	Bruck Lighting Systems
252	*361*	Buchtal Corporation USA
12-13		buzzsaw.com
96	*54*	c-z.com
159	*73*	C/S Group
393	*333*	Canterbury International
301	*116*	Ceco Door Products
5	*3*	Ceilings Plus
6-7	*4*	Celotex (Fi-Rok® gypsum board)
38-39	*19*	Celotex (Tuff-R® "C" insulation board)
74	*43*	Celotex (gypsum board)
88-89	*51*	Celotex (Ultra 90+ ceiling panels)
36-37	*18*	CENTRIA Architectural Systems
82	*48*	Cephren Inc
207	*95*	Certified Forest Products Council
382	*321*	Charles Loomis
409	*349*	Circle Redmont
287	*109*	CNA/Victor O Schinnerer
361	*147*	Columbia (Alera Lighting)
426	*355*	construction.com
386	*326*	Continental Bridge
357	*143*	Cooper Lighting (Metalux®)
359	*145*	Cooper Lighting (Iris™)
92	*53*	Copper Development Association
250	*99*	Copper Sales Inc
58	*34*	Cornell Iron Works
384	*323*	Country Casual
404	*343*	CRSI/Concrete Reinforcing Steel Inst
352	*140*	CSI (PerSpective™)
393	*334*	CSI (The Uniform Drawing System™)
364	*288*	DécorCable Innovations LLC
162-163		Dell
411	*350*	Design Within Reach
53	*29*	Diehl Graphsoft Inc
196	*91*	Door and Hardware Institute
384	*324*	Doug Mockett & Company Inc
424	*366*	Dura Art Stone
78	*46*	Eagle Windows & Doors
211	*98*	e-idc.com
365	*289*	Edison Price Lighting
59	*35*	EFCO Corporation
180	*83*	Electronics Diversified Inc
380	*318*	Eliason
3cov	*359*	eZ
360	*146*	Florestone
329	*129*	Flos USA Inc
289	*110*	Follansbee Steel
136-137		Forms + Surfaces (Surfaces+)
139		Forms + Surfaces (Cornelius+)
181	*84*	FSB-USA
312-313		Gardco Lighting
385	*325*	Georgia-Pacific
391W	*332*	Gladding, McBean
64-65	*38*	Glen Raven Mills Inc
76	*44*	Gordon Inc
388	*328*	GR Plume Company
195	*90*	Graham Architectural Products
272	*103*	Graphisoft
118	*64*	Hafele
32-33	*16*	Hambro/Canam
108	*60*	Hanover Architectural Products
51	*27*	Hansgrohe Inc
391E	*331*	High Concrete Structures Inc
429	*357*	Hillier
56	*32*	Homasote
362	*148*	Hoover Treated Wood Products Inc
330	*130*	Hubbell Lighting Inc
378-379	*317*	Hunter Douglas Architectural Prods
413	*351*	IALD/Intl Assn of Lighting Designers
400	*340*	ICBO/Internatl Conf of Bldg Officials
348	*138*	illuminating experiences
50	*26*	Italian Trade Commission
116	*63*	IWP
112	*61*	J&J Industries (Invision)
398	*338*	John Wiley
31	*15*	Johns Manville
297	*113*	Johnsonite
122	*66*	Julius Blum & Co Inc
20-21	*10*	Kawneer Company Inc
288A-B		Keilhauer
370	*294*	Keystone Retaining Wall Systems
331	*131*	Kim Lighting
189	*86*	Kolbe & Kolbe Millwork Co Inc
4cov	*100*	Kroin Incorporated
130	*68*	landscapeforms
179	*82*	Laticrete International Inc
374	*299*	Lehigh Portland Cement Company
350	*139*	Light-Project Intl Inc
390	*330*	LightingUniverse.com
324-325	*127*	Lightolier
327	*128*	Lightolier (Calculite® Evolution™)
194	*89*	Lonseal
316	*124*	Louis Poulsen Lighting
319	*125*	Lucifer Lighting Company
322	*126*	Lutron
104	*58*	Madera Tile
34-35	*17*	Mannington Mills Inc
46-47	*23*	Marlite
16-17	*8*	Marvin Windows & Doors
389	*329*	MBMA/Metal Building Mfrs Assn
396N		McGraw-Hill Companies, The
128	*67*	Meeker Cedar Products Ltd
40	*20*	Meridian Project Systems Inc
381	*319*	Metal Construction Association
42	*21*	Metalaire
55	*31*	Miele
191	*87*	Mitsubishi Chemical America Inc
280	*107*	MM Systems Corporation
305	*119*	Monarch
407	*346*	Mortar Net
425	*354*	MP Interactive
407	*347*	Musson Rubber Co
392		National Building Museum
61	*36*	National Gypsum Company
197	*92*	National Terrazzo & Mosaic Assn
102	*57*	NECA/IBEW NLMCC
344	*136*	NEMO
365	*290*	Original Cast Lighting, The
176	*80*	Osram Sylvania (Motorola partnership)
314	*123*	Osram Sylvania (Octron 800XP/ECO T8)
366	*291*	Parex Inc
142-143	*71*	PCI/Precast/Prestressed Concrete Inst
25	*12*	Pella Windows & Doors
302	*117*	Pemko
62-63	*37*	Pergo Publiq
164	*75*	Petersen Aluminum
336	*134*	Philips Lighting Company
18-19	*9*	Pittsburgh Corning
49	*25*	Pozzi Wood Windows
66-67	*39*	PPG
342-343	*135*	Prescolite Moldcast
415	*353*	Research Engineers
71	*41*	Revit Technology Corporation
376-377	*300*	Ricoh
52	*28*	ROMTEC Inc
161	*74*	Roppe Corporation
10-11	*6*	Saab USA
114	*62*	Sarnafil Inc
276	*105*	SBCCI/Southern Bldg Code Cong Intl
178	*81*	Schlage
73	*42*	Schott Corporation (Okalux®)
170	*77*	Schott Corporation (Amiran®)
57	*33*	Sloan Valve Company
403		SmartAge.com
370	*293*	SMI/ Spider Manufacturing Inc
383	*322*	Smith & Hawken
210	*97*	Smith-Midland
14-15	*7*	Solutia
100	*56*	Sony Electronics Inc
54	*30*	Southern Pine Council
48	*24*	Speakman
209	*96*	Specialty Steel Industry of NA
347	*137*	SPI Lighting Inc (Continuum)
363	*149*	SPI Lighting Inc (Advent)
304A-B		Sprint
140-141	*70*	StarNet
165	*76*	Sto Corp
431	*364*	SubZero
394-395	*335*	Sweet's, A Div of The McGraw-Hill Cos
251	*360*	TEC
332	*132*	Tech Lighting
26-27	*13*	Technical Glass Products
303	*118*	Timely
85	*49*	Traco
106	*59*	Traco (Skytech Systems®)
193	*88*	Trade Commission of Spain
371	*295*	Truebro
187	*85*	United States Aluminum
22	*11*	USG Corporation (InsulScreen™ 2200)
68	*40*	USG Corporation (ceiling systems)
98	*55*	USG Corporation (Aqua-Tough sheathing)
369	*292*	USG Corporation (Drywall Suspen Syst)
405	*344*	V-KOOL
28-29	*14*	VELUX-AMERICA Inc
120	*65*	Vinyl Institute, The
415	*352*	Virgin Mary Church
353	*141*	Visa Lighting Corp
132	*69*	Vistawall Architectural Products
86-87	*50*	Vulcraft, A Division of Nucor Corp
387	*327*	Wausau Tile
203	*93*	Wausau Window and Wall Systems
8-9	*5*	Weather Shield Windows & Doors
311	*121*	Wind2 Software
174	*79*	Window & Door Manufacturers Assn
2	*2*	Wiremold
373	*298*	YKK AP America Inc
402	*342*	Zero International

For additional information on these advertisers, circle corresponding number on Reader Service Card, or visit our web site at www.architecturalrecord.com and click on Advertiser Information.

Executive Offices

The McGraw-Hill Companies
Two Penn Plaza
New York, NY 10121-2298

VICE PRESIDENT / PUBLISHER
Elaine Shusterman
(212) 904-3475 Fax: (212) 904-4652
shusterman@mcgraw-hill.com

ADVERTISING DIRECTOR
David Johnson
(212) 904-6217 Fax: (212) 904-4652
dave_johnson@mcgraw-hill.com

PRODUCTION MANAGER
Stephen R. Weiss
(212) 904-2793 Fax: (212) 904-6800
stephen_weiss@mcgraw-hill.com

PROMOTION DIRECTOR
Deborah Smikle-Davis
(212) 904-4558 Fax: (212) 904-6774
deborah_smikle-davis@mcgraw-hill.com

Advertising Sales

NORTHEAST / MID-ATLANTIC
Two Penn Plaza
New York, NY 10121-2298

Ted Rzempoluch
(212) 904-3603 Fax: (212) 904-4256
rzempoluch@mcgraw-hill.com

MIDWEST
One Prudential Plaza
130 East Randolph Street, Suite 400
Chicago, IL 60601-6213

Mike Gilbert (IL, IA, MN, MO, OH, W.PA, WV)
(312) 616-3338 Fax: (312) 616-3276
mike_gilbert@mcgraw-hill.com

Steve Roth (IL, IN, KS, MI, ND, NE, OK, SD, TX, WI)
(312) 616-3339 Fax: (312) 616-3276
stephen_roth@mcgraw-hill.com

SOUTHEAST / MID-ATLANTIC
4170 Ashford-Dunwoody Rd.
Atlanta, GA 30319

Susan Shepherd
(404) 843-4770 Fax: (404) 252-4056
sshepherd@mcgraw-hill.com

WEST (AZ, CA, CO, NM, NV)
Media Sales Associates
1570 Vista Club Circle, #104
Santa Clara, CA 95054

Bill Hague
(408) 492-9292 Fax: (408) 492-9797
(253) 858-7575 Fax: (253) 858-7576
billh@abptuf.org

WEST (BRIT. COLUMBIA, ID, OR, S. CA, UT, WA)
5901 S.W. Macadam Avenue, Suite 230
Portland, OR 97201

Bill Madden
(503) 224-3799 Fax: (503) 224-3899
billmad@msn.com

CANADA (EXCEPT BRITISH COLUMBIA)
48 Little Rebel Road, RR 3
Schomberg, Ontario L0G 1T0

Frank A. Spangenberg
(905) 939-0653 Fax: (905) 939-0654
spang@sympatico.ca

Manufacturers' Spotlight/Postcard Service

Ally Wingate
(212) 904-2010 or 1-800-544-7929 Fax: (212) 904-4256
ally_wingate@mcgraw-hill.com

Classified Advertising

Cherie Jolley
(801) 974-2843 Fax: (801) 972-9409
cherie_jolley@mcgraw-hill.com

Editorial

(212) 904-2594 Fax: (212) 904-4256
www.architecturalrecord.com

Subscriber Service

(888) 867-6395 (USA only)
(609) 426-7046 Fax: (609) 426-7087
p64cs@mcgraw-hill.com

Back Issues

(212) 904-4635
phyllis_moody@mcgraw-hill.com

Reprints

(609) 426-5129 Fax: (609) 426-5472
doreen_bitowf@pubs.mcgraw-hill.com

BECOME LIGHT IN THE MINDS OF OTHERS

WALLACE STEVENS

We gratefully acknowledge these friends and colleagues for their generous support of the IALD Education Trust Fund Dinner.

CORPORATE SPONSOR LEVEL I [$10,000]

GE Lighting
Lucifer Lighting Company
Philips Lighting Company

CORPORATE SPONSOR LEVEL II [$5,000]

Architectural Lighting Magazine
Cooper Lighting
ERCO Lighting USA
ETC
Focal Point
Lightolier
Lithonia Lighting Group
Lucifer Lighting Company
LUTRON (3 tables)

CORPORATE SPONSOR LEVEL III [$3,000]

Alsco Inc./DSA
Architectural Record
Baldinger
Belfer Lighting
Cooper Lighting
Creative Light Source
Eclipse Lighting
Edison Price Lighting
Enterprise Lighting Sales
International Lights
Kurt Versen Company
Ledalite Architectural Products
Lighting Dimensions
Lighting Services Inc
Litecontrol Corporation
LumiLeds Lighting
Luminis
National Cathode Corp.
Osram Sylvania
Philips Lighting Company
Poulsen Lighting
Prisma Architectural Lighting
Rambusch Decorating Company
SPI Lighting Group
Sterner Lighting Systems
Targetti Group
Visa Lighting
Zumtobel Staff Lighting

The International Association of Lighting Designers Education Trust Fund promotes education in lighting design and provides scholarships to promising students. The IALD Trust Fund's goal is to make the study of lighting relevant and progressive in schools and universities worldwide.

IALD
Education Trust Fund

www.iald.com
312.527.3677

Join us at the IALD Education Trust Fund Dinner on May 10 at the beautiful Puck Building in NY.

EVENT SOLD OUT

CIRCLE 351 ON INQUIRY CARD

Anything worth building, cannot be built alone.

Through a dedicated sharing of resources, unprecedented collaboration and laser-like focus, AECdirect and its partners have developed a site stacked with information and resources that will help the industry build a whole new way.

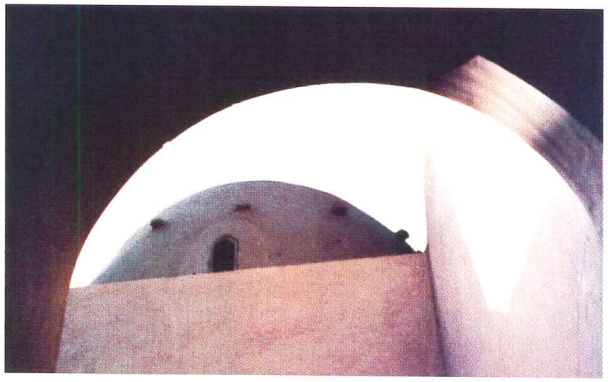
This summer, we'll introduce you to a site that will dramatically change how you work and collaborate by providing ways to create efficiencies in the entire design and building process. From enhancing proven tools like MASTERSPEC® to developing the industry's largest online education catalog, we're creating the ultimate online work site for the design and building industry.

AIA AECdirect BENTLEY CMDGROUP

The McGraw-Hill Companies

Designed to build.

www.aecdirect.com



The New Millennium

Coptic Church Design Competition

Eligibility:

Open to architects and designers worldwide

Deadlines:

Registration: thru July 12, 2000, $75 Entry fee
[Make check payable to: Coptic Church Design Competition]
Submission: thru September 27, 2000

Awards:

$15,000 first place prize, second and third places honorary mention. Prizes will be presented during an official ceremony on October 21, 2000.
The winning project will be publicized in major architectural magazines.

Jury:

Distinguished panel of professionals will select winners on the basis of aesthetics, design, creativity, function and satisfaction of religious objectives.

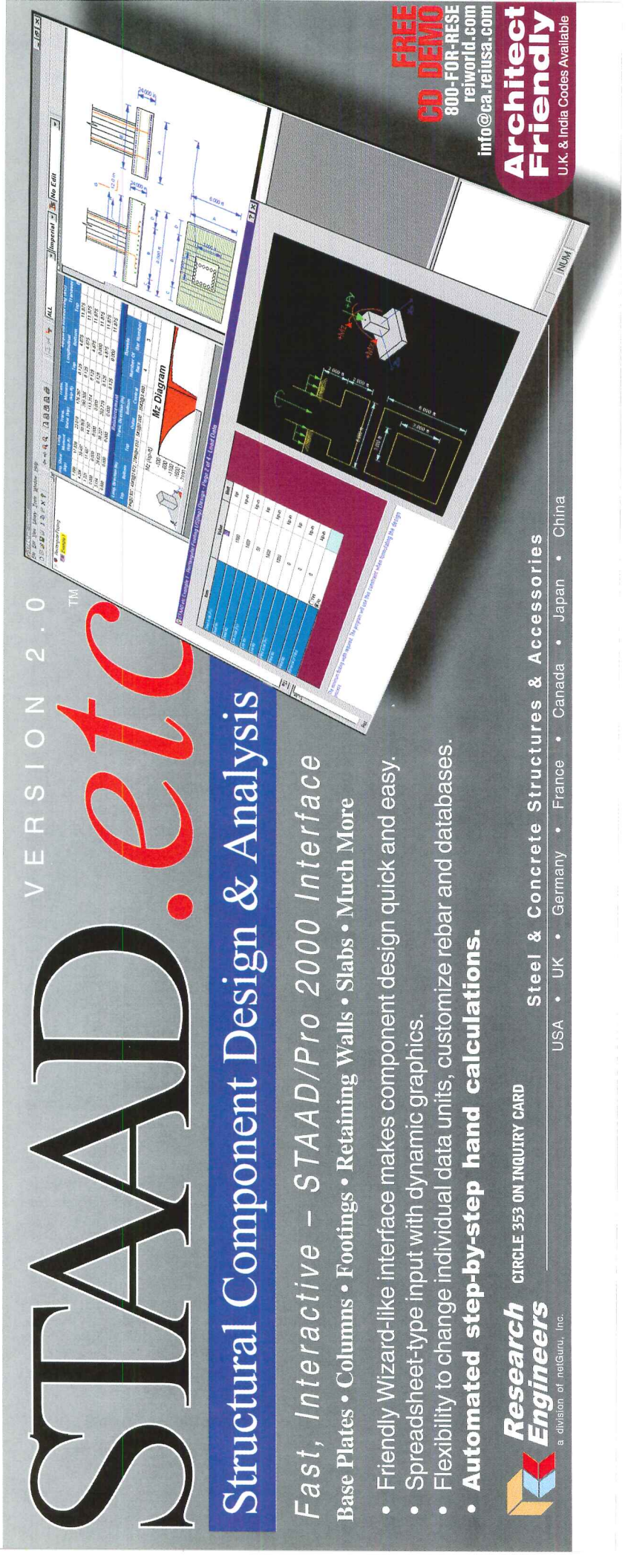
Information:

http://www.copticdesign.org
Fax: (914) 639 1522
Address: P.O. Box 271, New City, NY 10956, USA

Sponsor:

VIRGIN MARY & ST PAKHOMIOUS COPTIC ORTHODOX CHURCH
OF LOWER HUDSON VALLEY
P. O. Box 271, New City, NY 10956

CIRCLE 352 ON INQUIRY CARD



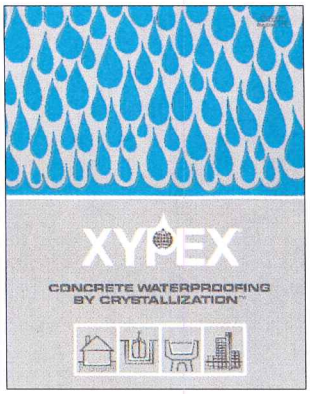
Applications

The new flush exit device is designed for use on TOTAL DOORS in single, pairs & double egress pairs. Ideal for corridor & elevator lobby applications in all commercial facilities. The exit device allows continuous, uninterrupted sight-lines in corridors when doors are pocketed in the open position. Its quiet operation is ideal anywhere noisy hardware is a problem. TOTAL DOORS can be retrofitted into existing door frames, saving time & expense.

Openings

CIRCLE 150 ON INQUIRY CARD

Concrete Waterproofing by Crystallization

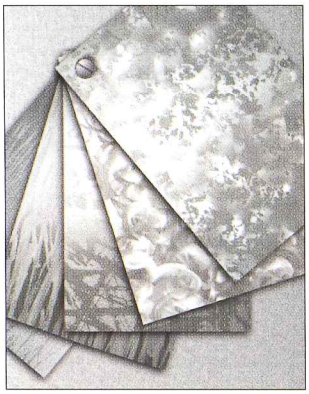


Applied as a slurry coating Xypex is a chemical treatment that waterproofs by penetrating the concrete with a crystalline formation that "plugs" the pores of the structure preventing water seepage. Xypex is ideal for use on the "inside" of wet underground structures.

Xypex Chemical Co.

CIRCLE 151 ON INQUIRY CARD

Alpha Collection 2000 Aluminum-Stainless Steel



New and innovative design patterns and textures. Ideal for most vertical surfaces. Border to border standard sizes. Thickness from 0.025" to 0.064". Quantity discounts and free design consulting. Ask us about our custom capability. SD+T Marketing INC., Tel: 305-856-3825 TollFree: 877-626-2595 Fax: 305-856-1287 E-mail: sales@sdtmarketing.com Website: www.sdtmarketing.com

SD+T Marketing Inc.

CIRCLE 152 ON INQUIRY CARD

ADA Insulation Safety Covers

Plumberex Specialty Products, Inc. is the only company that manufactures a complete line of ADA safety covers for commercial & residential applications, meeting all building & fire codes with a -0- smoke rating. The Handy-Shield™ Safety Cover is the one and only ADA safety cover on the market with a "Dual" fastening system to help deter theft! For more information call 800-475-8629, Website: www.plumberex.com or email: plumberex@earthlink.net

Plumberex Products, Inc.

CIRCLE 153 ON INQUIRY CARD

Three-Sided Fireplace for Unlimited Installations

Heat-N-Glo introduces model PIER-TRC, a three-sided direct vent fireplace that can be terminated vertically or horizontally to accommodate nearly any application. The PIER-TRC is perfect as a room divider, bar, end of counter or a wide variety of creative installation possibilities. As with all Heat-N-Glo fireplaces, the PIER-TRC can be operated by remote control for the ultimate in convenience. Call 888-427-3973.

Heat-N-Glo

CIRCLE 154 ON INQUIRY CARD

Ornamental Picket Fence with a Purpose

We have given special attention to each & every component of our fence. Every item is designed for strength, durability and low maintenance. No other company builds a complete fence - rail, rivets, brackets, pickets and posts, that are stronger, more durable, have more security or lower maintenance costs than our fences. Monumental Iron Works, 6500 Eastern Ave., Baltimore, MD 21224. Tel: 410-633-6500, Fax: 800-239-2963.

Monumental Iron Works

CIRCLE 155 ON INQUIRY CARD

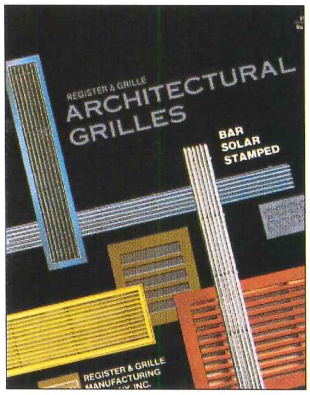
Grand Manor Shangle®

CertainTeed's Grand Manor Shangle® is a super heavyweight shingle built on two full-size one-piece shingles with random 8" tabs applied on top. Patented shadow lines and a unique color palette give Grand Manor the look and depth of natural slate and wood. UL Class A. Lifetime limited, transferable warranty. Algae-resistant. UL Certified to meet ASTM D 3462.

CertainTeed Corporation

CIRCLE 156 ON INQUIRY CARD

Decorative Grilles



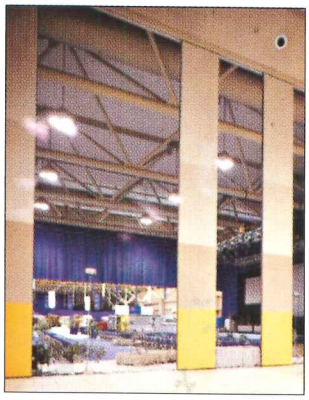
Unusual visual effects emerge when our grilles are designed for area effects. Versatility is the theme. R&G offers architects and interior designers many ways to express the changing forms of metal with the integrity of R&G's architectural grilles. Custom or standard finishes are available plus any grille can be made in matching color to blend with your decor. 202 Norman Ave., Bklyn, NY 11222. 800-521-4895, Fax: 718-349-2611.

Register & Grille Mfg Co

CIRCLE 157 ON INQUIRY CARD

TO ADVERTISE: Call Ally Wingate
T: (212) 904-2010 F: (770) 889-9152

Panelfold's Walls So Tall!
www.panelfold.com



Moduflex® Series 800 steel operable walls as high as 44' (4925mm) are made with rugged one-piece 14 gauge (1.99mm) steel frames permanently and invisibly welded to one-piece seamless steel faces surfaced with a wide variety of materials including COM. Panelfold Electronic Library Version 3 on CD ROM available upon request by FAX: 305-688-0185 or E-mail: sales@panelfold.com. Please visit our website: www.panelfold.com

Panelfold

CIRCLE 158 ON INQUIRY CARD

Ventilate All Baths With One Quiet Fan

ALDES' MPV fan is designed for multiple and extensive duct runs. Remote mounting of fan assures almost silent operation. Up to 6 exhaust points at 50 cfm each. Equipped with a continuous duty motor, the MPV may be used also to provide IAQ Ventilation. Super Quiet, Powerful & Versatile. 3 year warranty. Cost Effective. American ALDES Ventilation Corp. 4537 Northgate Court, Sarasota, FL 34234, Call 800-255-7749, www.americanaldes.com

American ALDES

CIRCLE 159 ON INQUIRY CARD

Neo-Metro™ Collection

Acorn Engineering Company introduces a new line of designer, stainless steel bath fixtures. The Metro-Urban Toilet (here in "Mira" finish) is fabricated entirely out of heavy gauge stainless steel. The Metro-Urban Toilet uses only 1.6 gpf. Acorn's Neo-Metro™ Collection also manufactures exclusive stainless steel washbasins, bathtubs, urinals and other fixtures for the residential and commercial bath. For more information: 800-591-9050 email: info@neometro.com www.neometro.com

Neo-Metro™ Collection

CIRCLE 160 ON INQUIRY CARD

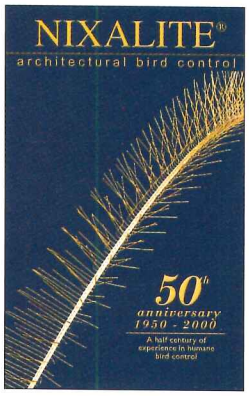
NANZ®

The No. 2006 is a Bauhaus handle based on a Walter Gropius design. Nanz manufactures this and a wide range of other levers, knobs, locks, hinges and cabinetry hardware. Fax a request for our free Product Selection Guide or our $20 catalogue featuring this and over seventy other handles. phone 212-367-7000, fax 212-367-7375.

Nanz Custom Hardware Inc

CIRCLE 161 ON INQUIRY CARD

Birds Take Flight From Nixalite!

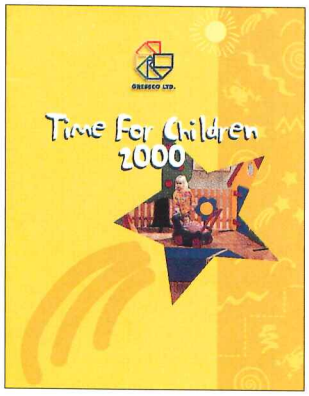


Persevere architecture treasures with Nixalite bird control. Effective and humane, these stainless steel strips provide a protective barrier that is long lasting and inconspicuous. With the addition of Colorcoat™, a color powder coating option, Nixlalite is almost invisible. For information, call 800-624-1189, Fax 309-755-0077 or visit our website at www.nixalite.com

Nixalite® of America Inc.

CIRCLE 162 ON INQUIRY CARD

Unique Early childhood Furniture



GRESSCO, Ltd introduces HABA® a new line of children's modular Loft furniture, shelving, platforms and room partitions in addition to our existing array of KinderSystem™ reading furniture. Now you can create a truly unique children's area in your hospital waiting room, daycare center, church or library. Call GRESSCO today for a FREE catalog at 800-345-3480, www.gresscoltd.com

GRESSCO Ltd.

CIRCLE 163 ON INQUIRY CARD

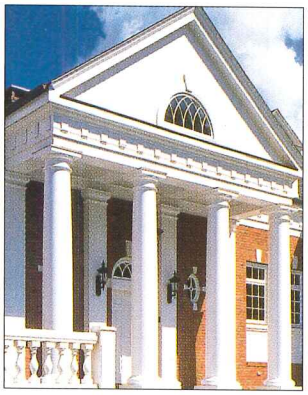
Chadsworth's 1.800.Columns®
www.columns.com

Voted No. 1 Preferred Brand in U.S. Columns, pillars, pilasters & posts available in wood, PolyStone™ and fiberglass. Interior, exterior. Variety of sizes & styles. Competitive prices. Jobsite delivery. Worldwide shipping. Our award-winning Idea Book features an exciting collection of column projects. Includes Columns Product Portfolio, $20 soft cover, $30 Hard cover. Columns Product Portfolio $5 (credited to first order). Free flier. 800-486-2118 Fax 910-763-3191

Chadsworth's 1.800.Columns®

CIRCLE 164 ON INQUIRY CARD

Columns and Balustrades



Melton Classics' complete line of columns and balustrades are classically authentic yet affordable priced. Enhance your next project with fiberglass, marble/resin or wood columns for paint or stain, synthetic stone columns and balustrades, or choose from our comprehensive cast stone and polyurethane millwork products lines. 800-963-3060 or www.meltonclassics.com

Melton Classics, Inc.

CIRCLE 165 ON INQUIRY CARD

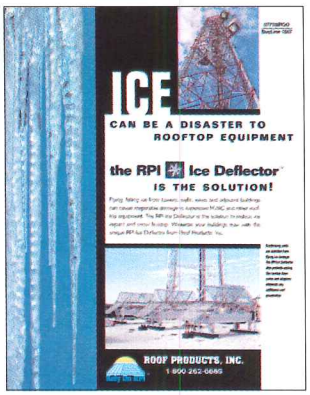
Mini-JOMY® Pole Ladder

A scaled down version of the JOMY® Safety Ladder, specially designed for residential and light commercial applications. The Mini-JOMY® looks like a drainpipe but folds out to a 17" wide ladder with slip resistant rungs constructed of extruded anodized aluminum and stainless steel. The Mini-JOMY® is maintenance free and will last the lifetime of any building. Can be locked at ground level for access applications. Call 800-255-2591 for additional information. Or find us at www.jomy.com

JOMY® Safety Products

CIRCLE 166 ON INQUIRY CARD

Protect Against Winter Ice & Summer Hail

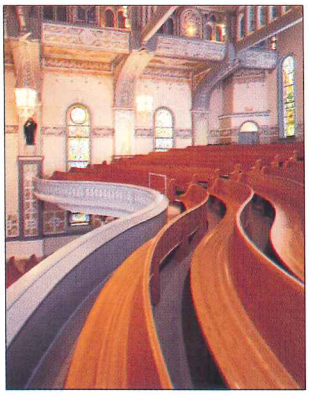


For new construction or retrofit – RPI Ice Deflector protects HVAC, fans, condensers, skylights, piping, ductwork and other roof-or-ground-mounted equipment against damage from falling ice from towers, walls and adjacent buildings. Also protects against hail and wind during spring and summer thunderstorms. Structural curbs, equipment supports and adapters also available. Call RPI for solutions. 800-262-6669 www.rpicurbs.com

Roof Products, Inc.

CIRCLE 167 ON INQUIRY CARD

The Radius Curved Church Pew



Since 1919, New Holland Church Furniture has supplied churches nationwide with both custom & standard church furniture. Today, New Holland is the only manufacturer of "Radius Curved Pews" in the USA. As a certified member of the Architectural Woodwork Institute (AWI), you can be assured of our consistent high quality. New Holland has just developed all new product catalogs for our Pews & Solid Wood Chairs. New Holland Church Furniture, 313 Prospect St, New Holland, PA 800-220-1465

New Holland

CIRCLE 168 ON INQUIRY CARD

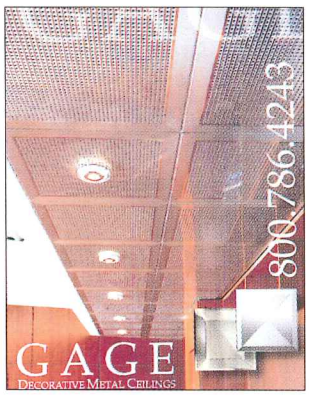
Doyle Crosby's "Mercury"

Architecturally elegant and ADA compliant, the "Mercury" sconce is a striking source of decorative lighting. The solid brass stem is crowned with a glowing frosted glass chimney or with a fine linen shade for more traditional settings. Finished in polished nickel, polished brass or satin nickel. www.boydlighting.com

Boyd Lighting

CIRCLE 169 ON INQUIRY CARD

Gage Metal Ceilings

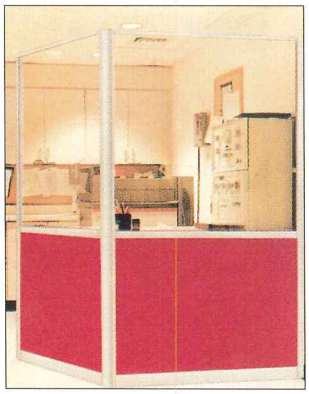


The Gage Corporation, Int., designs and manufactures the world's foremost collection of decorative metal ceilings. Design #447 (photo) is a good example of selective two-directional brushing with custom perforations from Gage's "Honest Aluminum" collection. Concealed suspension provides a clean monolithic appearance. Call the factory at 800-786-4243 for introductory samples and literature.

The Gage Corporation

CIRCLE 170 ON INQUIRY CARD

CLEAR-Pb® Lead-Plastic Radiation Shield

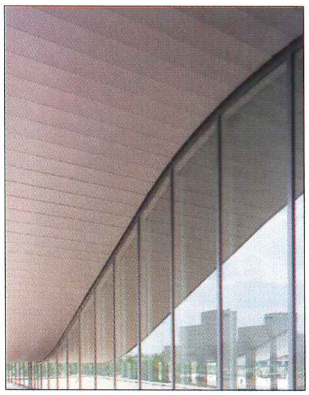


Discover the advantage of incorporating Nuclear Associates' CLEAR-Pb® Lead-Plastic Radiation Shielding into your next project! Lead-impregnated plastic won't shatter; space saving; cost-effective; more versatile than old-fashioned lead-glass; quick, mess-free, hassle-free installation; ideal for medical and non-medical facilities; available in more than 100 standard sizes, seven lead equivalencies and now 16 colors. Floor-plan ideas available.

Nuclear Associates

CIRCLE 171 ON INQUIRY CARD

Luxalon Wide Panel Systems

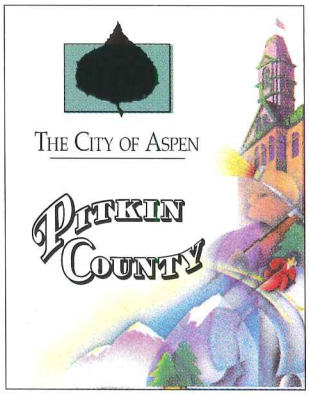


The revolutionary ceiling system offers nominal 12" (300mm) wide panels in lengths up to 19'0" creating a clean sophisticated, monolithic ceiling plane. Long spans are available with a soft beveled edge or a reveal edge. The system provides both acoustics and aesthetics with easily installed panels. Available in 8 finishes and 2 perforation patterns. For further information call 800-366-4327.

Hunter Douglas

CIRCLE 172 ON INQUIRY CARD

Design Competition Aspen, Colorado



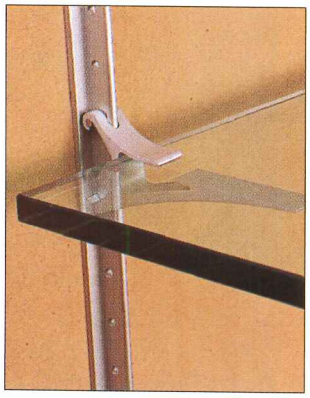
A site planning & architectural design competition for a new 120 to 150 transit oriented affordable housing community. 5 professional teams will be selected. Each will receive $10,000 to prepare their design. Winning team receives $10,000 bonus. Teams are required to attend an orientation meeting in Aspen. Deadline to request RFP: 5/15/2000. Contact Jay Leavitt, Aspen/Pitkin County Housing Authority, Aspen, CO 81611, 970-920-5068 Fax: 970-920-5580 Email: jayl@ci.aspen.co.us

Aspen/Pitkin Housing Authority

CIRCLE 173 ON INQUIRY CARD

TO ADVERTISE: Call Ally Wingate
T: (212) 904-2010 F: (770) 889-9152

Parallel Design Partnership Limited

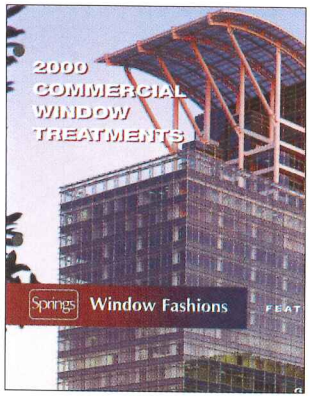


"ellen's brackets", an anodized-aluminum shelving system designed by M Ali Tayar, provides an elegant alternative to existing bracket-and-track systems. Cantilevered brackets come in two sizes, for shelves 3/4 or 3/8-in. thick and 10-in. deep. Wall-mounted tracks permit 1 1/2-in. adjustment of wood, glass or plexiglass shelves. For more info phone Parallel Design Tel: 212-989-4959 Fax: 212-989-4977.

Parallel Design

CIRCLE 174 ON INQUIRY CARD

Spring Window Fashions

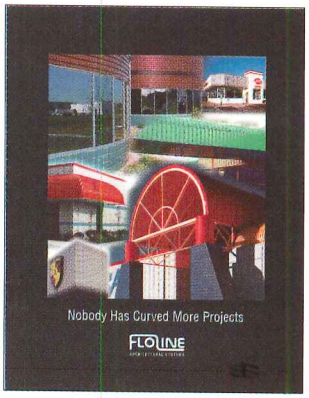


Spring Window Fashions manufactures window treatments for commercial applications. Brand names and products include: Bali horizontal blinds, Graber vertical Blinds, cellular and pleated shades and drapery hardware and Nanik wood blinds. Call our Architectural Hotline at 800-327-9798 for answers to technical questions or to request faxed copies of product specifications. Plan to see us in June at CSI in Atlanta, Booth 1511.

Spring Window Fashions

CIRCLE 175 ON INQUIRY CARD

Curved Panel Brochure From Floline



Color brochure illustrates the use of Floline curved panels on office buildings, industrial parks, mass transit, schools and retail projects. Applications include facades, roofs, walkway covers, cornices and fascia. Ideal for new construction as well as renovation. Unlimited custom designs; full range of contemporary colors and finishes. Nobody has curved more projects that Floline. Call 800-449-0193.

Floline Architectural Systems

CIRCLE 176 ON INQUIRY CARD

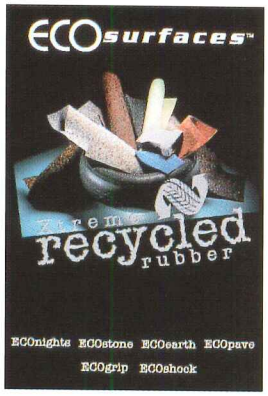
Site Furniture of Distinction

Keystone Ridge Designs, Inc. is the architect's choice for premier site amenities. Offering a full line of steel furnishings, we pride ourselves on exclusive designs and our patented powder coat finish, KEYSHIELD™, that is unparalleled in the industry. Quality, craftsmanship, and dedication to your creative vision are the hallmarks of Keystone Ridge Designs. For more information please call 800.284.8208 or e-mail KeystonRdg@aol.com. www.keystoneridgedesigns.com

Keystone Ridge Designs

CIRCLE 177 ON INQUIRY CARD

Dodge-Regupol Launches ECOsurfaces™

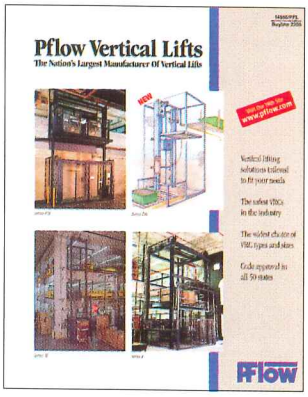


Dodge-Regupol (DRI), the world's largest converter of post-consumer tire rubber, launches Ecosurfaces™, xtreme recycled rubber™ flooring for both indoor & outdoor commercial applications. Not only environmentally sound, but also available in 38 vibrant colors, Ecosurfaces in rolls & tiles responds directly to designers' needs & their budget concerns. For a fresh new colorful way to create attractive environments, call Gerbert Ltd at 877-Ecosurfaces (877-326-7873).

Gerbert Ltd

CIRCLE 178 ON INQUIRY CARD

Pflow Lifts Safely Move Materials Between Levels

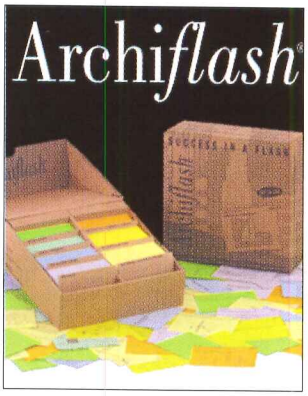


Pflow Vertical Lifts transport materials between two or more levels. Designed for mezzanines, through floor, interior & exterior applications. Capacities from 10 lbs. to 100,000 lbs., vertical heights to over 200', carriage sizes to 30' x 30'. Mechanical, hydraulic and fully automated systems. guaranteed code approval. Call 414-462-8810 Fax 414-462-2673 www.pflow.com

Pflow Industries, Inc.

CIRCLE 179 ON INQUIRY CARD

Pass the A.R.E. Study with Archiflash®

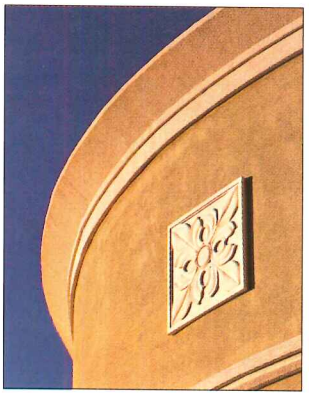


Prepare for the computerized Architect Registration Exam with Archiflash®. Each set contains over 1,100 expertly written flashcards covering all six multiple choice tests, plus a review section on Site Planning. Learning is easy with timesaving charts, essential definitions, concise diagrams, true/false and multiple choice Q & A. More information than you ever thought possible in an easy-to-use Flashcard format. Order by phone: 800-411-7314. Order online: www.archiflash.com

Nalsa, Inc.

CIRCLE 180 ON INQUIRY CARD

Integrated Architectural Ornamentation



Pineapple Grove Designs marks the return of the artisan to architecture. Our meticulously crafted SculptStone™ bas-relief medallions & friezes in classic, traditional, & contemporary styles, provide a sense of balance & visual order to any building. Our work is an extension of a tradition that has distinguished structures since antiquity. Easily applied & suitable for any climate, SculptStone™ ornaments are available in a variety of designs, colors, sizes & shapes. Call 800-771-4595 for more information.

Pineapple Grove Designs

CIRCLE 181 ON INQUIRY CARD

Shoji – Custom Dividers, Passage and Pocket Doors

Shoji maker of choice among design professionals. Perfect for passage doors, cabinets, pockets, & room dividers. Custom made of American hardwoods. Grid patterns to compliment a myriad of interiors. Durable facings include glass, acrylic, fabric. or backed paper. Commerical, hospitality, and residential projects. Hand-crafted in the U.S.A. 800-634-3268 www.cherrytreedesign.com

Cherry Tree Design

CIRCLE 182 ON INQUIRY CARD

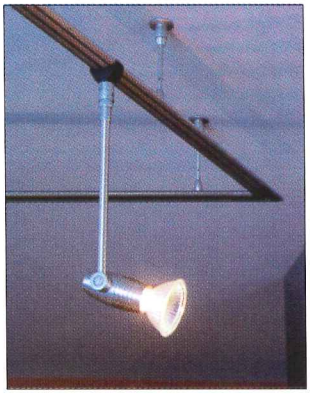
Fireframes™

Technical Glass Products introduces Fireframes™ – fire-rated door and window frames with sleek, European styling. Fireframes™ allow large expanses of glass, and are well-suited to applications where aesthetics are important. Available in a Designer Series and a Heat Barrier Series, the doors and frames carry ratings up to 2 hours. For complete information call 800-426-0279 or visit www.fireglass.com

Technical Glass Products

CIRCLE 183 ON INQUIRY CARD

Boa Two-Circuit Track System

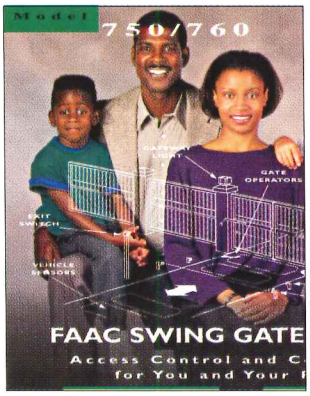


Bruck Lighting, the international leader in innovative low-voltage cable and track systems, introduces Boa, a low-voltage two-circuit track system with dual switching ability. Boa may be suspended or flush mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Unilights fixtures can be utilized with Boa as well as all seven other Bruck systems. Boa will be on display at Lightfair 2000 in Booth 101. www.brucklighting.com

Bruck Lighting Systems

CIRCLE 184 ON INQUIRY CARD

Invisible Swing Gate Operators



FAAC is the world's largest specialized manufacturer of hydraulic operators for barrier, slide and swing gate systems. Models 750 and 760 hydraulic swing gate operators are designed specifically for in-ground installation for residential and light commercial applications. Their power and total invisibility make the 750 and 760 ideal for large ornate gates. Call 800-221-8278 for complete product brochure or visit www.faacusa.com

FAAC International, Inc.

CIRCLE 185 ON INQUIRY CARD

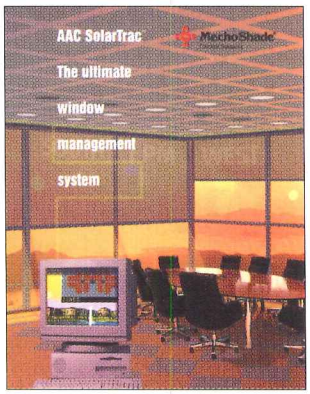
1% Hi-Lume® T5-HO Linear Fluorescent Dimming Ballast

Lutron has introduced a new Hi-lume® electronic fluorescent dimming ballast that provides 1% architectural dimming for 54 watt, T5 High Output linear fluorescent lamps. Its physical cross section of 1" high by 1.18" wide makes it ideal for one- and two-lamp profile fixtures. For more information, contact Lutron at: 800-523-9466 or www.lutron.com

Lutron Electronics

CIRCLE 186 ON INQUIRY CARD

AAC SolarTrac™ Window Management System

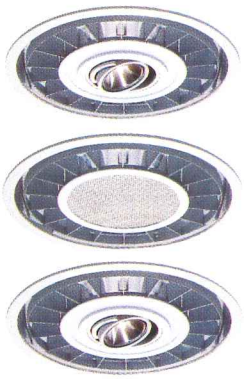


The AAC SolarTrac™ Window Management System tracks the sun to incrementally adjust ElectroShades® automatically and building wide, to optimize the shadecloth's solar protection and energy efficiency characteristics. AAC SolarTrac™, using a PC-based program, factors in the sun's angle of incidence, solar heat-gain, allowable solar penetration, brightness and glare control based on the building's specific location. 718-729-2020 or www.mechoshade.com

MechoShade Systems, Inc.

CIRCLE 187 ON INQUIRY CARD

CircLet

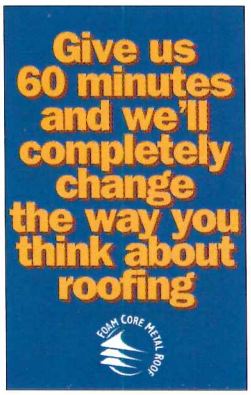


Wila Lighting introduces CircLet, a revolutionary multifunctional downlight utilizing the circular T5 lamp. CircLet's modular construction allows integration of speakers, video cameras, accent lights, smoke detectors, and fire sprinklers in the center "free space" of the fixture. CircLet will be on display at Lightfair 2000 in Booth 3521. www.wila.com

Wila Lighting, LLC

CIRCLE 188 ON INQUIRY CARD

Seminar Highlights Benefits of Foam Core Metal Roofs



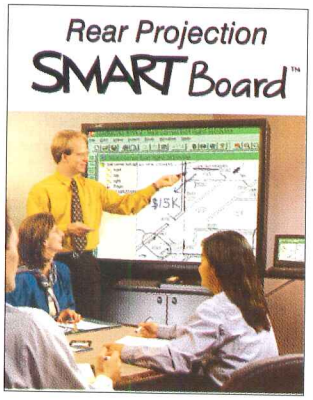
The Metal Construction Association is offering a seminar that showcases the many advantages of foam core metal roofs, compared with competitive materials. It's enjoyable, interesting and informative – and you can earn AIA continuing education credits just for attending. Contact Centria at 800-759-7474 or Foam Core Metal Roof at 877-902-ROOF for complete details.

Centria

CIRCLE 189 ON INQUIRY CARD

TO ADVERTISE: Call Ally Wingate
T: (212) 904-2010 F: (770) 889-9152

Interactive Whiteboard



The Rear Projection SMART Board™ is an interactive whiteboard that allows you to control projected Windows® or Macintosh® applications and other multimedia by pressing on the Board's large, touch-sensitive surface. Write over top of applications and your notes are saved for future reference and distribution. Architects and facility designers can request the SMART Product Kit by calling 888-427-6278 or by visiting www.smarttech.com/productkit

SMART Technologies Inc.

CIRCLE 190 ON INQUIRY CARD

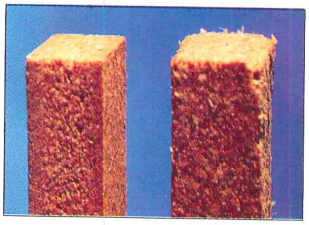
Xenon Luminaries

Space Cannon Illumination Inc. introduces the Litehose, the latest in linear lighting technology made of extruded, durable optical-grade acrylic. Available in different diameters and sizes, reflective paints and films are not required. The Focus is an architectural coloured luminarie utilizing a 1200w lamp source designed to work with the Litehose or separately. 888-705-1028.

Space Cannon

CIRCLE 191 ON INQUIRY CARD

Duraflake Particleboard

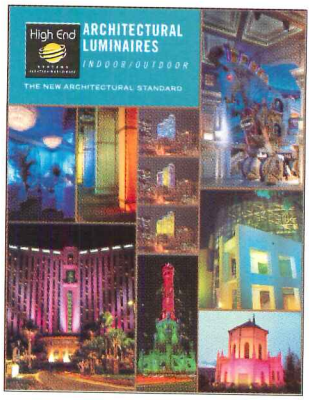


Duraflake MR® moisture-resistant particleboard absorbs less moisture & exhibits minimal thickness swell compared to standard particleboard. For interior applications where exposure to high humidity & intermittent contact with water is common. It has a fine surface for laminating & exceptional strength. Applications include bathroom & kitchen cabinets & counters, casework, display fixtures, entryways & other moisture-prone areas. To request information call 800-887-0748 ext. 300.

Willamette Industries, Inc.

CIRCLE 192 ON INQUIRY CARD

Modern Architectural Lighting for a New Millenium

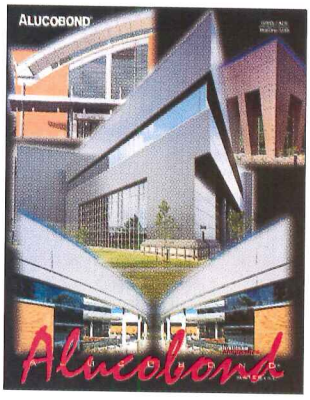


High End Systems' range of architectural luminaries can help you bring buildings to life. Indoors, the Color Pro® Series provides seamless color mixing, and hard-edge and soft wash effects in a flexible, high-powered design. The weather-resistant EC-1™ and ES-1™ Architectural Luminaires can be mounted in any orientation allowing you to paint with color and patterns across virtually any outdoor space.

High End Systems

CIRCLE 193 ON INQUIRY CARD

New Alucobond® Materials Brochure



Totally new Alucobond® Material brochure in dramatic new format illustrates the use of Alucobond Material a variety of innovative applications and colors. Alucobond® Material is the original ACM (aluminum composite material) and has been used on more than 50,000 buildings worldwide. Alucobond Material is always the affordable solution. For more information, call 800-382-6445 or visit www.alusuisse-comp.com

Alusuisse Composites, Inc.

CIRCLE 194 ON INQUIRY CARD

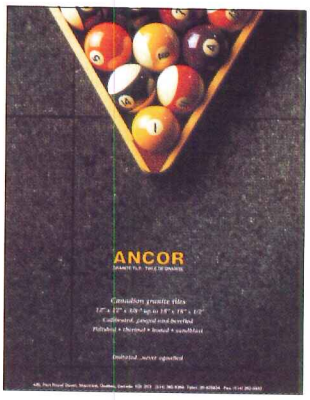
Matrix Composites Inc.

Chosen by a distinguished panel of Architects for Architectural Record as one of the best new finishes for 1999, Madera Tile is made from an exciting new material known as Lignasil®. Using 100% post-use hardwood in a patented process, Madera forges new ground in "green" building material technology. Several textures are available in an exciting range of solid colors and unique color blends for your sustainable design solutions. Call 800-767-4495 www.maderatile.com

Matrix Composites Inc.

CIRCLE 195 ON INQUIRY CARD

Ancor Granite Tile

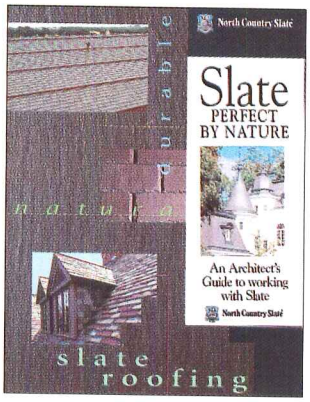


Ancor produces over fifty No. American and Imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8"; other sizes up to 18 x 18 x 1/2" available. Honed finish tile is particularly suitable for high traffic commercial areas, 435 Port Royal West, Montreal, Quebec, H3L2C3, Canada. Ph: 514-385-9366, Fax: 514-382-3533.

Ancor Granite

CIRCLE 196 ON INQUIRY CARD

Slate Roofing



Natural North Country slate. For enduring character, nothing else compares. No wonder—it's perfected by nature! Free product brochure showcases the wide variety of sizes and colors, and comes with our Architect's Guide to working with this remarkable roofing material.

North Country Slate

CIRCLE 197 ON INQUIRY CARD

ADVERTISEMENT

Design Competition Aspen, Colorado

For over four decades, Bomanite cast-in-place, colored, imprinted and textured concrete has provided quality architectural concrete paving. Choose from more than 100 patterns and 25 standard colors. Custom colors also available. Call 559-673-2411 for a Bomanite contractor near you or visit our web site at www.bomanite.com

Bomanite Corp.

CIRCLE 198 ON INQUIRY CARD

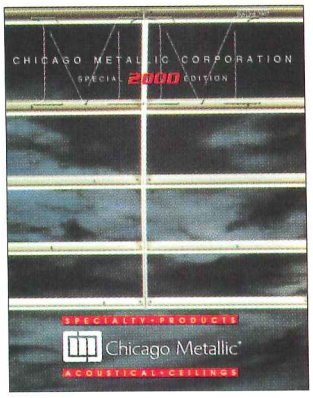
Roppe North Coast Collection Solid Vinyl Tile

Roppe's North Coast Collection features realistic wood, marble, granite, and stone looks with the wearability and stain resistance of high quality solid vinyl! Unlike most other vinyl tiles, North Coast is solid vinyl (no fillers) with an extremely thick wear layer. (Pictured: Lakewood Quarters, Baton Rouge, LA.) For FREE samples & brochure call our sample hot line toll free: 877-SAMPLE-4.

Roppe Corporation

CIRCLE 199 ON INQUIRY CARD

Metal Ceilings For Designing The New Millennium



Chicago Metallic Corporation® introduces its' special edition 2000 portfolio of industry leading ceiling suspension systems. The catalog focus is on standard ceiling grid systems with emphasis on both designer and functional systems. Also detailed are specialty products including perimeter curved/straight trim, fiberglass and vinyl-gyp ceiling panels, fiberglass reinforced panels (FRP) and the newly introduced drywall grid system. 800-323-7164.

Chicago Metallic Corporation

CIRCLE 300 ON INQUIRY CARD

Steelcraft Spec Manual

The Steelcraft Spec Manual is designed as an educational tool for architects, specification writers and distributors. It includes product details, specifications and fire rating information on all Steelcraft products including frames, doors, lites and louvers, and architectural stick systems. For more information call 800-930-8585. www.steelcraft.com

Steelcraft

CIRCLE 301 ON INQUIRY CARD

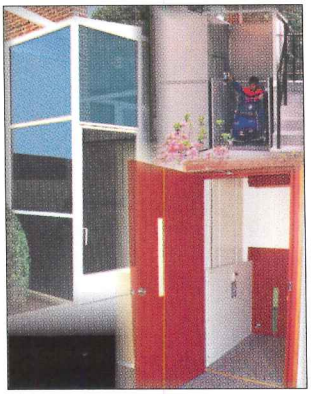
Signature Aluminum Paneling

Signature Aluminum Paneling Systems by MóZ Designs, Inc. are designed and fabricated for commercial interior and exteriors. There are many brilliant colors and grain patterns to choose from. Suggested applications include column covers, wall paneling, decorative privacy screens, ceiling pan inserts, canopies, display units, furniture, signage etc. Call 510-444-0853 or www.mozdesigns.com

MóZ Designs, Inc.

CIRCLE 302 ON INQUIRY CARD

Vertical Platform Lifts

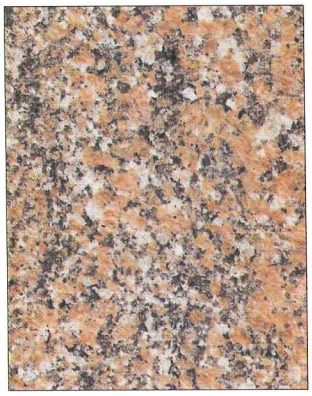


The National Wheel-O-Vator Co., Inc. designs the Vertical Platorm Lift with Quality, Dependability, Customization and Service in mind. We are committed to manufacturing the best vertical platform lift in the business. When your number one need is accessibility for a new home, pre-existing home or commercial application, call National Wheel-O-Vator at Design Line 800-968-5438. E-mail: wgreaves@wheelovator.com Web Site: www.whelovator.com

National Wheel-O-Vator

CIRCLE 303 ON INQUIRY CARD

New Granite

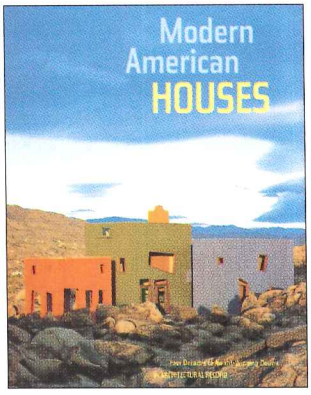


Stony Creek Granite is a pinkish, variegated stone without equal. The quarry has been in continuous operation for over 170 years. Stony Creek granite panels were used on the base of the Statue of Liberty, cladding for the Brooklyn Bridge, Philip Johnson's At&T Headquarters in New York City & the Bristol-Myers Squibb facility in Wallingford, CT. Granicor is one of the world's most advanced granite fabricators with the largest sawing capacity in North America. GRANICOR 418-878-3530 US SALES 352-326-8139

GRANICOR

CIRCLE 304 ON INQUIRY CARD

Modern American Houses



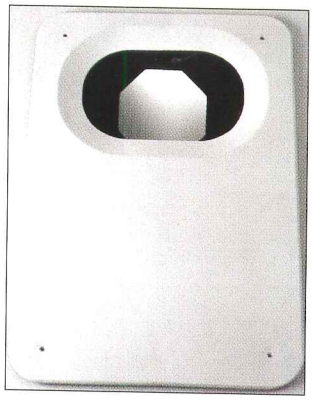
This 230-page book is packed with color photographs of more than 75 houses featured in Record Houses since 1956. New essays explore the evolution of home design decade by decade–Thomas Hines on the '50s, Robert Campbell on the '60s, Suzanne Stephens on the '70s, Charles Gandee on the '80s and '90s. $49.50. To order please call 212-904-4635.

Record Houses

CIRCLE 305 ON INQUIRY CARD

TO ADVERTISE: Call Ally Wingate
T: (212) 904-2010 F: (770) 889-9152

The Irideon® AR6™ Recessed Luminaire

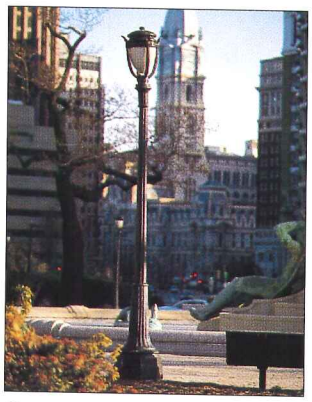


ETC's newest innovation in automated lighting projectors. Features an unobtrusive, recessed mounting arrangement w/color change capability, patented Vari-Image™ patterns, & motorized beam movement. Installs in most ceilings w/no part of the fixture extending below the finished ceiling. Lamp, color filters, patterns, lenses & electronics are easily accessed through a removable trim cover. Available w/various lamps & optional features giving a range of intensity, performance & price options.

ETC

CIRCLE 309 ON INQUIRY CARD

Cast Aluminum Lighting

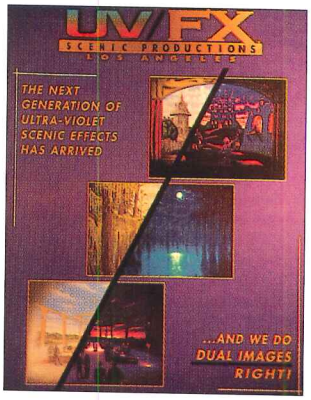


Sun Valley Lighting manufactures an extensive line of Standard & Custom cast aluminum lighting poles & fixtures in all period styles. Our 50 years of design & manufacturing experience provides you with unexcelled product quality. Our staff of designers, engineers, and tool makers are here to assist you. Our in-house foundry assures quality and prompt delivery at competitive costs.

Sun Valley Lighting

CIRCLE 307 ON INQUIRY CARD

UV/FX Scenic Productions

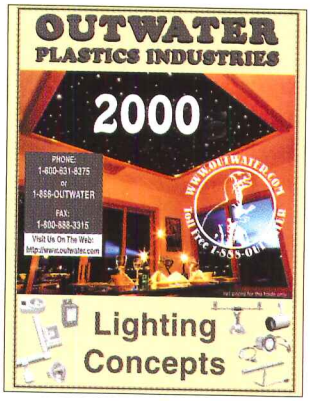


UV/FX wrote the book on Ultra-Violet Visual Effects which are designed, art directed and painted (and now even printed). UV/FX specialize in Dual Images, Complete Invisible treatments, Day to Night Effects, 3-D scenery and more for changing themed walls, backdrops and ceilings. www.uvfx.com, Tel/Fax 310-392-6817.

UV/FX

CIRCLE 308 ON INQUIRY CARD

Outwater Stocks the Lights You Need!

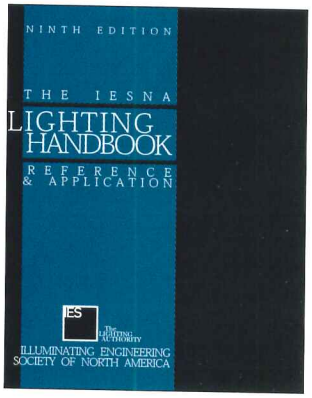


Low-Voltage Halogen Lighting; Fiber Optic LIghting; Track Lighting; Recessed Lighting; Showcase Lighting; Shelf & Under Cabinet Lighting; Exhibit & Picture/Portrait Lighting; Cove Moulding Lighting; Task Lighting; Canister Lighting; Swivel Lighting; Adjustable Spotlights; Linear Lighting; Ambient Lighting; Curio Lights; Fluorescent Lighting; Rope Lighting; All Related Accessories. Free Catalog. Call: 888-OUTWATER; Fax: 800-888-3315. Web site: www.outwater.com

Outwater

CIRCLE 306 ON INQUIRY CARD

The Illuminating Engineering Society of North America



IESNA was founded in 1906 to advance knowledge & disseminate information for the improvement of the lighted environment to the benefit of society. IESNA serves 10,000 members & offers over 100 standards & publications, the IESNA Lighting Handbook, LD+A, & hosts LIGHTFAIR & the Annual Conference. To receive a copy of the Lighting Source Catalog, or to order publications, contact Albert Suen at 212-248-5000, ext. 112 or e-mail asuen@iesna.org. Visit our website at www.iesna.org

IESNA

CIRCLE 310 ON INQUIRY CARD

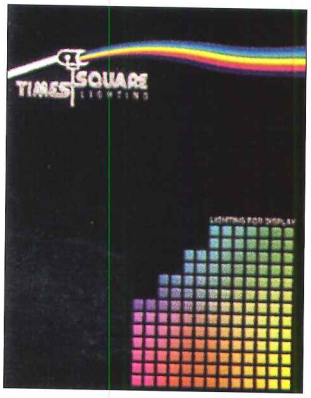
The L.C. Doane Company

We Wrote the Book on Toughness. Our lighting has withstood the worst of environments and toughest abuse onboard U.S. naval vessels. In fact, we set the standards for today's naval ship lighting. Now we're making lights for demanding industrial, correctional and institutional use. Our products go through rigorous testing for shock, vibration, closure, noise, etc. The L.C. Doane Company, P.O. Box 975, Essex, CT 06426, Tel: 800-447-5006, Fax: 860-767-1397.

The L.C. Doane Company

CIRCLE 311 ON INQUIRY CARD

Lighting Fixtures



Times Square Lighting's condensed catalog contains our complete line of line and low voltage specification grade lighting fixtures. Numerous mounting options as well as accessories for our fixtures are available. Times Square Lighting, Rte. 9W, Stony Point, NY 10980, 914-947-3034.

Times Square Lighting

CIRCLE 312 ON INQUIRY CARD

Decorative Posts & Poles

More than 30 years of experience comes together in each Hapco aluminum pole design. The Abingdon, Va., based company is an engineering leader with in-house design analysis and testing facilities. Hapco specializes in conventional and decorative lamp posts and architectural street light poles. Mounting heights range from eight to 45 feet.

Hapco

CIRCLE 313 ON INQUIRY CARD

DURA ART STONE

TO MARK OUR 65th ANNIVERSARY

WE VE GONE BACK TO OUR HERITAGE

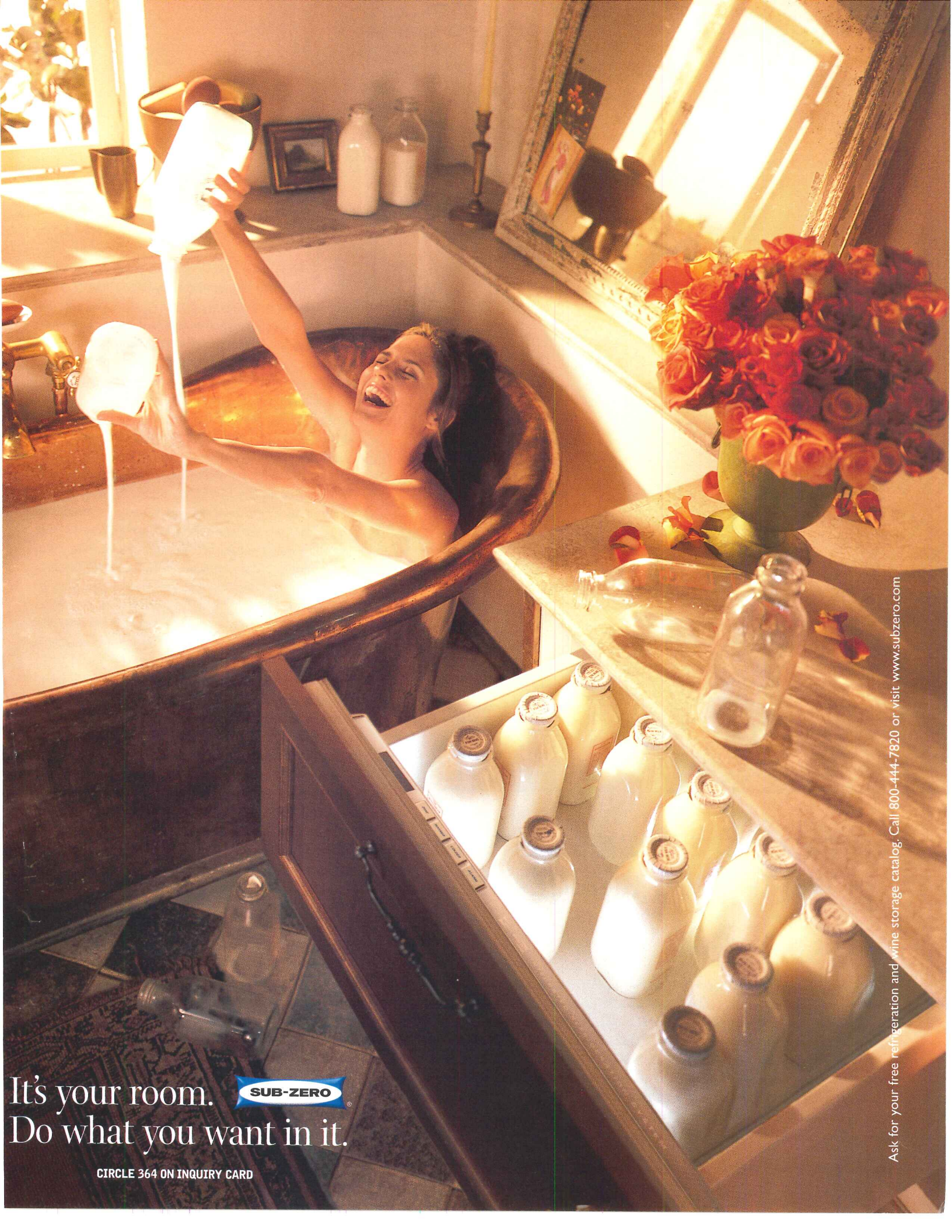
We began in 1935 with ornament and classic old world design. During the intervening years we have offered many different products and innovations but have always concentrated on quality and attention to detail. Now with our new ***Sculpture, Garden and Ornament Collection*** *catalog, we capture the classic and traditional along with the contemporary and the whimsical. We've come home. Won't you join us? Call for our new catalog or review it on the web*

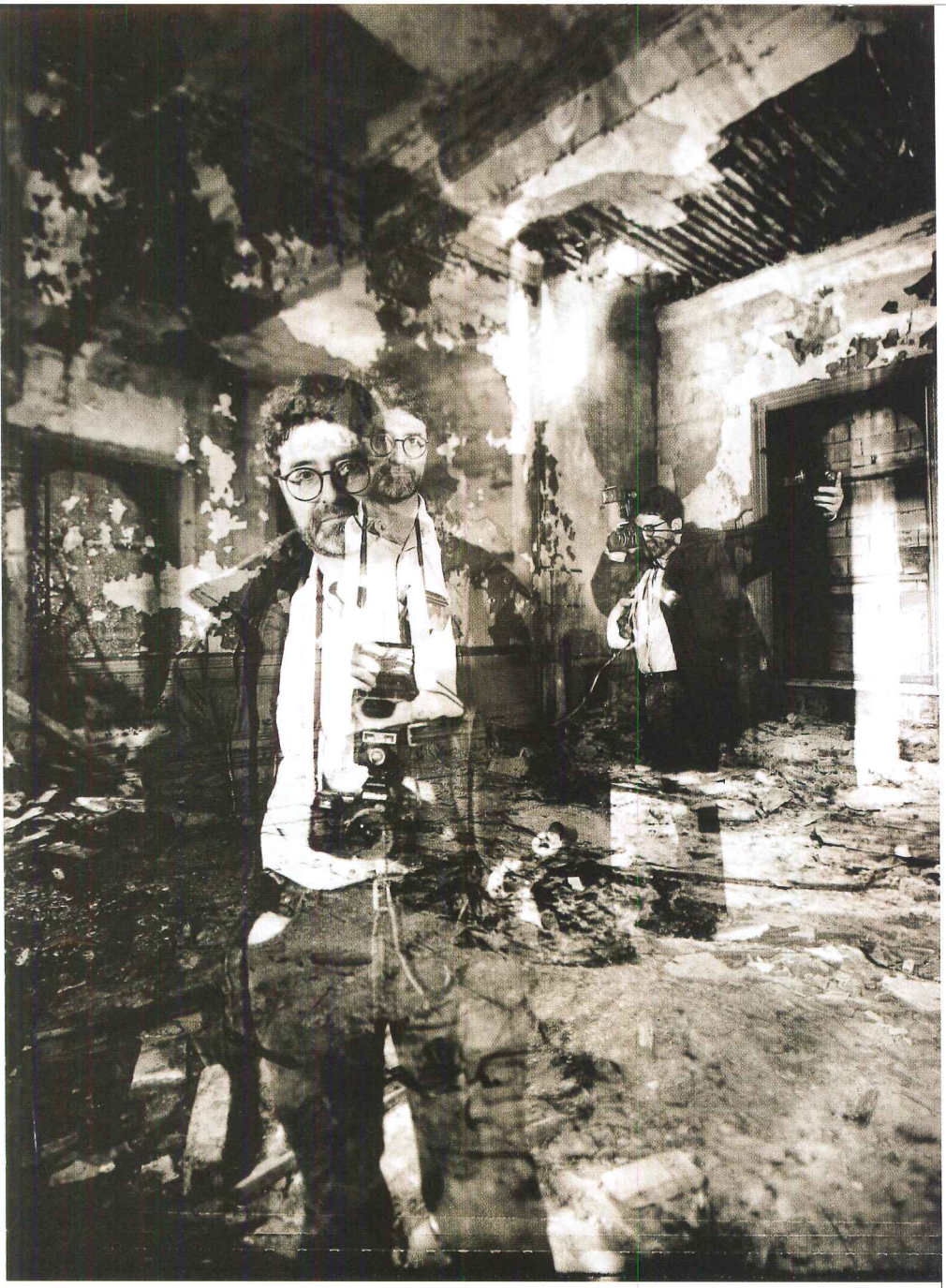
DURAARTSTONE.COM

800-821-1120

CIRCLE 366 ON INQUIRY CARD

Visit us at the AIA Expo 2000 in Booth 1227


It's your room.
SUB-ZERO
Do what you want in it.
CIRCLE 364 ON INQUIRY CARD
Ask for your free refrigeration and wine storage catalog. Call 800-444-7820 or visit www.subzero.com



Camilo Vergara sees treasures in a trashed urban landscape

Interviewed by Ingrid Whitehead

As any flea-market enthusiast knows, there is a certain mystery, beauty, and wonder surrounding an item that has been created with obvious care, used, and discarded. The work of Camilo José Vergara takes his passion for used and abandoned "things" to extremes. For more than 20 years, the Chilean-born sociologist and photographer has been documenting the changes—and often the decay—of our nation's inner city buildings and neighborhoods. His books The New American Ghetto *(Rutgers University Press, 1997) and* American Ruins *(Monacelli Press, 1999), and his exhibitions (most recently at the National Building Museum in Washington D.C.) reveal how buildings are often the victims of the changing, urban American scenery.*

Q: *Why should we see images of ruined buildings?* Because these images reveal the history of this country. Not in a loud way, but in a true way. The U.S. has ruins that take your breath away; ruins to a scale unlike any other country. Architects spend so much time planning and designing and fighting to preserve the integrity of form. Then time goes by and the unpredictable begins. Why are these structures allowed to decay? They deserve better. In a way, my photos are an homage to what was once created with great care, used, and left to crumble.

You've photographed many urban neighborhoods over time—Philadelphia, Detroit, the Bronx. What conclusions have you drawn from what you've witnessed? We're in the middle of a process where some of the buildings that were most important in their time are being razed. That whole RCA complex in Camden, New Jersey. The Packard Plant in Detroit. Post offices. Courthouses. When these things go down, what replaces them? Low quality buildings. When the first building went up people thought those neighborhoods deserved a high-level of attention. The second time around that's not the case.

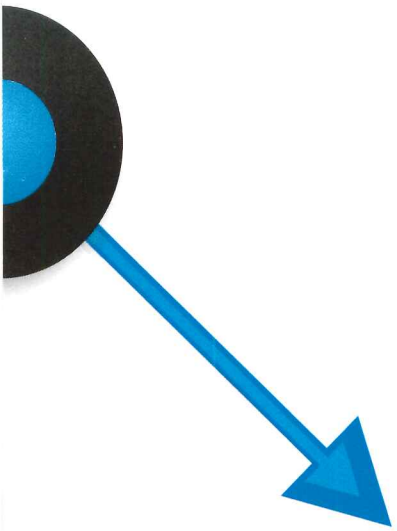
Your new show, El Nuevo Mundo, *takes your work in another direction. What brought about the fascination with documenting the Latino sections of downtown Los Angeles?* I'm fascinated with the resourcefullness of people. The Latinos in South Central Los Angeles have created a little civilization using materials that were just left behind when all the whites and blacks moved to the suburbs. Nobody here is waiting for the government to come in and fix things up. They do it themselves. The activity here is amazing.

It sounds like a positive situation, more than a negative one. So, why are you getting flack from the Latino community? There is a climate of nervousness in this community. Some of the Latinos say, 'If you want to document us, show us as doctors and lawyers in our SUVs.' They fear that my work brings a spotlight on them, and that they're being represented as not keeping up. They think that when I show the re-use and the decoration that people will see these things as loud, vulgar, and tacky. But the way people decorate, the ornamentation, the way they make their environment work for them, that is what interests me.

What will you do next? I'd like to do a book on Latino Los Angeles, with a comparison to the Latino experience in New York. And, of course, I'll keep documenting the large industrial cities in the U.S. There's no way you can tell what will happen to these buildings. It's a mystery. And if I don't tell the story, who will?

Photograph by Silvia Otte.

milestones in information technology



3000 bc written language

1450 printing press

1837 telegraph

1876 telephone

1896 radio

1920's television

1924 fax machine

1969 internet (ARPA Net)

1989 world wide web

2000

eZ™

direct internet technology

eZ is a new internet technology that makes direct PC to PC connections from multiple sites anywhere across the internet, wide area, or local network. This revolutionary direct internet connection allows quick and easy "Real Time" collaboration on files that never leave your control. eZ is the new paradigm in communication. Try it for free today!

only $199!

1-888-990-0900

www.eZmeeting.com

CIRCLE 359 ON INQUIRY CARD

Kroin

Kroin Incorporated
180 Fawcett Street
Cambridge, Massachusetts 02138

Telephone 800 OK KROIN
Telefax 617 492-4001

Classical Allusion...
Kroin sanitary fittings and polished stainless steel basins reflect the highest standards of quality and design.

Design: Prof. Arne Jacobsen, MAA
Selected for the Design Collection, MoMA.

For information Circle 100.