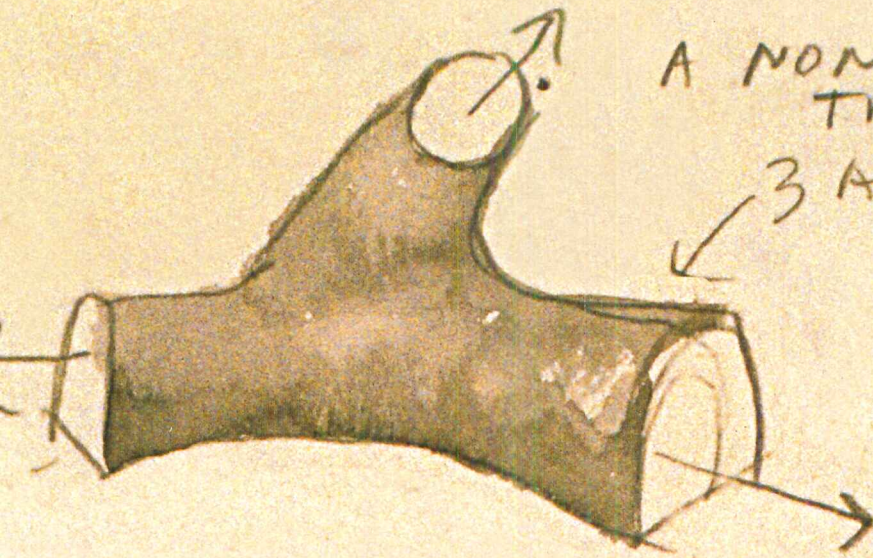


ARCHITECTURAL RECORD



A NON-DIALECTIC
TREE:
3 Axis Cusp
space

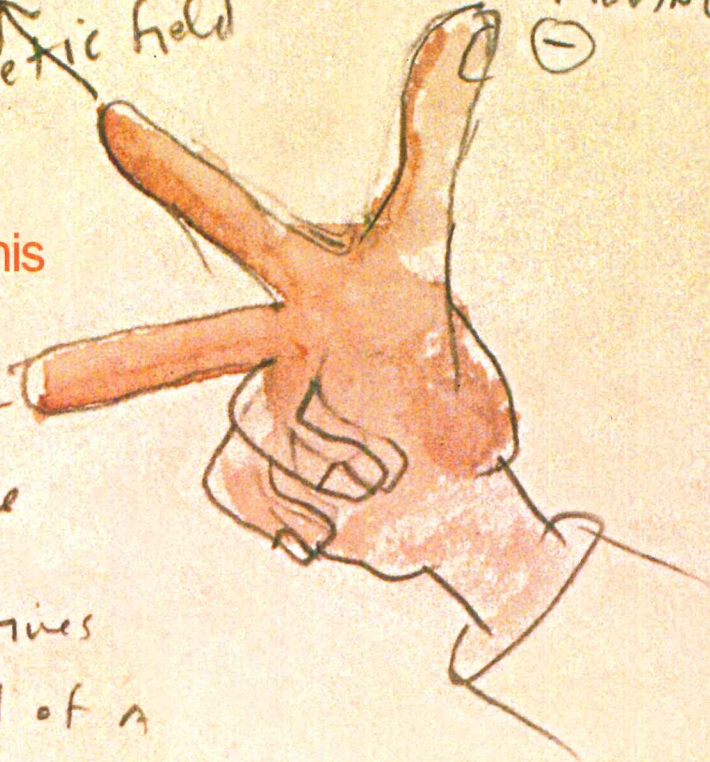
ANALOGOUS to;

Three Part Invention
Steven Holl takes "Tripleness"
to the suburbs with his
Bellevue Art Museum

Direction of
MAGNETIC field

Direction of
MOVING CHARGE
⊖

Direction
of MAGNETIC force

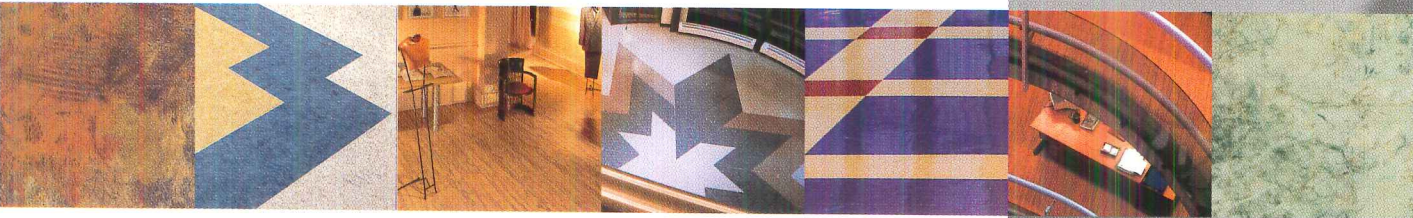


RIGHT HAND RULE = gives

the direction of movement of a
negatively charged particle
(electrons) in a magnetic field

also in this issue
**Landscape Urbanism:
Not a Contradiction**

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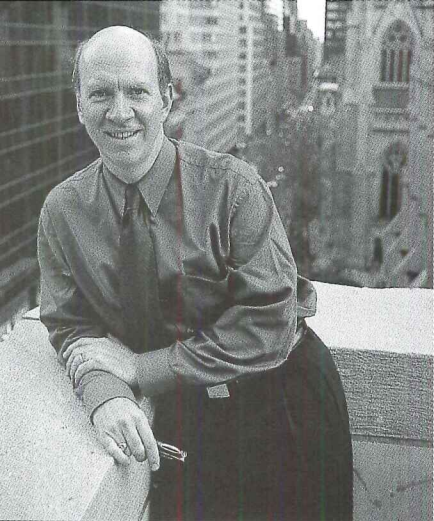
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COMMERCIAL **FLOORING**



Editorial

By Robert Ivy, FAIA

I've always had a soft spot for the Emerald Coast. That's Florida's current euphemism for the strand alongside the northern Gulf of Mexico from Pensacola to Panama City, a formerly pristine zone bordered by crystalline, blue-green water and blazing white sand. After years of languishing under a cloud of indolence, the sands are sizzling with development heat fueled by a little resort town called Seaside.

In the last 20 years, the whole region has morphed from somnolent and unpopulated to a hyperkinetic urban fringe. Highway 30-A, which hugs the coastline, has become almost unrecognizable—a succession of four-story stucco mini-malls and tasteful New Urbanist enclaves. With thousands of people moving in and tourism rampant, infrastructure seems overstressed, prompting both natives and newcomers to complain about the lumbering procession of hunky SUVs that dominate the roadways. Nearby Highway 98, formerly a two-lane affair, is being widened for heft and speed; fast food is knocking at the door. Seaside had caught on with a vengeance: The Emerald Coast has gone pastel.

Did the owner of those precious 80 acres, Robert Davis, ever dream of the implications his ideas might have when he kicked off development in 1981? The original plan, conceived by Andres Duany and Elizabeth Plater-Zyberk, quickly captured the national imagination, fostering numerous spin-offs and widespread recognition. For Davis and northwestern Florida, however, the ideas have worked almost too well. Spurred by the public clamor, other developers have confiscated his original idea—a dreamy, small-town vernacular vision—and built it all around him. Hemmed in, he literally had nowhere else to go. “If he can do it, why can’t I?” they seem to be saying, while everyone’s property prices and land values continue to skyrocket.

Witness Davis’ neighbor, the St. Joe Paper Company, which owns the 499 acres surrounding Seaside. They have contracted with the Arvida Corporation to develop a Seaside-inspired upscale community called Watercolors that encircles the original. It’s hard to tell where one stops and the other starts. Thank goodness Seaside’s immediate neighbor had the fore-

sight to hire Cooper, Robertson & Partners, a distinguished architectural firm, as planners. Their elaboration of the original Seaside pattern fits the original scheme, though in a more expansive way. Cooper, Robertson and other talented firms, including Graham Gund, the Rockwell Group, and LRK Architects, are setting the mark for quality, and it appears to be solid, if not wildly imaginative. But such a capital-intensive development for the well-heeled would be astonishing if it veered too radically from the formula. The units, apparently, are selling like hotcakes.

Watercolors is just the tip of the iceberg, or the sand dune, as the case may be. Further down the coast, in both directions, a multitude of other exemplars of 1990s prosperity—Seaside’s progeny—dot the landscape: Carillon Beach, Rosemary Beach, with the occasional real, live town like funky Seagrove thrown in for authenticity, although under huge pressure to convert to quaintness. Apparently every crossroads market wants in, but unfortunately not everyone can (or should) replicate the original. Many of the later structures are cheap knockoffs of the first New Town with the Old Ways.

With its accelerating power, New Urbanism may be dropping the “New” on the Emerald Coast. Such is the ironic force of a single, strong idea. You cannot own or control it. Who controls Davis’ dream, once out of the box? Who owns it? In this specific case, no longer Davis, but a large corporation, and a multitude of lesser lights. For the Florida panhandle, explosive low-scale development may be preferable to the VA-hospital look-alikes down the beach at Destin, but, as anyone knows, too much sugar, or pastel, can wreak havoc on your system.

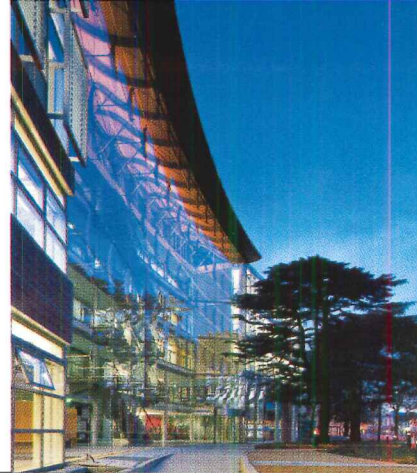
This editorial was inspired by a “From the Field” piece written for www.architecturalrecord.com.

It can't be done. It can't be done. It can't be done.

Done.

ARCHITECTURAL RECORD

08.2001



On the Cover: Steven Holl's conceptual watercolor for the Bellevue Art Museum
Right: Fingal County Hall, by Bucholz McEvoy Architects, Photograph by Michael Moran ▶

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The AIA/ARCHITECTURAL RECORD

Continuing-Education Opportunities are "Draining It Right: Wetlands for Managing Runoff" [page 127] and "Understanding Key Specification Criteria For Walls, Ceilings & Floors" [page 141] sponsored by USG.

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CIRCLE 8 ON INQUIRY CARD



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CIRCLE 12 ON INQUIRY CARD

Environmental Design Solutions with Water, Wind and Light

By Barbara A. Nadel, FAIA

FROM LAKEFRONT PANORAMAS,
SWEEPING OCEAN VISTAS TO
NATURAL LANDSCAPES, MARVIN
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HOMEOWNERS WITH DESIGN
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Whether your design goals are to protect an upscale art collection, withstand coastal hurricane winds or simply to save on energy costs, Marvin Windows and Doors has a customized solution for your next residential project.

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Preserving Art Amid an Island Setting

Interior living spaces with natural light and panoramic waterfront views are ideal for entertaining and relaxing. When an art dealer wanted an 800 square foot, two story addition with 360 degree lake views for his weekend retreat on Candlewood Isle, Connecticut, he turned to New York City architect Jeffrey Berman, AIA, principal of Jeffrey Berman Architect - and to Marvin Windows and Doors for the big picture solution. The house, located in the middle of man-made Candlewood Lake, was originally built with Marvin products, and both the client and Berman chose Marvin for the addition.



The design goals were to create a large space for entertaining, protect an art collection and capture the magnificent views overlooking the garden and the lake. Marvin was the only manufacturer to provide the flexibility needed for different sizes and shapes, including larger assemblies. The wide expanses of glass maximized views, while retaining a smaller, residential scale for a grand window wall, and avoiding a curtain wall look. Window trim is painted on the outside, and provides the only opportunity to add color to the building's exterior palette of natural materials.

"The client wanted Marvin Windows and Doors, because they offer the best thermal performance and airtight seals to protect artwork from dust and dirt. Humidity and temperature control were also considerations in the windy lakefront environment. We used insulated double glazed, operable windows with integrated screens. On a cool summer night, the clients will open a window, enjoy the breeze, and feel like they're outside," said Berman.

Beachfront Conditions Provide Design Challenges

Hurricane-strength winds, extreme temperatures, ocean views and natural light were the environmental design criteria for a home facing the Atlantic Ocean in Locustville, on Virginia's Eastern Shore. This seaside summer residence - designed by Don A. Swofford, AIA, principal of DASA, in Charlottesville, Virginia - in classic Colonial Williamsburg style, had to withstand hurricane winds exceeding 135 miles per hour. The Marvin Magnum Window series was specifically chosen to provide the historic house appearance and withstand hurricane wind loads.

"The code calls for 105 mph wind resistance, but the owner wanted

to design to 135 mph for safety. The windows in the rooftop lantern could not have hurricane covers, so we designed the lantern with a steel frame running down to the foundation. Marvin's Magnum series provided 1-1/2" wide custom detailed muntins, solid thermal panes and Authentic Divided Lites. Year-round temperature swings at this Atlantic beachfront vary from 105 degrees in summer to 10 degrees below zero in winter. These windows provide good R-values to reduce interior cooling and heating loads," said Swofford.

"Marvin helped us meet our design goals by manufacturing high performance windows to reflect the Colonial Williamsburg style, while cutting project costs by 40 percent. As the first architect in Virginia to use Marvin Windows and Doors, I'm confident Marvin can meet criteria for any job and work with architects and owners to meet special design criteria. We know we can rely on the quality, performance and aesthetics of their products. The Magnum series has successfully met unusually high wind resistant requirements. Most importantly, our client is very pleased with the results," Swofford added.

Light-filled Small Scaled Addition Saves Energy Costs

Starting the day in a cozy light-filled breakfast nook overlooking the woods is just what architect Michael Crosbie, an Associate with Steven Winter Associates, Inc, in Norwalk, Connecticut, had in mind when he designed an addition on the north facing side of his 1938 vintage home. He wanted the new windows to match the existing "six over one" windows on the rest of the house. Crosbie achieved these aesthetic goals and more, with Marvin Windows and Doors.

Crosbie chose Marvin because of the high quality they provide, the custom capabilities and selection available to meet project needs. Specifically, the Simulated Divided Lites - the muntin bars separating panes of glass in a window sash - attached to the window gave the appearance of a true divided lite, while providing the advantage of double paned glass and energy efficiency.

"I wanted the small scaled addition to appear like it had always been part of the house, and Marvin worked out all the details just perfectly. They ganged three windows together in one assembly for easier installation, but the windows look like three separate units. The contractor installed the windows in less than a day. The product versatility is endless; Marvin will do anything you want," said Crosbie.

Inside, the simple, tastefully detailed addition overlooks a naturally landscaped area, and includes built-in bench seating below the windows. "We rarely turn the lights on, because there is so much natural light entering the space, even with a northern exposure. As a result, we've saved on electricity and energy use. Marvin was the most economical choice available on the market that gave me exactly what I wanted: aesthetics, maximum natural light, energy efficiency, double glazed units and ease of installation," Crosbie added.



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Barbara A. Nadel, FAIA is principal of Barbara Nadel Architect, in New York City, specializing in programming, planning and design of institutional facilities. She is 2001 National Vice President of the American Institute of Architects and frequently writes about design and technology.

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CIRCLE 13 ON INQUIRY CARD

Letters

Talkback

In response to "A Critical Moment" [Editorial, JULY 2001, page 19], I agree that the public does in fact need more well-explained and well-thought-out information about our built environment. While printed media, especially newspapers, are a first step, they can not succeed in a vacuum. Criticism, by its nature, is meant to express a given opinion. Too often, individuals take at face value what they have read (or seen on TV, or heard by word-of-mouth), without any critical thought of their own.

I only see this trend getting worse in our culture, which is ever more demanding of immediate gratification. Critics must be cognizant of this. Their role is huge—they must not only share opinion but get people excited enough to want to pursue more information, and ultimately begin to look up and notice what's around them. More of this is needed in the architectural realm—as evidenced by the lack of coverage in many major newspapers, as was noted in your editorial.

Once people are interested, they must be able to find the information easily. Living in Chicago, I find that resources are easily accessible. I'm not sure about other metropolitan areas, but I would venture to guess that resources are lacking in suburban and rural areas. As Herbert Muschamp said so eloquently last fall in Chicago: The bad thing about architecture is that even stupid people get to have an opinion about it. I hope the architecture community's efforts to inform and educate the public will grow as public interest grows, as it seems to be doing.

—Koren Ganas
OWP&P Architects
Chicago

Campbell's soup

Robert Campbell's critique of avant-garde architecture [JUNE 2001, page 75] was a refreshing antidote to the fashion victim syndrome that too often afflicts the world of architectural journalism. However, I think he was too eager to have it both ways and too quick to let himself off the hook by taking refuge in the notion of a "visible timeline" by which "we can walk through the built world, read buildings by their style, and so date them." By falling back on the familiar bromide that architecture must reflect its time and place, Mr. Campbell reinforces the specious theoretical underpinnings of the addiction to novelty he decries.

Contrary to what unsuspecting first-year architecture students are taught as an eternal truth, the notion that architecture must reflect its time and place is relatively new. It derives from the discipline of art and architectural history, which, in the 19th century, attempted to move beyond purely aesthetic issues and into the realm of art and architecture's relationship to political, economic, and cultural context. Hence, the indisputable observation that architecture tends to reflect its time and place.

This idea was very attractive to late-19th-century architectural critics, who were railing against the eclectic revival styles of their day. In their minds, it was a short and inevitable leap from the historian's observation that architecture does reflect its time and place to the critic's dictum that architecture must reflect its time and place. Thus began the quest for architecture that aspired not to timeless norms of beauty and utility but to the self-conscious expression of the zeitgeist. Add to these circumstances the late-19th-century proliferation of architectural publications with a monthly need for new material and it's not hard to see the source of our current obsession with novelty.

I applaud Mr. Campbell's desire to lead us beyond novelty, but much of what he's railing against is now deeply rooted in our architectural culture. He's got a tough row to hoe.
—Jim Gauer
New York City

Mr. Campbell cites the Jewish Museum Berlin as an instance of architects and journalists being perhaps a little gullible in their acceptance of the new. While I welcome this call to give novelty the honor of critical attention, I have to take issue with some of what Mr. Campbell says. I am the museologist responsible for turning Daniel Libeskind's Jewish Museum building into a functioning entity, a place of scholarship and narrative. Such a responsibility sharpens the mind, particularly when one is frequently asked questions such as: Is it suitable as a museum? Should it not remain empty?

First, the spaces of the Jewish Museum Berlin are not a series of sound stages waiting obediently for academics and exhibitions designers to strut their stuff. Rather, these spaces, and their component elements, actively contribute to the telling of arguably the most fraught history of any cultural relationship the modern world has known.

This "activeness" causes people to question the building's functionality, yet it also makes this an incredibly exciting building to work with. Libeskind has imbued his building with some of the major themes of German Jewish history—cultural values under trauma, people and cultural property destroyed, and exile—alongside statements about the continuity of culture. The building has its origins in a powerful set of ideas that relate directly to the narrative being pursued in the exhibitions. Indeed, one of the

great joys of this project has been to allow exhibition themes and architecture to work together.

In his critique, Mr. Campbell claims that the building "derives most of its ideas from decades-old expressionist cinema" and that it is "a perverse fun-house." Such comments do not correspond to the reality of the building that I am currently filling with exhibitions. The criticisms simply do not ring true. Libeskind's designs are not arbitrary borrowings.

—Ken Gorbey
Project Director, Jewish Museum Berlin

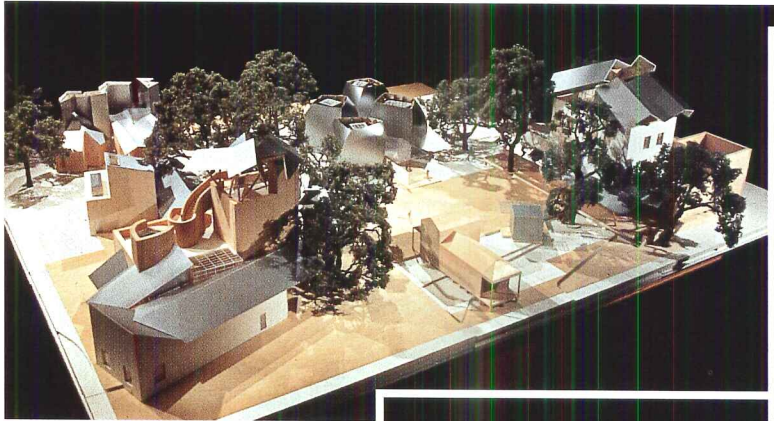
Chock-full o' architecture

Your May issue was the heavy-weight champion of magazines—my wife struggled to pick it up with the mail. And the text justifies the weight. A quick scan immediately revealed the fact that the Gehry virus has begun to infect the architectural profession. His disciples are eager to jump on the bandwagon of his publicity. Anthony Vidler [Critique, MAY 2001, page 71] accurately refers to these as "bloblike forms," attainable by the use of the computer. Are they art? If you dumped a pile of mud and duplicated its form in titanium with the aid of a computer, would it be creative design? These forms herald the introduction of destructive architecture. They are really not original. At the end of World War II the streets of London, Berlin, and Hamburg were strewn with such prototypes. It is ironic that, in the same issue, you are so sentimental about the Farnsworth House [Editorial, MAY 2001, page 23], a prime design created without computers.

—Leon Rosenthal, AIA
Franklin Square, N.Y.

Please e-mail letters to Robert Ivy at: rivy@mcgraw-hill.com

Gehry designs Biloxi “mad pot-Ohr” museum

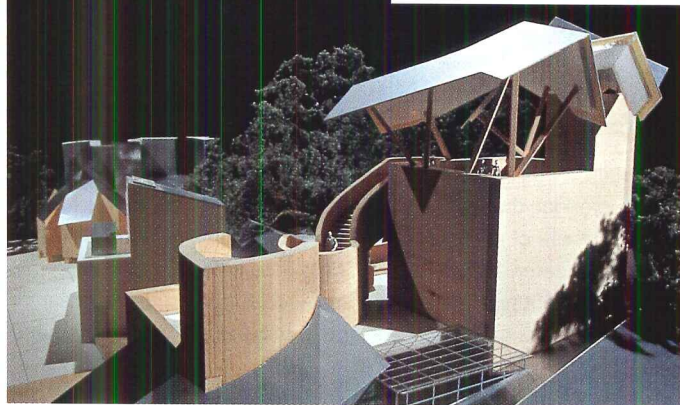


Skip the Guggenheim to view the latest design by Frank O. Gehry, FAIA—the Ohr-O'Keefe Museum of Art in Biloxi, Miss. It's housed farther south, at the Biloxi Community Center, where models of the museum were unveiled in July.

For Gehry, this commission was a chance to design a relatively small, arts-based project with an interesting program. In explaining why he took on the project, Gehry told museum supporters at the unveiling it was the “challenge of doing something small and taking it to the moon.”

The \$16 million Ohr-O'Keefe Museum of Art will be built as a series of six varied buildings placed between a number of large live-oak trees on a four-acre site, a part of Tricentennial Park, overlooking the Gulf of Mexico. Gehry admits that, unlike his signature buildings with wildly undulating forms, this project is somewhat restrained. The centerpiece of the museum campus is a four-pavilion gallery to feature the ceramics work of George E. Ohr (1857–1918), known as the Mad Potter of Biloxi.

Ohr, who created thousands of pieces of pottery at the turn of the 20th century, is best known for his



The Ohr-O'Keefe Museum of Art (top left) will have pavilions, including the Ohr gallery (top right) and a building with a cafe and gift shop (above).

pieces called “mud babies,” with incredibly thin, pinched, crimped, fluted, and manipulated walls. Considered eccentric and garnering little enthusiasm for his work in his lifetime, Ohr sported a two-foot mustache and proclaimed himself the “unequaled, unrivaled, undisputed, greatest art pot-Ohr on earth.” After his death, his mud babies sat in storage for nearly 50 years before being discovered and highly coveted in the past 30 years. Many New York artists, from Jasper Johns to Andy Warhol, became collectors of Ohr's expressive work.

Besides the Ohr gallery, the museum will include galleries for African-American art and works by

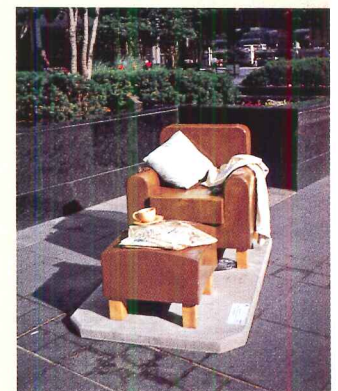
local contemporary artists; a building with a cafe and gift shop; and an education building with ceramics studios, conservation laboratory, and a pottery research library. The Pleasant Reed House, a 19th-century historic house, will be moved to the site and restored as an African-American interpretive center.

Buildings on the campus will be clad in a range of materials, including stainless steel, brick, and white plaster. Gehry Partners is working with Guild Hardy Associates of Gulfport, Miss., on the project. Groundbreaking is expected in 2002, with an opening in late 2004. *John E. Czarnecki, Assoc. AIA*

SUITE HOME CHICAGO

Part Situationiste, part Futurist, and all kitsch, Chicago's summer public art exhibit, *Suite Home Chicago*, plops oversized, living room-like arrangements of fiberglass furniture along the city's sidewalks and plazas. Tourists and office workers alike can lounge while buses and cars zoom by, and voyeurs may observe spontaneous reenactments of “the everyday” in the homelike habitats. These tourist attractions also provide a springboard for the city, which may add more urban furniture around town. A different sponsor funded each suite, and artists rendered the furniture, so each arrangement is unique. Some are three-dimensional billboards for their sponsors, while others feature furniture decorated with a pattern. Michigan Avenue hosts one-third of the exhibit's initial 180 arrangements, each comprising one to four pieces of furniture. The city will add approximately 150 more pieces before they're packed up on October 13.

Rosemarie Buchanan



Record News

OFF THE RECORD

The Bush administration has named **F. Joseph Moravec** commissioner of public buildings for the General Services Administration, replacing **Robert A. Peck**. Moravec was senior adviser for business development at George Washington University.

The shortlist in the competition for a new \$110 million main library in Minneapolis includes: **Gwathmey Siegal & Associates with Bentz/Thompson/Rietow**; **Cesar Pelli & Associates**; **Rafael Viñoly Architects**; **RSP Architects with Hardy Holzman Pfeiffer Associates**; **Ellerbe Becket with Meyer Scherer & Rockcastle**; **Will Bruder Architects with Hammel Green & Abrahamson**; and **UN Studio with Fox & Fowle Architects**.

Frederick Steiner has been named dean at the University of Texas at Austin School of Architecture, replacing **Lawrence Speck**. Steiner was formerly professor and director of the Arizona State University School of Planning and Landscape Architecture.

Michael Graves & Associates, **Hardy Holzman Pfeiffer Associates**, **Robert A.M. Stern Architects**, and **Vitetta with Schmidt, Hammer, Lassen** of Denmark are in a competition for a \$95 million main library in Jacksonville, Fla. A winner will be chosen this fall.

Maya Lin has been selected in a competition for the design and renovation of the new SculptureCenter in Long Island City, Queens, N.Y. The shortlist included **Deborah Berke, Diller + Scofidio**, and **Weisz + Yoes**.

Diller + Scofidio, Leeser Architecture, and **MVRDV** are shortlisted in the competition for a new \$60 million museum of art and technology for Eyebeam Atelier in New York.

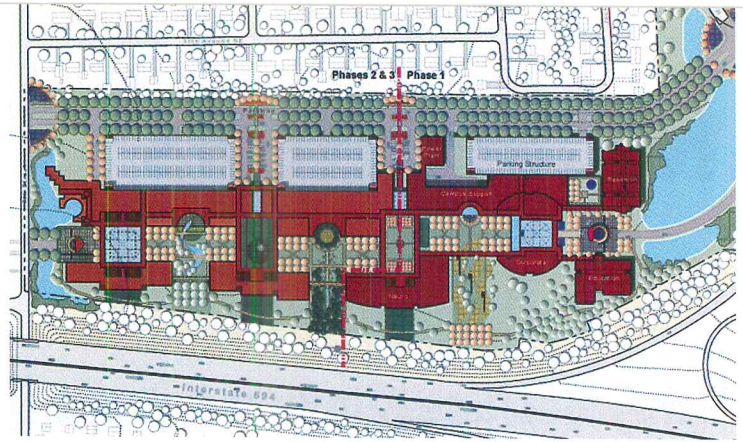
Randall Stout Architects has been selected to design the UC-Riverside Alumni and Visitors Center.

Medtronic campus first phase complete

The first things to see upon entering the new Medtronic corporate campus in north suburban Minneapolis is what Bill George, CEO of Medtronic, believes to be the heart and soul of this rapidly growing company: the research and education facilities. That's why Medtronic asked Minneapolis-based Hammel, Green and Abrahamson (HGA) to design a corporate campus that emphasizes the "campus" over the "corporate."



Construction has begun on the 1-million-square-foot, three-phase campus, on the site of a former drive-in movie theater. The 540,000-square-foot first phase was completed this summer.



The Medtronic campus will include about 1 million square feet of space, with an emphasis on research and education, to be built in three phases.

Phases two and three will be built in five-year intervals.

Medtronic, a pioneer in the field of cardiac pacemaker technology, has expanded its business scope into the areas of vascular, neurological, and spinal treatment devices. A large part of Medtronic's mission involves educating doctors and technicians worldwide about its research and products. As a result, the first phase includes classrooms and state-of-the-art research labs.

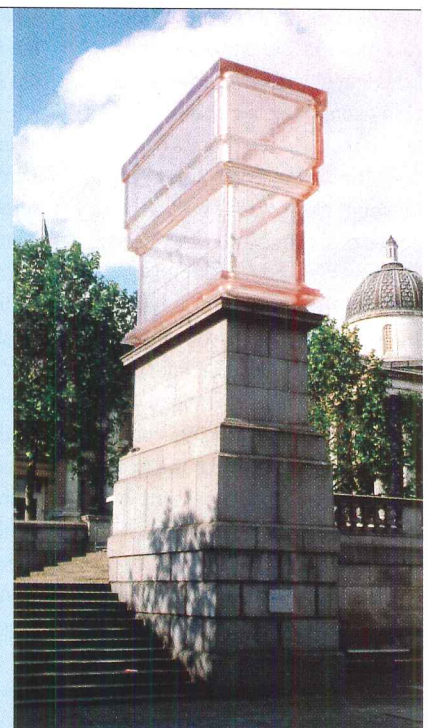
Utilizing an updated version of "Collegiate Gothic" architecture, the architects have designed a linear group of buildings to be built around

a series of exterior courtyards. A circular, four-story corporate office is between and just behind the research and education buildings, at a formal entry court. Also in this first phase are a day-care facility, support services, and a 54,000-square-foot building for the company's rapidly growing neurological, spinal, and ENT surgery division. Exterior building materials include native Minnesota stone with brick.

Working with landscape master planners Oslund and Associates of Minneapolis, HGA and Medtronic wanted to emphasize "stewardship of the land," says Bill Blanski, AIA, senior project designer at HGA. Three courtyards will have themes: prairie grasses, pine forest, and hardwood forest. *Bob Dillon*

Whiteread's Untitled in Trafalgar

British sculptor Rachel Whiteread's much anticipated Untitled Monument was unveiled in Trafalgar Square in London on June 4. The striking sculpture, cast in resin, took eight months longer than expected and required an extra four tons of resin. An inverted mirror image of the 14-foot-tall granite plinth on which it stands, Untitled Monument pays homage to the plinth by echoing its profile and drawing attention to its elegant form. Built in 1841, the plinth was originally intended as the site for a statue of William IV, but lack of funds prevented its realization. Whiteread's sculpture is the third and last in a series of site-specific projects commissioned for the plinth. The artworks were the brainchild of Prue Leith, then chairman of the Royal Society for the Encouragement of Arts, Manufactures and Commerce, who wanted to raise awareness of contemporary art. Untitled Monument is an unassuming sculpture that comes alive with the changes in light, which are atmospherically reflected through the resin, accented by the occasional streak of red when a bus drives past. Its translucency is a poignant reminder of its history as an empty plinth and testimony of Whiteread's desire to create "a pause...a quiet moment" in one of London's busiest areas. Zoë Ryan



Peace, love, and Meier: Pavilion designed for Woodstock site

Architect Richard Meier, FAIA, and billionaire Alan Gerry were not among the 400,000-some people who gathered for the Woodstock music festival near Bethel, N.Y., in August 1969. Gerry, 46 at the time and living nearby in Liberty, N.Y., advised his teenage children not to attend, though one daughter went anyway. Now, Meier and Gerry are creating a performing arts center to celebrate that generation-defining event.

Gerry has lived in Sullivan County all his life. He built a television antenna business into a large cable television company and spun off the Gerry Foundation to develop a music and cultural center at the Woodstock site—something similar to Tanglewood in the Berkshires of Massachusetts—to help the area's faltering economy. By most accounts, the county at the heart of the once-thriving Catskills tourist haven is ready for the infusion of visitors. New York

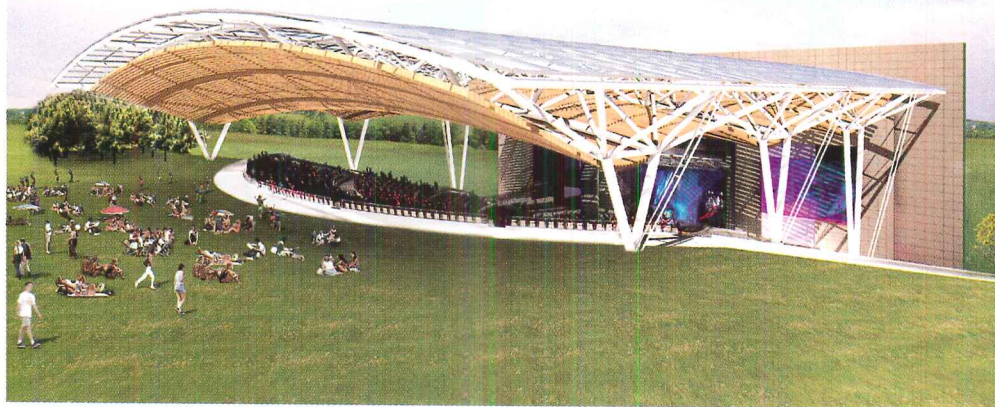
State has committed to kick in \$15 million of the pavilion's \$40 million price tag.

Ultimately, the foundation plans to build a 1,000-seat performance hall, a festival stage on the site of the original stage, a museum, a performing arts school, a 300-room hotel, a visitors' center, and retail and dining facilities. The museum, called Music Experience, will have exhibitions focusing on the 1969 event and the history of American music.

The center's first component has been designed by Richard Meier & Partners to live lightly on the site. The cloudlike music pavilion, which includes 3,500 seats under cover, and lawn seating for 14,000, will open in 2004. Meier's trademark whiteness comes to this project in the form of a curved, weblike canopy of white steel and glass that seems to hover over the field. The roof is fastened to the hillside by

thin V-columns at six points. The roof is intended to be highly transparent during the day and a glowing hood at night. The underside of the roof will be covered in wood louvers that will let in daylight from above, expose the structural elements, and shield the lighting and other performance equipment from view. Meier has called it his "most flowing and free-form building." *Kira L. Gould*

The Woodstock pavilion, with wood louvers on the underside, will be supported by thin V-columns.



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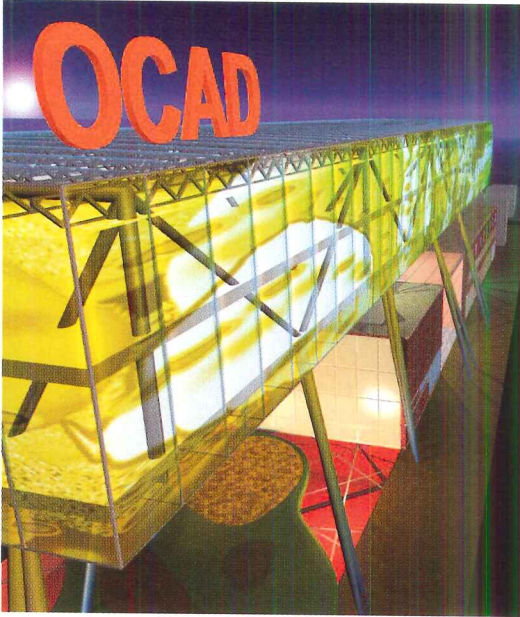
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Alsop's first North American building hovers above school

With Will Alsop's first building in North America, the London-based architect will be making quite a statement. Alsop Architects, in a joint venture with Toronto's Robbie Young + Wright Architects, has designed the \$25 million Sharp Centre for Design and renovation of the existing Ontario College of Art & Design (OCAD) building in downtown Toronto.

The steel-and-glass building looks like a rectilinear spaceship that landed over the top of the

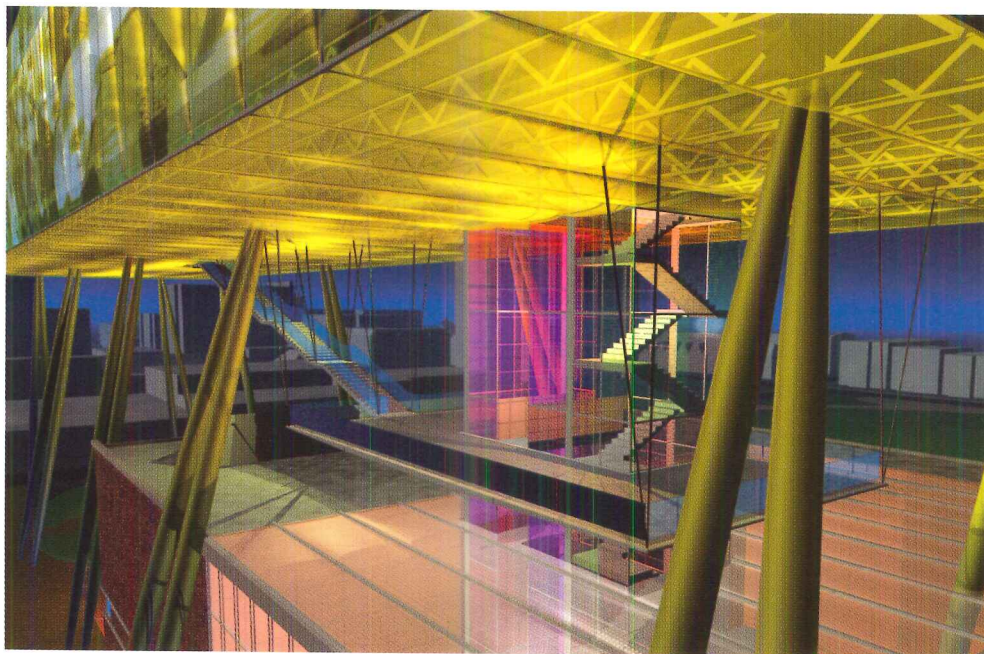
existing design school. "Visually vibrant" was the understated way Gregory Woods, project architect with Robbie Young + Wright Architects, described the unusual tabletop-like structure that will straddle the existing OCAD campus. Construction is scheduled to begin by the end of this year and be completed in 2004.

The 50,000-square-foot Sharp Centre facility, about 75 feet wide and 300 feet long, will include classrooms, studios, an auditorium, and meeting space. It will relieve pressure on the cramped, existing OCAD space that has been cobbled together since the original building opened in 1913. The \$25 million project cost includes technology and equipment enhancements for the school.

Supported by columns that will bracket or penetrate the existing building, the Sharp Centre will be accessed by glass-enclosed elevators and stairways through a reconfigured main entrance.

The underside of the new building will be about seven stories above street level, and about three stories above the roofline of the existing building. "That gap is just as important as the structure," Wood says, "because our master plan includes organic shapes to be suspended from the bottom of the new center as a foil to the rectilinear geometry of the table."

While the functions of these amorphous shapes has not been determined yet, Woods says they could possibly be classrooms. *Al Warson*



The Sharp Centre for Design will be built on columns above an existing OCAD building.



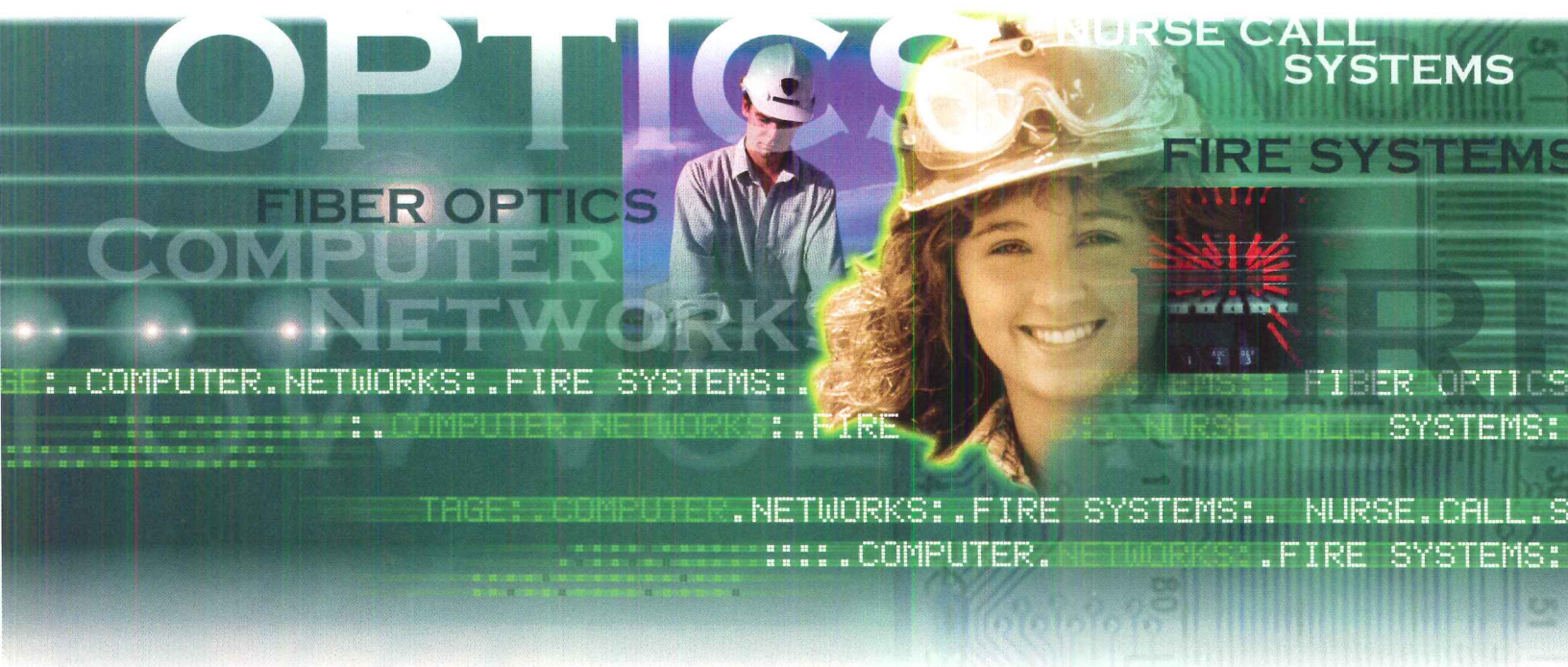
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Future uncertain for H.H. Richardson's last home



After one and a half years on the market with no buyer coming forward, the Brookline, Mass., home in which H. H. Richardson lived and worked during the last dozen years of his life is in danger of being lost forever.

Richardson rented the Cottage Street house in 1874, shortly after winning the competition for Trinity Church. He practiced first out of its east parlor, later building a wing of offices. While these "coops" were demolished around 1890, Richardson's other modifications remain intact, including a stained-glass window by John La Farge (who collaborated on Trinity's interiors) and a staircase Richardson added with a spindled screen and woven gate.

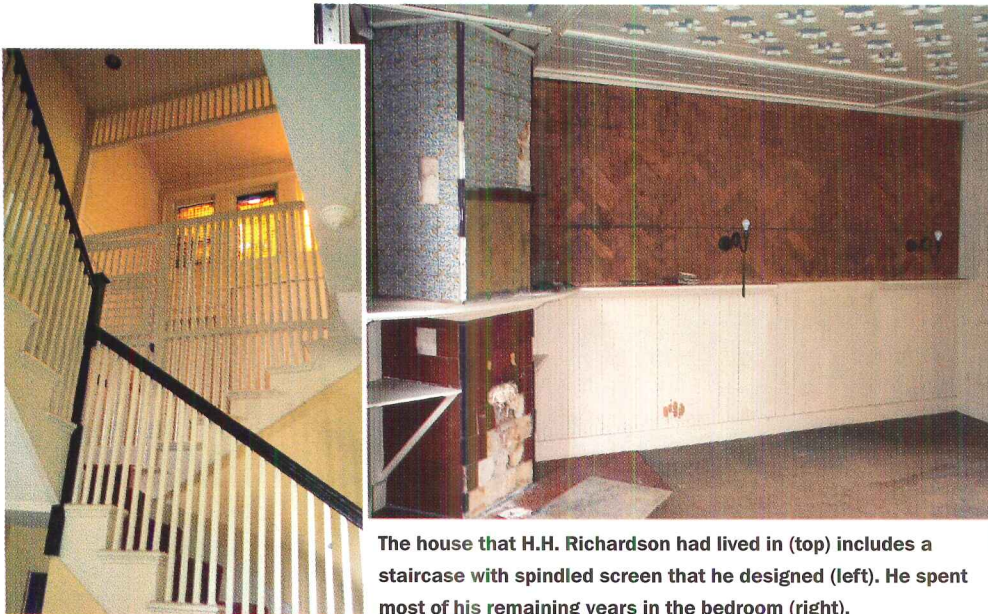
The stair leads to the most poignant reminder of Richardson's presence—the bedroom he designed for himself, where he died in 1886 after struggling with Bright's disease. The room is an unusual space of vivid architectural

play. It also portrays Richardson's continuing passion for his work, despite being bedridden for months at a time. Richardson used the three hooks in the ceiling above his bed to lift himself upright. The herringbone cork walls doubled as pinup surfaces for designs produced downstairs.

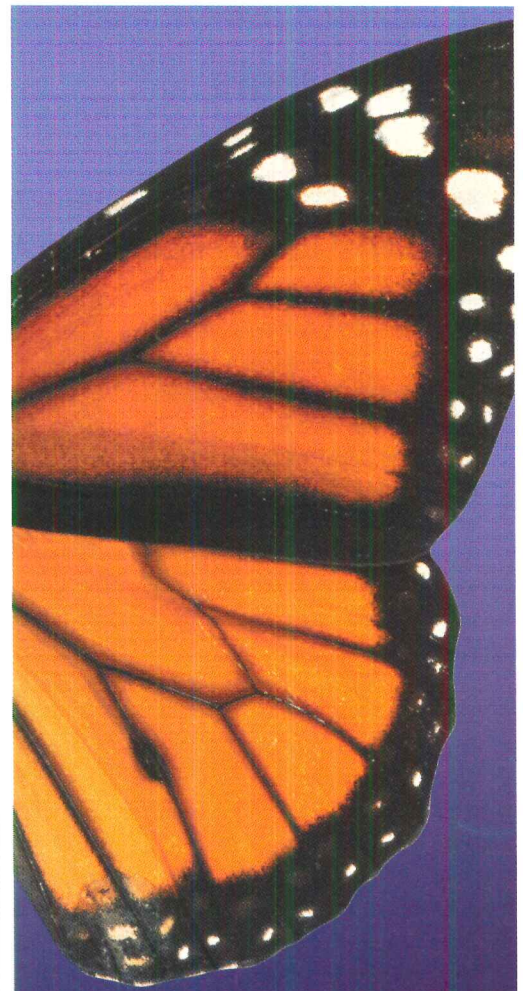
Although rich in history, the property's future is uncertain. After passing to

Richardson's son and grandson, the house was purchased jointly by two flanking neighbors in January 2000. They hoped to prevent it from being sold to someone who would tear it down. These new owners worked with the Society for the Preservation of New England Antiquities to create covenants that would safeguard the house. But the covenants will only take effect if the right buyer can be found—someone who can afford the asking price of more than \$1.5 million, and who has energy enough for the restoration.

The current owners cannot hold the house indefinitely, and in Brookline's wealthy market it would sell quickly as a tear-down. Today, the building is one of seven on the Brookline Preservation Commission's endangered list. Hope still hinges on finding a buyer soon, so that, in the words of David England, chair of the commission, this "strange, weird, and wonderful place" can be saved. *Mark Pasnik*



The house that H.H. Richardson had lived in (top) includes a staircase with spindled screen that he designed (left). He spent most of his remaining years in the bedroom (right).



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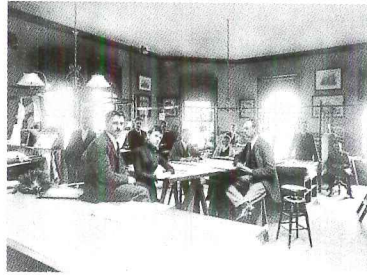
CIRCLE 20 ON INQUIRY CARD

Record News

Michigan exhibit shows how Albert Kahn's industrial beauty influenced Modernism

Devotees of the Machine Age aesthetic will enjoy *Albert Kahn: Inspiration for the Modern*, an exhibit at the University of Michigan's Museum of Art through October 21. The exhibit, which pairs Kahn's sketches and drawings with artwork inspired by his flagship factories for Ford (the exhibit sponsor), illustrates how his work helped give rise to the forms, styles, and themes explored in early Modernism.

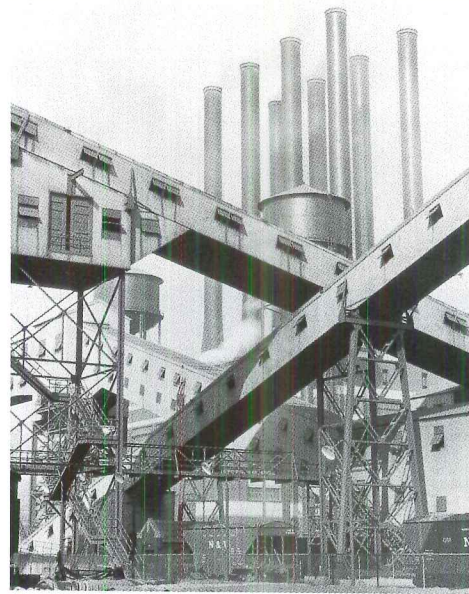
A self-taught architect, the German-born Kahn (1869–1942) immigrated to America in 1880 and learned the craft at a Detroit firm before opening his own practice in 1896. His multidisciplinary studio brought together architects and engineers to design projects of many sizes and scales, but he's best known for Highland Park and the



The work of Albert Kahn (left photo, seated on table in 1880s) inspired the photography of Charles Sheeler, as in his 1927 photograph *Criss-crossed Conveyers* (right).

River Rouge complex—the massive, light-filled Ford plants that pioneered the use of the assembly line. In Kahn's hands, gloomy industrial architecture became elegant, airy structures that were just as technologically innovative as the cars built within them.

The nascent art of photography and the burgeoning field of advertis-

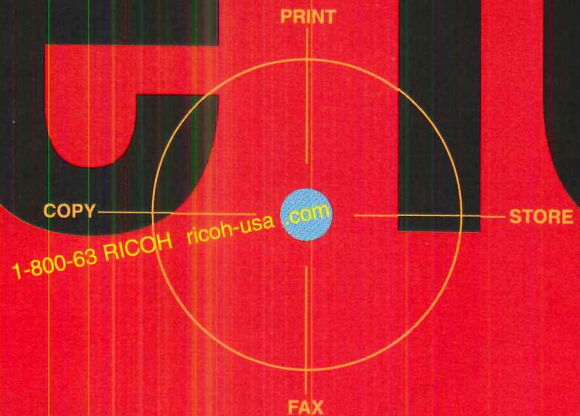


Towards a New Architecture. American artist Charles Sheeler, who was commissioned to paint River Rouge in the 1930s, drew on its imagery throughout his career. Mexican muralist Diego Rivera first sketched sweeping scenes in charcoal from within the River Rouge complex, which he later used as the basis for *Detroit Industry*, the mural he painted in 1933 for the Detroit Institute of Arts. The artworks on display underscore the breadth of Kahn's reach and the depth of his influence.

ing allowed Kahn's work for Ford to be captured in an entirely new way and conveyed to global audiences, where it came to symbolize American optimism, productivity, efficiency, and progress. European artists and architects traveled to Detroit to see the iconic factories, and Le Corbusier used photographs of them in his groundbreaking text,

With the upcoming River Rouge renovation thrusting the work of Kahn back into the public eye, this exhibit is well timed. The beauty of form following function, demonstrated in Kahn's architecture for the Machine Age, remains an inspiration for designers. *Deborah Snoonian, P.E.*

wide fo



News Briefs

Austin City Hall by Predock moves forward Design has been approved for the \$38 million Austin City Hall by Antoine Predock Architect of Albuquerque in association with Cotera, Kolar, Negrete & Reed Architects of Austin, Tex. The masses of the 118,000-square-foot building, to be completed in fall



Austin City Hall, to open in 2003, will include a scrimlike bronze skin.

2003, are intentionally angled away from adjacent streets with several small plazas around the perimeter. Primary materials are limestone, bronze, and glass, with a scrimlike bronze skin enveloping the upper levels. According to Predock's design, terraces will be positioned to form analogous relationships to geological forces in the hill country surrounding Austin. Inside, catwalk-like bridges will intersect a four-story lobby with a bronze ceiling.

L.A. City Hall reopens after renovation and retrofit

Los Angeles City Hall formally reopened in early July after a \$300 million renovation and seismic retrofit. The building, built in 1928, suffered serious damage in the 1994 Northridge earthquake and is now able to survive a 6.8-

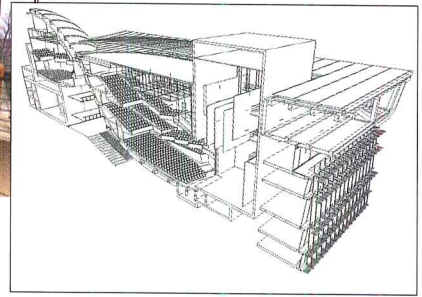


magnitude quake. In the retrofit, 526 isolators or sliders and 70 viscous dampers were installed. The Los Angeles firm AC Martin Partners was the architecture and engineering principal for the seismic project. Levin and Associates Architects and Kaplan Chen Kaplan Architects and Planners worked on the historic renovation, which restored major interior spaces.

Grimshaw wins competition for Rensselaer art and media center

London-based Nicholas Grimshaw & Partners has won a competition for a \$50 million electronic media and performing arts center at Rensselaer Polytechnic

Grimshaw's Rensselaer center includes atrium and performance spaces.



Institute in Troy, N.Y. The 160,000-square-foot building, to open in fall 2003, will have five performance venues, including a 1,200-seat theater, a 400-seat recital hall, galleries for electronic and traditional visual arts, and studios. Grimshaw was selected in a competition with Davis Brody Bond, Thomas Leeser, Morphosis Architects, and Bernard Tschumi Architects. Built on a bluff, the building will feature a glass atrium overlooking the Hudson River. Grimshaw envisions the building as a "floating wafer" that extends the Rensselaer campus westward.

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Dates & Events

New & Upcoming Exhibitions

Skin and Soul: Third International Design for Architecture Exhibition and Symposium

Jyväskylä, Finland

August 10—11: Symposium

August 11—September 9: Exhibition

Considers the relationship between surface, content, and materiality in architecture, design, and art. Symposium (in English) at the City Theatre and exhibition at the Alvar Aalto Museum of Art. Contact marjo.holma@alvaraalto.fi or see www.alvaraalto.fi/des4arch/skinandsoul.

Glass of the Avant-Garde: From the Vienna Secession to Bauhaus New York City

August 21, 2001–January 6, 2002

Exhibits the collection of 19th- and early-20th-century Eastern European glass from the Museo Nacional de Artes Decorativas in Madrid. At the

Cooper-Hewitt, National Design Museum. Contact 212/849-8400 or see www.si.edu/ndm.

Flushed with Pride Stoke-on-Trent, England

August

In tribute to that indispensable piece of ceramics: the toilet. Examines the history of sanitation, including the development of bathroom tiles and sinks. At the Gladstone Pottery Museum. Contact 44/1782 319232 or see www.stoke.gov.uk/gladstone.

The Democratic Monument in America 1900–2000

New York City

September 5—October 3

Explores the complex and often conflicting beliefs that surround the issue of building monuments in America. Organized by the Harvard Design School in collaboration with Parsons School of Design. At the Aronson Gallery at

Parsons School of Design. Contact 212/229-8987.

The Architecture of the American Craft Museum—An Exhibition New York City

September 14—January 13

An installation of a model of the newly designed building by architects Tod Williams/Billie Tsien and a photo essay documenting the construction process, from groundbreaking to near completion of the museum's new site at 45 West 53 Street. Contact 212/977.7170 or see www.folkartmuseum.org.

Alternative Architecture: The Work of Allan Wexler

Buffalo

September 15—October 27

Exhibits the work of this unconventional artist/architect whose designs explore the relationship between the applied arts and fine arts through highly unusual, small-scale works of architecture. Other artists will be included in the show, as well. At Hallwalls Contemporary Art Center. Accompanying lecture by Wexler to take place on September 15, at the Albright-Knox Gallery. Contact lamarche@buffalo.edu.

Ongoing Exhibitions

Frank Gehry, Architect New York City

Through August 26

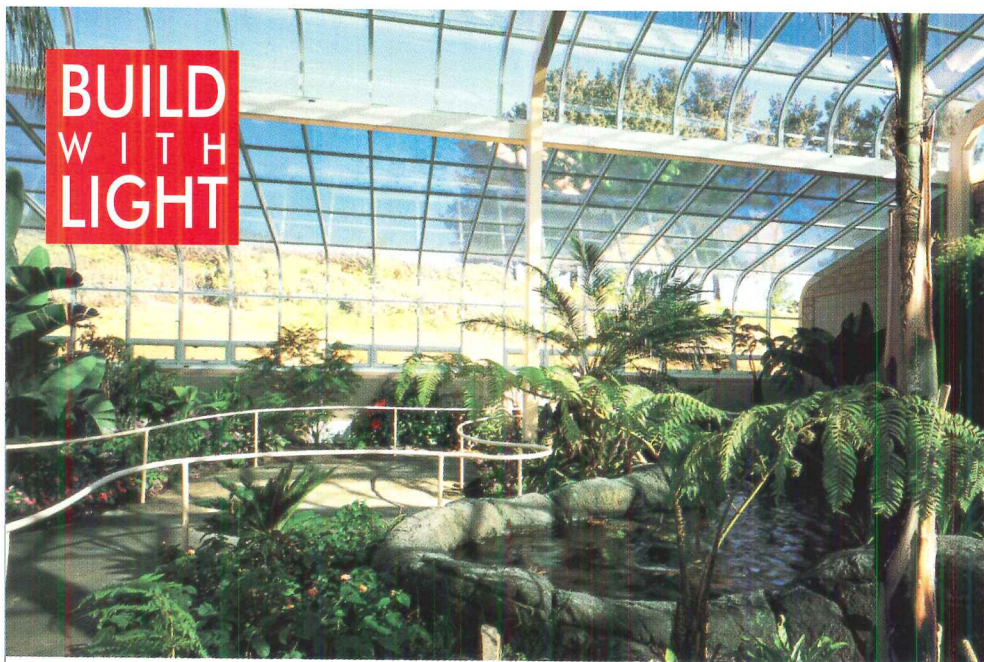
Exhibits work from the 40-year career of the architect and his firm, Frank O. Gehry & Associates. At the Solomon R. Guggenheim Museum. Contact 212/423-3500 or see www.guggenheim.org.

Landscapes of Retrospection Still Rooms & Excavations

Pittsburgh

June 9–September 2

Landscapes of Retrospection shows how British 18th- and 19th-century architecture was recorded in watercolors and drawings. *Still Rooms & Excavations* documents the expansion of the California Palace of the Legion of Honor and the excavation of a potter's field beneath it. At the Heinz Architectural Center at the Carnegie Museum of Art. Contact 412/622-3131 or see www.cmoa.org.



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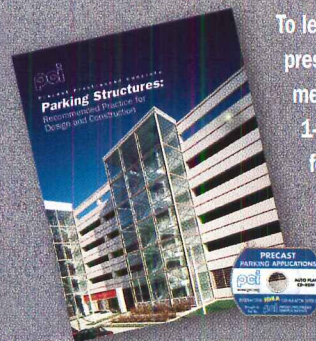
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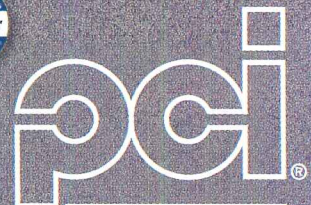
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Dates & Events

Mies in Berlin New York City

June 21–September 11

Exhibits work from the early career (1905–1938) of architect Ludwig Mies van der Rohe. Though Mies is known mostly for his American Modernist glass skyscrapers, this exhibition will focus on early influences. At the Museum of Modern Art. Contact 212/708-9400 or see www.moma.org. Exhibition complements *Mies in America*.

Mies in America New York City

June 21–September 23

Exhibits work from the late career of the German architect Ludwig Mies van der Rohe, after he arrived in America in 1938. The Seagram Building in New York and the Farnsworth House in Illinois are the show highlights. At the Whitney Museum of Art. Contact 212/570-

3600 or see www.whitney.org. Exhibition complements *Mies in Berlin* (see preceding entry).

Lectures & Symposia

Marcel Breuer: From Bauhaus to Our House Washington, D.C.

August 23

Robert F. Gatje, FAIA, who worked with Breuer for over two decades, will deliver a lecture examining the effect of German Modernism in the United States and Breuer's relationship to other émigré architects of the same time. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

The Future of Public Space in an Era of Privatization Washington, D.C.

September 5

A symposium moderated by Paul

Goldberger of the *New Yorker* magazine. Panelists include Nathan Glazer, Jerold Kayden, and James Todd. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

Events & Tours

The Municipal Art Society Tours

New York City

August

As part of the continuing Discover New York series, there will be tours of Grand Central Terminal, Midtown Manhattan, Rockefeller Center, Greenwich Village, and other neighborhoods and sites. Contact 212/935-3960 or see www.mas.org.

Charleston's 25th Annual Fall Candlelight Tours of Homes and Gardens Charleston, S.C.

September 20–October 27

Hosted by the Preservation Society of Charleston. Each tour highlights a different neighborhood. Contact

800/968-8175 or preserve@preservationsociety.org.

Conferences & Conventions

Restoration & Renovation New Orleans

September 7–8

The only trade show and conference for the rehabilitation of building interiors, exteriors, landscapes, streetscapes, and historically inspired construction. Contact 800/982-6247 or see www.restorationandrenovation.com.

Rail-volution: Building Livable Cities with Transit San Francisco

September 13–16

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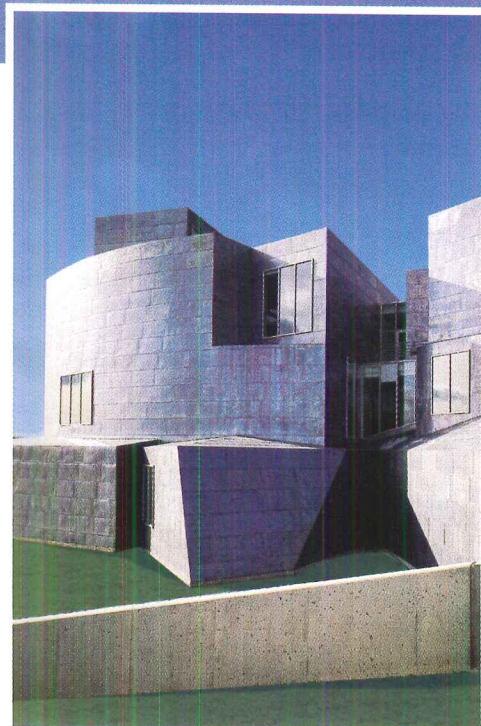
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Explores the benefits and challenges of implementing the many technologies that foster collaboration in the building design and construction process. Sponsored by the AIA Technology in Architectural Practice (TAP)/PIA. Contact kshertz@aia.org or 202/626-7579.

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Ongoing deadlines beginning August 3

Awards are available for project manuals, short-form specifications, outline specifications, preliminary project descriptions, and product binders. Contact 800/689-2900 or see www.csinet.org.

USITT Theatre Architecture Awards

Deadline: October 2

The United States Institute for Theatre Technology is hosting this competition for the best design of theaters anywhere in the world that are new constructions or renovations. Contact 800/93USITT or see www.usitt.org.

The City of Wildwood

Deadline: October 12

Soliciting designs for a new bicycle and pedestrian overpass that will serve as a connection in Wildwood, Mo., between the most populated areas and the town center. Team or individual entry. Contact 636/458-0440 or mcfinearts@earthlink.net.

Architecture for Natural Disasters

Deadline: November 14

Seeking exemplary temporary and permanent architecture that prepares for or responds to natural disasters. Sponsored by the Takiron Company in Japan. Contact 81 3 3818 1961 or fax 81 3 3818 6742.

Jenn-Air Kitchen Competition

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The best new or remodeled kitchens that use Jenn-Air major appliances exclusively are eligible. A \$10,000 cash prize and a trip to Milan are offered. Contact 612/375-8541 or vmelen@clynch.com.

E-mail your submissions for Dates and Events to ingrid_whitehead@mcgraw-hill.com

For and about the new generation of architects

archrecord2

THE EMERGING ARCHITECT

Time and luck are pertinent themes for **archrecord2** this month. They constitute the well-tested methodology behind August's profile subject, Lindy Roy, at least as she sees things. Now she's developing quite a few fans—literally—with a rooftop installation at New York's P.S.1 and several other projects. For you, **Design, Work, Live, and Talk** are all here as always, which gets us back to that theme: Lucky you, it's time for **archrecord2**.

DESIGN

Lindy Roy: Exploring the possibilities



Not many young architects find a dream job and work on fabulous projects immediately out of school. Lindy Roy worked in about 18 offices in her first two years after graduating, in the 1990 recession, with an M.Arch degree from Columbia University. "It was hell, just absolute hell. It was insane," says Roy, who recently started her own small New York firm, ROY,

and who has received some interesting commissions.

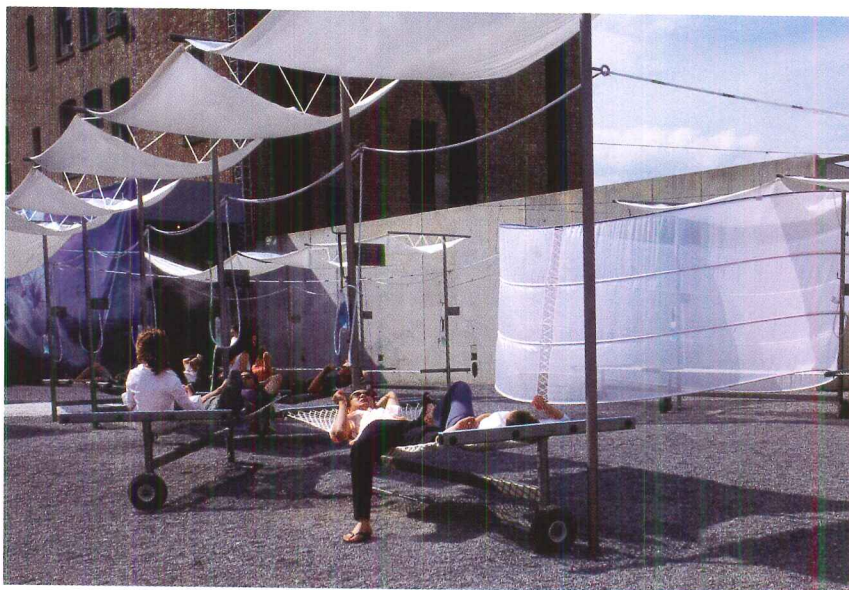
"It's been more than 10 years since I graduated and only in the last two years do I see the shape of what it is that I've been pushing for all along," Roy says. "It really takes time and luck."

Roy grew up in South Africa and earned a B.Arch from the University of Cape Town. A fourth-year internship brought her to New York. "I'd wanted to leave South Africa from when I was a teenager. Growing up under Apartheid, I was never able to come to terms with living there," says Roy. "When I came to New York, I realized this was exactly where I wanted to be."

Although she was jumping around from office to office, Roy admits she had valuable, invigorating experiences with a few of the first architects she worked for, including Frank Israel in Los Angeles and Peter Eisenman in New York. She was one of the first female project managers in Eisenman's office. "Working in Eisenman's office for two years was an extraordinary experience because it was simultaneously hair-raising and fabulous," Roy says.

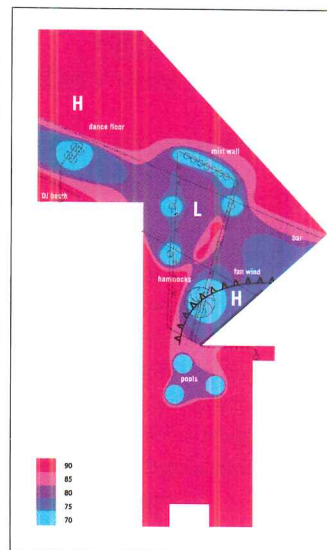
Now with her own firm with a couple of full-time employees in an office in Manhattan's meatpacking district, Roy is developing a portfolio of projects ranging from a single-family house to a health spa to an arts center installation and a nightclub. A constant in all her work is an exploration of possibilities with various materials in new and expanded contexts.

That exploration paid off in Roy's competition-winning design for this



P.S.1 courtyard installation, New York, 2001

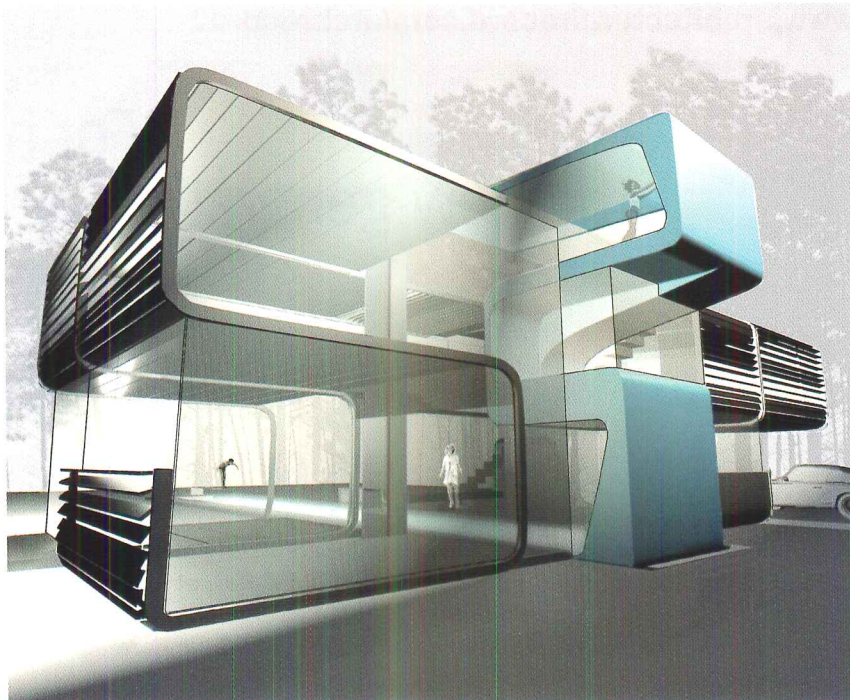
ROY designed an installation at P.S.1 Contemporary Arts Center, on display through August 31, that uses a weather map as a metaphor (right) in creating an environment with hammocks, spray misters, and fabric enclosures.



continued from previous page year's MoMA/P.S.1 Young Architect program. Materials include fabric enclosures and steel supports for hammocks in an installation called *subWave*, on view through August 31 at P.S.1 Contemporary Art Center in Long Island City, Queens, N.Y. With a metaphor of a weather map in plan (see previous page), the installation—complete with small pools, spray misters, places to lounge, and a wall of fans—is an environment for the art center's summer festival.

One of her firm's first large commissions was a spa in the safari country of Botswana (below). As with P.S.1, fabric enclosures were implemented to delineate spaces while maintaining transparency. "The spa project and P.S.1 have similar strategies of introducing elements of luxury, in spartan ways, in the environment—one being wild and one being urban," Roy says.

Roy is currently completing design work on a house for developer Coco Brown [APRIL 2001, page 27] for his new Hamptons development, Sagaponac. *John E. Czarnecki, Assoc. AIA*
Go to architecturalrecord.com/archrecord2 for more on Lindy Roy, and to learn how to submit your own projects.

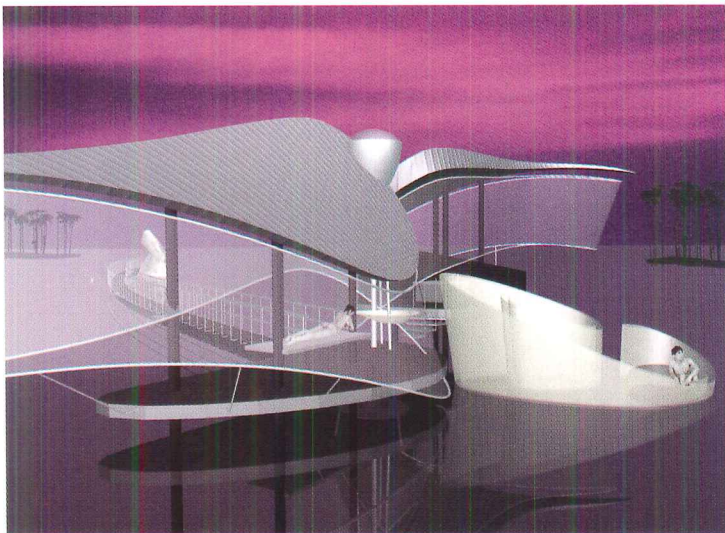


**Sagaponac House,
Sagaponac, N.Y., 2001**

For developer Coco Brown, Roy has designed a home in Sagaponac, Long Island, N.Y. Integrating a mosaic-tiled "water zone" with a pool and two-story water wall, the Hamptons house will be clad in dark wood. It will be built in 2002.

**Okavango Delta Spa, Botswana,
1998**

A high-end health spa was designed by ROY for a wetland location in Botswana. The spa, to be built next year, will have seven guest suites built on wood stilts connected by moving walkways of wood slats on fiberglass.



LIVE

Turn your back to the drawing board

It is helpful to remember, as you immerse yourself further and further in your work, that a window is more than something that you pick out of a Sweet's catalogue: It's a way to get away. And when you get to that point in the design process that is your life when you need to specify the window of your own escape, we hope that you'll choose the custom job we're creating for you in the LIVE section of *archrecord2*.

We've been crafting a playland full of delights for the architect at leisure: art and drawings and travel and furniture and a glimpse into the workspaces of your peers. We even have Michael Graves telling the world how he got to be a great architect from being just a little tyke. Even the early-'60s photograph of him is right on, um, target.

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Go to architecturalrecord.com/archrecord2 for all of the above-mentioned goodies and for details on how to submit your own.

TALK

Connect with your peers

The six months that *archrecord2* has been in existence have allowed quite an archive to build up in the TALK forum. Log on now, and you can find answers to common questions about the ARE, complain about your education, chat about your favorite architects, or let the world know why you became one yourself. New questions are added all the time, and you can always pose your own in our general questions forum. Maybe you'll help solve the world housing crisis. Or maybe you'll just find a soulmate. This month, weigh in on this new topic: If you weren't an architect, what would you be? Or, if you're trained to be an architect but aren't working as one, what is your alternative path, and why did you choose it?

Go to architecturalrecord.com/archrecord2 to throw in your two cents.

One building code: an idea whose time has come

Practice Matters

By David S. Collins, FAIA

Differing building codes among various jurisdictions have been a source of continuing frustration to architects. Some jurisdictions have even developed their own codes, such as the legendary New York City code, which contains requirements found nowhere else in the world. A few years ago, the Building Officials and Code Administrators, International (BOCA); the International Council of Building Officials (ICBO); and the Southern Building Code Congress International (SBCCI) joined together to form the International Code Congress (ICC), in order to create one "model" building code that everyone could follow—the *International Building Code*, or IBC. As part of the process, all three groups agreed to stop selling their own documents. The National Fire Protection Association (NFPA) chose not to join the ICC.

For 25 years, the "one-code" concept was touted by the AIA not only because it would help to make safe building design consistent from jurisdiction to jurisdiction, and to create a code that would be easier to use, but also because it was an appropriate response to diverse pressures brought on by the increasingly globalized nature of building materials manufacturing, by legislation such as the North American Free Trade Agreement, and by the Americans with Disabilities Act.

David S. Collins, FAIA, has over 25 years of experience in design issues relating to codes and code development. He is active in both the ICC and NFPA code-development processes.

Another code?

Just before the final changes to IBC 2000 were voted on in September 1999, things suddenly became more complicated when the NFPA announced that it would develop its own model building code, which would not be available to consider for adoption until late 2002. This additional code, outside the clean, one-code direction being pursued by the ICC, created a serious dilemma for jurisdictions and groups such as the AIA. Should they support adoption of the IBC or wait for the new NFPA building code?

After much study and discussion, the AIA recently moved forward with a program to support adoption of the ICC codes, which include IBC 2000 and its companion codes, because at present they most closely follow AIA's current policies and provide a better environment for safety in buildings.

At this point, the NFPA's code is an unknown entity. The NFPA also has refused to adopt a format developed by the AIA to make the new IBC much easier to use. Many of the same technical design and regulatory experts participated in the development of both codes. The nature of the physical phenomena and the human activities they regulate is identical. Both will likely establish standards that can be judged equally safe. And there is assuredly no effort to promote one kind of construction process over another. Meanwhile, the International Association of Plumbing and Mechanical Officials (IAPMO) has joined with NFPA and is pro-

ducing the next editions of *Uniform Plumbing and Mechanical Codes*.

So, if the processes and the goals and criteria are so similar, why are two sets of codes being developed simultaneously, and why is each code organization trying so hard to portray its code-development process as different from and better than the other? An obvious conclusion is that the two primary organizations involved in code development are supported principally by the sale of code books and documents. The political and financial advantages to be gained for the publisher of any code that is adopted are enormous. Numerous organizations under the leadership of the AIA, as well as the Building Owners and Managers Association (BOMA), joined together in an attempt to persuade the ICC and NFPA to cooperate rather than compete in developing codes, but to no avail.

What can happen

Lately, when communities have been considering adoption of the IBC, both the ICC and NFPA have been showing up to lobby for their own codes. As a result, communities are being forced to decide whether to adopt the I-codes or delay making any change until the NFPA's as-yet-unpublished code appears. Decisions are being made, not based on whether one code addresses technical or safety issues better than the other, but rather on the basis of politics and obfuscation. Ironically, the NFPA publishes several codes and stan-

dards that are widely accepted and used as references in the IBC, for example, *NFPA-101, Code for Safety to Life from Fire in Buildings and Structures* (Life Safety Code); *NFPA-13*, which governs the design and installation of fire sprinklers; and *NFPA-70, the National Electric Code*.

The recommendation of the AIA's Task Group in December 1999 to support the ICC International Codes Series was reconfirmed in February 2001. ICC provides a single family of codes that are comprehensive, coordinated, contemporary, and that are developed following a consensus process. The NFPA and IAPMO's documents do not yet exist, so can't be tested to see if they meet these criteria.

The AIA's policy calls for the adoption of the most current and up-to-date codes. Now, AIA chapters across the United States are actively encouraging adoption of the ICC International Codes. Yet, the fire services in many communities have opposed the adoption of the more modern code, simply calling for a delay until the NFPA building code is finished, without regard to the impact delay may have on their communities. In the most extreme cases, this could have immense and unintended consequences.

How the regulatory climate in the U.S. evolves over the next three to five years may be controlled by politics or a logical examination of the merits of the codes, whose purpose, after all, is to protect the public. The furtherance of a single code does this best. ■



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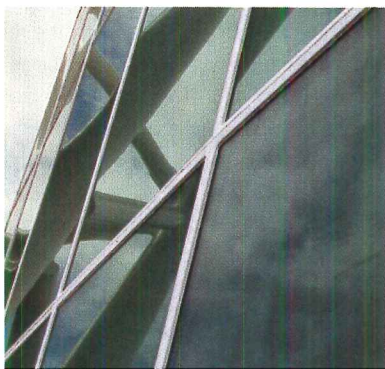
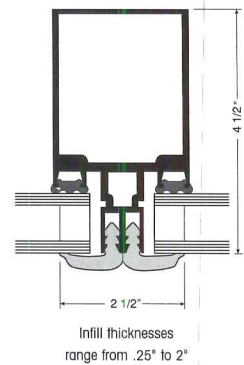
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CIRCLE 32 ON INQUIRY CARD

After 50 years, does the design world still need a conference with its head in the clouds?

Critique

By Robert Campbell, FAIA

What was great about the annual Aspen Design Conference, held in Colorado in June, was its informality. There was even a guy with the title of Anti-Facilitator (Paul Holdengraber, in real life the director of the Institute for Art and Cultures at the Los Angeles County Museum of Art). His job was to ask upsetting questions, in order to keep things from running too smoothly.

Nobody worried about the meaning of the word *design*, either. At Aspen, design is generally believed—rightly so, in this writer's opinion—to mean just about anything you want it to mean. Peter Beinart, for instance, the 30-year-old editor of the *New Republic*, kicked off the design conference with a fascinating lecture on American politics. Gadi Geiger, an MIT professor, offered an equally riveting talk on dyslexia. Dyslexia? Well, yes, it turns out there's a design aspect to dyslexia. Designers are prone to it, and when they're trained to read better—as they can be—they tend to lose some of their design skills. The audience, mostly designers, was enthralled. You have trouble reading? Hey, you must be talented.

Aspen has always been like that, a carefree outing of bright people—architects, urbanists,

Contributing editor Robert Campbell, FAIA, is the Pulitzer Prize-winning architecture critic of the Boston Globe. His essays appear on this page every other month, alternating with essays by Michael Sorkin.

filmmakers, graphic and product designers—who happen to enjoy talking and listening to one another and having fun in the sun. Anyone who pays the fee is welcome, but many who come seem to know one another. The Rockies sparkled, and so did the champagne at the many parties scattered among the houses of the town.

Trouble in paradise

But beneath it all, there was trouble. This was the 50th anniversary of the conference. All living former members of the board of directors, and all living former speakers, were invited to come free, to celebrate the occasion. But they also came to ask one another whether maybe it wasn't time to fold the show. Paid attendance is down to 400, from highs of around 1,500. The design conference has shrunk from five to three days, and it has lost its coveted mid-June date, from which it was bumped by another Aspen conference on food and wine. At a recent board meeting, a motion was made that the entire board should resign. Mass suicide failed to attain a majority vote, but the suggestion left a sense of unease.

Has Aspen been around too long? Is it now about the past, not the future? Certainly, the atmosphere was sometimes poignantly retro. Jane Thompson of Boston, a board member since 1976, introduced each evening session with a

stroll down memory lane, in the form of a slide show of Aspen conferences of the past. These were the kind of slides you'd show at your neighborhood block party ("Hey, there's little Jimmie, and old Mr. Bradshaw"). The images were often evocative, but the younger members of the audience didn't

boasts some of the nation's fiercest requirements for green architecture, but which can be accessed only by pollution-spewing and resource-consuming planes and cars. Who's fooling whom here? (Never mind the huge, hideous tourist hotel in vaguely Richardsonian style, with hunting prints on the wall, or the



Conference participants enjoyed lunch at an installation by artist Lucy Orta.

recognize any of the faces, and they grew restive. And in other ways the conference felt dated. The attendees, for example, were almost entirely white, which made it odd to listen to speaker Richard Rodriguez talk about "The Brown Past and the Brown Future."

How green is your mountain?

Some other things felt wrong, too, at least to this observer. One was the town of Aspen itself, which

quaint pedestrianization of several Aspen intersections, thus funneling too much traffic onto a single overstressed collector.)

And at the conference itself, I was disappointed to attend a symposium in which several people said we don't have to worry about running out of gasoline because there are lots of oil reserves. Apparently, they haven't noticed that the burning of fossil fuels is risking the destruction of our planet. Or so say

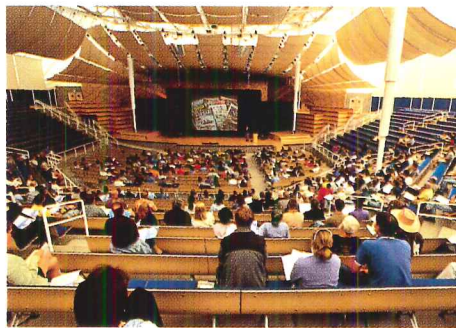
Critique

virtually all members of the scientific community, not counting the ones who are paid to say something else. I have to trust the scientists because I don't have another belief system to turn to, and I suspect most designers are in the same position. Of course it's possible that the scientists are wrong. But I suggest we apply the logic of Pascal's famous essay "The Necessity of the Wager." Pascal said we should bet there's a God because if we bet there isn't one, and we're wrong, we're going to be in big trouble. By the same token, if we bet there's no planetary crisis and it turns out there really is one, we lose everything. If we bet there is a crisis, take action to deal with it, and then find out we were wrong—well, no real harm is done.

Thinking global

Anyway, those were the thoughts of

one visitor to Aspen. Maybe the design conference, searching for renewal in its fabulous Rocky Mountain high site, could find it by taking the lead in thinking about the



Benedict Music Tent by Harry Teague.

planet. Planetary survival, surely, will be the great political issue of the 21st century, and it's something designers know a lot about. It's about how we live, how we build, how we create and spend energy, and maybe most of all, how we suc-

ceed or fail at finding more compact and efficient patterns of settlement, instead of sprawling like a disease across the surface of the earth. American designers especially, you'd think, living in the nation that consumes more than a third of the world's resources, should be taking the lead. Yet as everyone knows, we're far behind Europe.

Not a trade show

Whether it takes my hint or not, I'd hate for the design conference to disappear. It's just too crazy and too much fun. Other conferences are about dull careerist matters like networking and marketing. Aspen is anything but a trade show or an academic paperfest. It's a convocation of amateurs, using the word in its original meaning of people who do what they do out of love.

To enjoy the conference, you have to be interested in more or

less everything. Who could predict the following (all of which happened in June)? Don Chadwick, designer of the most famous office chair of recent years, the Aeron, lounged comfortably in his product while he talked with other designers (who sat in their chairs) about human anatomy and what makes a great chair. A guy from the Netherlands, Dre Wapanaar, showed us his incredible variety of tents, including one that can contain an entire family while hanging from a tree so as not to disturb the earth. He finished his presentation with a long piano solo.

Cartoonist Ben Katchor presented, with many drawings and a straight face, his elaborate proposal for an elevated transit line to run through people's living rooms and bedrooms. A well-catered outdoor lunch took place on a red table that was as long as a football field and slithered like a fevered snake among the trees.

It was a whole lot of ideas in the mountains, and it was hard to beat. ■

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CIRCLE 33 ON INQUIRY CARD

Snapshot



By Ingrid Whitehead

It's hard to believe that Simon Jersey makes uniforms. The British company's ever-evolving headquarters building, designed by Studio BAAD and located on a six-acre site in northern England's East Lancashire, is anything but consistent, symmetrical, or regular. Rather, the headquarters and garment-distribution center is a study in building evolution and flexibility.

West Yorkshire-based Studio BAAD was relatively unknown when it was commissioned in 1988 to build a new building for the then-fledgling manufacturer of industrial clothing. Since then, Simon Jersey's staff has grown from 20 to over 320, and the company has retained the architectural services of a growing Studio BAAD [see RECORD JULY 2001, page 60, for the firm's up-and-coming project with Philip Johnson] to expand its facilities.

A sloping site provides access to the building at two levels, with the lower floor accommodating production, design, and storage areas, and the

Fantastic flux shapes a British distribution center



Snapshot



Farmland surrounds this display area (above), where clients can watch fashion shows and view products; fabric dividers shape design areas (below).

upper one accommodating administrative offices—complete with views of the Pennine Mountains. Two glass “drums” flank a single-story open-plan administration office. One “drum,” at the west end of the new facility, serves as a dramatic entranceway. The other, at the east end, comprises a three-story glass building with accounting in the basement, an open-plan office for directors and a staff restaurant on the first floor, and a presentation suite for training, fashion shows, client meetings, and conferences on the top floor.

Philip Bintliff, principal with Studio BAAD, credits an open-minded client with allowing the designers to use innovative techniques and materials. “The design process developed through osmosis and discussion,” claims Bintliff. “There was never a written brief.” Such fluidity of process led Bintliff to experiment, most boldly by using pleated sunshades made of expanded aluminum sheets to screen the production and design areas. Bintliff also played with light by using several different kinds of glass in the facility—reflective solar glass, fritted clear glass, and shaded clear glass.

The facility, which has received a RIBA Award and a Civic Trust Award, continues to expand—proof positive that some firms, and clients, work best by going with the flow. ■



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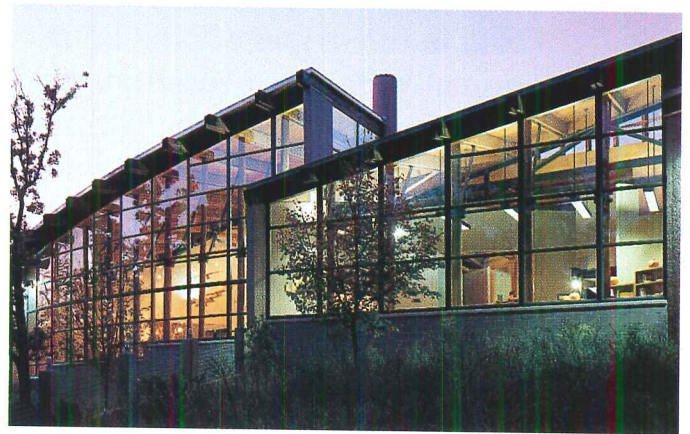
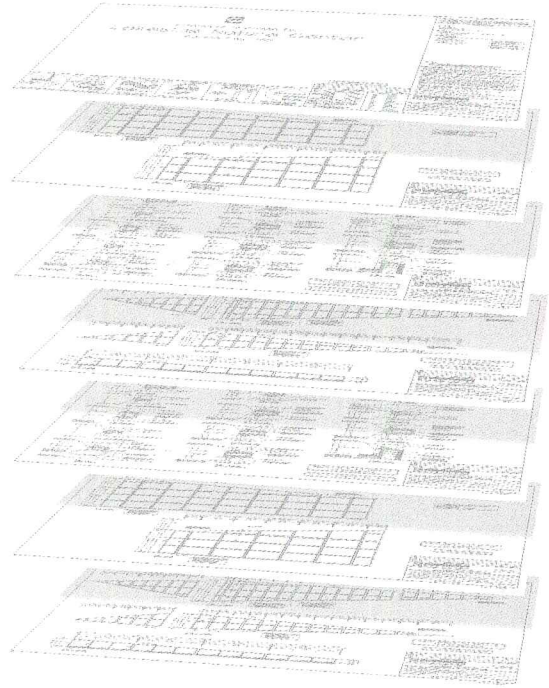
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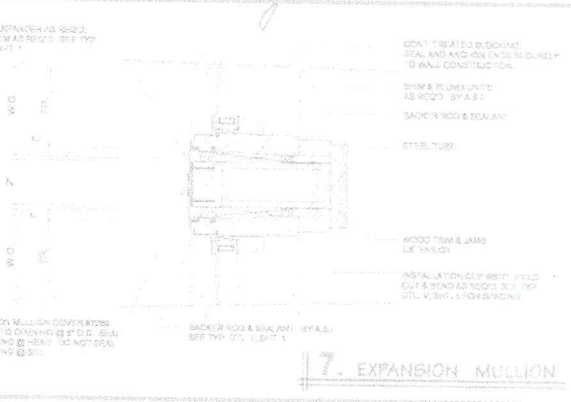
COMMERCIAL
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CIRCLE 36 ON INQUIRY CARD

INSTALLATION SHOP DRAWINGS



John H. ...



ABBREVIATIONS

Alum.	Aluminum
Blkg.	Blocking
B.S.	By Others
Cont.	Continuous
Dist.	Distribute
Det.	Detail
Fr.	Frame
Min.	Minimum
Max.	Maximum
N.O.S.	Not to scale
N.C.	Notary Opening
O.C.	On Center
Op.	Opening
Opp.	Opposite
Req'd.	Required
R.O.	Rough Opening
Sh.	Sheet
Sim.	Similar
Tot. Fr.	Total Frame
Vt.	Vert. in field
W.O.	Window Opening

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An aerial photograph of a complex highway interchange with multiple overpasses and ramps. A prominent feature is a pedestrian bridge crossing over a busy arterial road. The bridge is lined with pink bougainvillea plants that project horizontally from its edge. The overall scene is captured from a high angle, showing the intricate patterns of the roadways and the surrounding landscape.

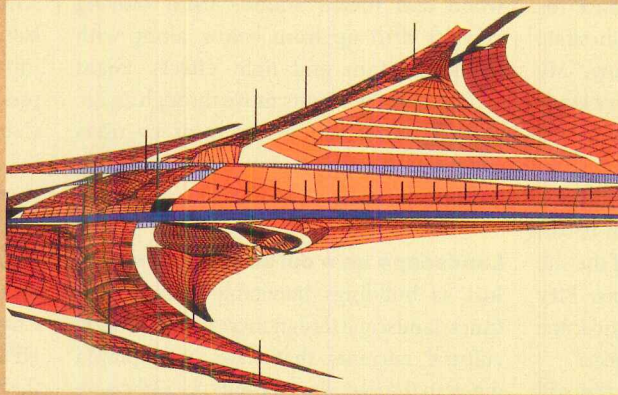
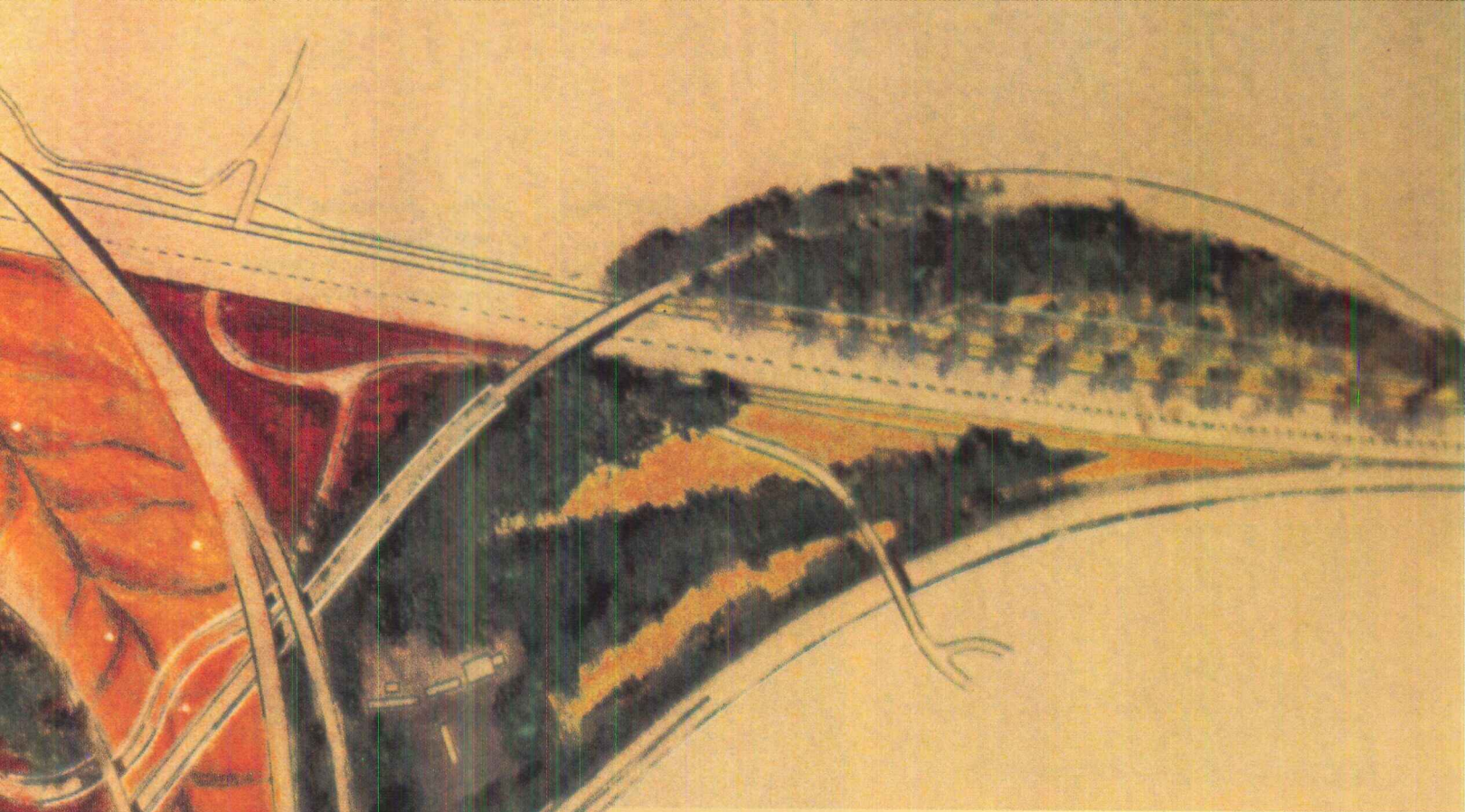
It's the future,
not a contradiction.

Landscape Urbanism

By James S. Russell, AIA

In the forbidding mallscape of Costa Mesa, in Orange County, Calif., an unexpected grace note has emerged in the stripes of pink bougainvillea that project horizontally from a pedestrian bridge over a busy arterial. These aren't the cute hanging baskets that festoon many a shopping venue, but are integral to the design of the bridge, appealing at auto speed below and beckoning to patrons strolling along the bridge that links two wings of the vast South Coast Plaza mall (page 68). The design is not by an architect but by a landscape designer, Kathryn Gustafson, and it is emblematic of the way that field is reinventing itself.

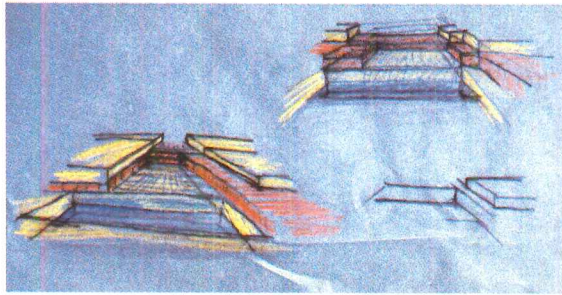
American landscape architecture continues to work in the familiar language of its English-garden



IMAGES COURTESY KATHRYN GUSTAFSON

Project: *Marseilles highway intersection, Marseilles, France*
Landscape architect: *Kathryn Gustafson*

To avoid offsite disposal of soil from roadcuts, Gustafson sculpted it into mounds and swales, amplifying the shapes with the color and texture of plantings.



Project: *The Bridge of Gardens*,
Costa Mesa, Calif.

Landscape architect:
Kathryn Gustafson

**Landscaped berms and
flower-festooned struts
humanize a pedestrian passage
in a mallscape of asphalt.**



origins—nature tamed and aestheticized for man’s use and appreciation. But a confluence of trends has created an unusually rich, creative ferment in the field these days. In fact, landscape architects have arguably been more aggressive than architects in taking on new roles and redefining what they do.

Landscapes become hardscapes

Gustafson, who has worked in France for most of her professional life, didn’t hesitate to take on more than just the planting. “My peers say I’m more of a sculptor than a landscape architect,” says Gustafson. The curved and creased forms she carves in clay do possess a sculptural as well as an architectonic sensibility. “We’re working more on urban sites, and a lot of the information of the site comes from architecture,” she explains. “I try to make the architecture and landscape architecture fit together as a solid piece.”

Gustafson artfully composed the soil from new highway-intersection road cuts into a sculpted and colorfully planted automotive welcome to the city of Marseilles (page 67). And with British architect Ian

Ritchie, she’s designed power-line pylons.

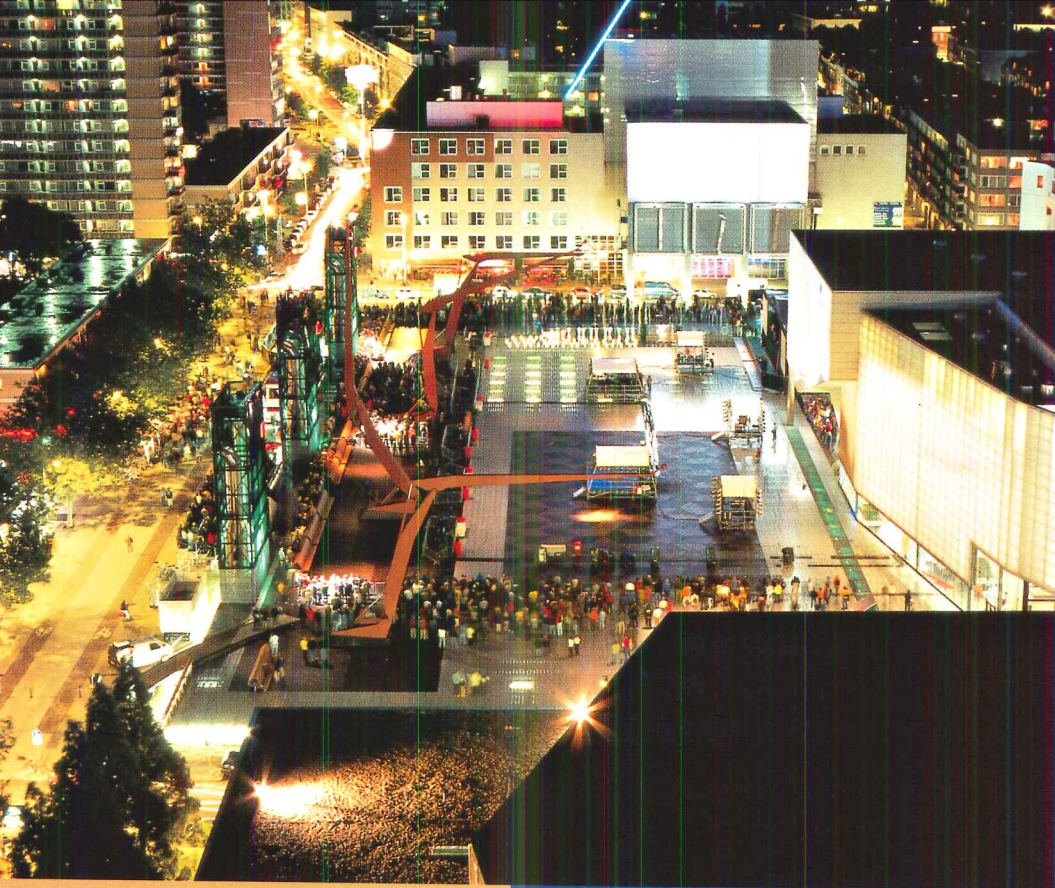
As more municipalities understand the economic-development potential of urban amenities, unique opportunities for urban landscapes are cropping up. In Rotterdam, West 8, a firm that combines urban planning expertise with landscape design, capped a parking structure, not with greenery, but with a hard-edged urban plaza, decked in wood and metal. Sounds from moving vehicles drift up from below, along with artificial steam and light effects. Giant articulated street lights move through an arc choreographed automatically or by users (page 69). It’s a bit of punk urbanism that has become a popular gathering place.

Landscape as a cultural medium

Just as buildings inevitably reflect their times, landscape design increasingly reflects cultural currents that have been played down in the past. For example, an eight-acre park by Michael van Valkenburg, in Charleston, N.C., recognizes the racial divide that has characterized the city historically and spatially. And in Washington, D.C.,

landscape architect Johnpaul Jones and Navajo/Oneida ethnobotanist Donna House are collaborating on a garden for the Museum of the American Indian. It will reintroduce native plantings to the ambience of specimen trees and lawn on the Mall, and showcase Native Americans’ use of plants.

Historians are also viewing designed landscapes as worthy of the same care and scholarship as landmarked buildings. The National Park Service’s Cultural Landscape Initiative seeks to marry modernization with preservation in projects for the majestic Columbia River highway in Oregon, and in the restoration of Philadelphia’s Beaux-Arts Benjamin Franklin Parkway. “Part of our stewardship role is to get highway people, who think only in terms of crash standards, to speak to landscape historians,” says Charles Birnbaum, FASLA, coordinator of NPS’ Historic Landscape Initiative. Part of the education function is also to help people understand that historic preservation applies to settings larger than individual buildings. Historians work with designers to interpret American industrial history as “heritage



Project: *Schouwburgplein, Rotterdam, Holland*
Designer: *West 8*

Festively lighted garage-exhaust stacks, moving, articulated light fixtures, and theatrical uplighting create a popular downtown urban stage.

corridors” (involving landforms and architecture) and to offer interpretive context for interrelated industrial and transportation infrastructures. As a side benefit, people begin to take pride in historical artifacts that otherwise sit as symbols of economic decline. And the growing interest in industrial history and related landscapes can attract redevelopment to places bypassed by today’s economy.

The Park Service and the Cultural Landscape Foundation (a private nonprofit recently founded by Birnbaum) likewise try to get people to think in terms of artistically related landscapes. “We’re learning to accept various layers in the landscape,” says Birnbaum, who cites Allegheny Commons, Pittsburgh’s oldest park. As part of a plan to expand an aviary in the park, Birnbaum persuaded citizen activists to save a battered Modernist addition to the park designed by John Simon, a key figure of the 1960s. “We’re trying to recognize a continuum of important design,” says Birnbaum, “from the 1860s until now.” Threatened architectural landmarks of the postwar era are often entwined with landmark-quality landscape

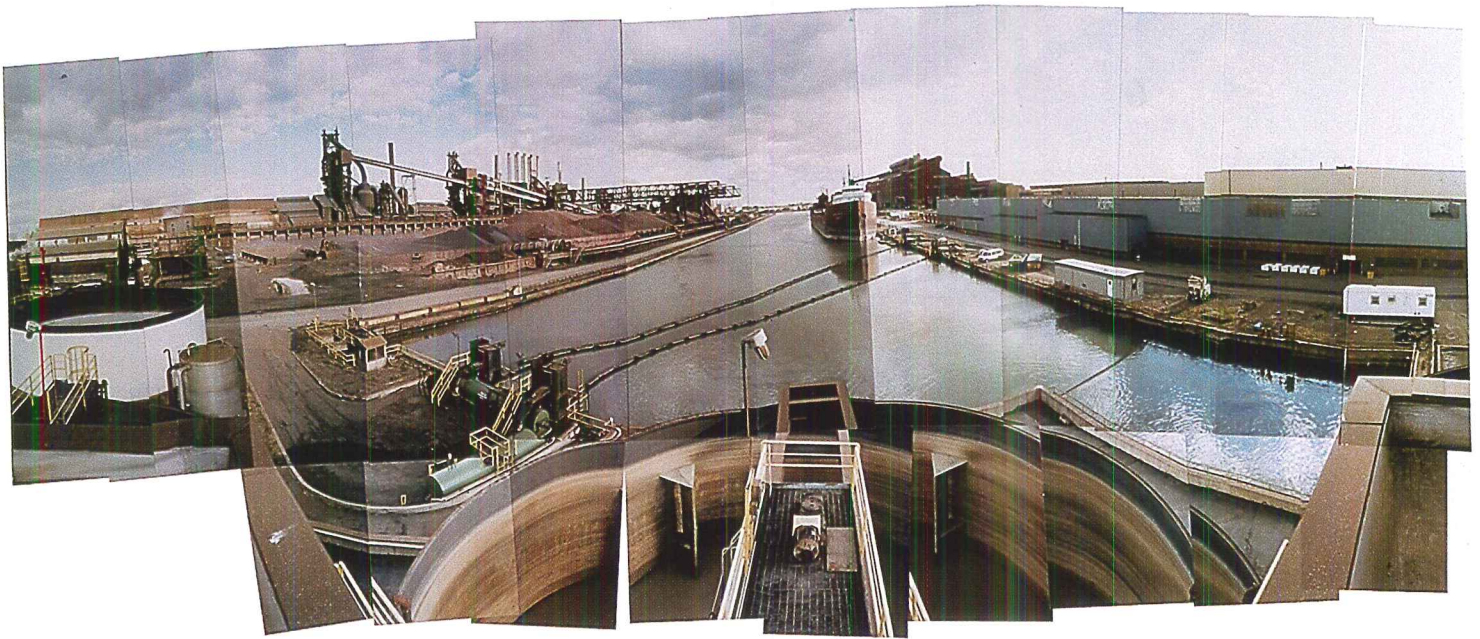


features—the Isamu Noguchi courtyard gardens, for example, awaiting demolition at the 1957 Connecticut General headquarters, Bloomfield, Conn., designed by Gordon Bunshaft of Skidmore, Owings & Merrill.

A new landscape urbanism

One of the most influential recent landscape-architecture competitions, for Downsview Park, near Toronto, says a great deal about where design is going and how the roles of designers are changing. The setting was not a bucolic greenfield, but a former military base littered with abandoned buildings and runways. The competition brief called for the accommodation of a variety of new commercial and institutional uses around and on the site’s 320 acres. All five

competing teams “desegregated city and park,” noted a text by Bay Brown, accompanying an exhibit of the finalists at New York’s Van Alen Institute. They “dispensed with the 19th-century notion of the park as bucolic refuge,” she continued. The entries emphasized strategy and process over design and product, and blurred the lines between landscape and architecture. Indeed, the winning design, by a team including architects Rem Koolhaas of OMA in Rotterdam, Toronto-based Oleson Worland, as well as designers Bruce Mau, Toronto, and Amsterdam-based Inside/Outside, proposed not a design but a 15-year strategy (page 72). Each stage, however, is intended to make a palpable change in the landscape, inspiring greater use and greater public support so



Project: Ford River Rouge Site,
Dearborn, Mich.
Design team: William
McDonough Architects and
D.I.R.T. Studio

A phased effort to bring “sustainable industry” to a polluted site combines phytoremediation with environmentally sustainable architecture.



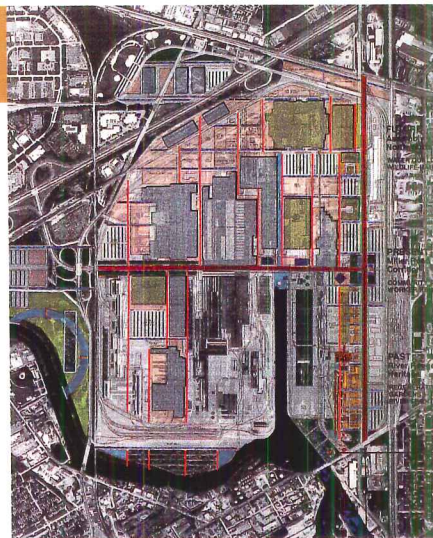
FEATURES

that subsequent stages will get developed.

Even though Downsview is described as a national park, the government is leery of committing the \$140 million (Canadian) the park is anticipated to cost, and it does not want to cover ongoing maintenance expenses. Indeed, the adjacent commercial uses are supposed to generate the cash to build and maintain the park. And Canada is not alone. Few American jurisdictions are building large, ambitious parks in the Central Park mode.

There is another reason that the design of large-scale projects has become process-oriented, rather than only design-oriented: Grand visions and master plans, however thoughtful, simply become obsolete through circumstances. That’s why Philadelphia-based James Corner (another Downsview finalist) designs “interim states”—manageable schemes that can be realized in the short term until budgets permit additional work.

Corner, with New York architect Stan Allen, is using such a strategy to avoid the pitfalls of master plans in their urban-design recommendations for 11 miles of



Delaware River waterfront in Philadelphia (page 74). “You’ve got 6,000 acres to move,” says Corner, “and you can’t do it overnight.” In the preliminary documents submitted to the city in July, Allen and Corner proposed a lot of landscape design, but not a great number of parks. “Landscape as a green park is expensive to maintain,” Corner explains, “but as an interim use that will improve the ecology of the site, that’s popular.” The solution does not rely on landscape design alone, however. “I don’t want to be just a consultant on a team and [Allen] doesn’t want

to be just the architect,” says Corner. So they have joined forces in a new consultancy they call Field Operations. “The North Delaware project is infrastructure, architecture, landscape—the whole gamut,” explains Corner. They call what they do “landscape urbanism,” because they want to approach projects in a “more inclusive way than traditional disciplinary divisions would normally permit,” he adds. Among the biggest challenges is simply to change attitudes about the area: “It’s perceived by people as a line of derelict industry,” Corner explains. “It’s hard to see the river now, but once you get there, you see how spectacular it is.” The early phases of the project are intended to reacquaint citizens with their riverfront, which may spur development that no master plan, however elegant, could anticipate.

It’s easier for landscape architects to accept process as product because they are used to dealing with a living entity that will change over time no matter what. Building movement is usually conceived in fractions of an inch, but landscape



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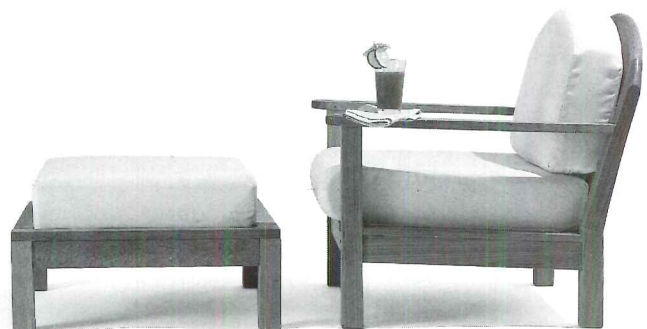
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designers are early inculcated with the notion that natural succession may gradually transform a lake into a meadow and a meadow into a forest. “Architects talk about buildings being alive, but that’s a metaphor,” explains Boston-based Michael van Valkenburg. “A building doesn’t die if it doesn’t get water or sunshine. Landscape architecture is feral—it’s about design thinking, but it’s always partly wild.”

Planting toxic remediation

Landscape architects have used this grounding in regional ecology to unite a social need (cleaning up polluted industrial sites) with an environmental ethic. For almost three decades, the federal government, through its Superfund program, has sunk billions into toxic-waste cleanup, but clean soil, even when it cost millions to achieve, does not by itself assure appeal to redevelopers. It’s another story when designers enter the scene.

The pioneering project that single-

handedly invented a genre was the 1978 Gasworks Park, designed by Richard Haag, which married the spectacular industrial archeology of a closed gasification plant to a stunning waterfront site in Seattle. Haag detoxified the soil using plantings, a technique now dubbed phytoremediation, which has only recently been widely deployed. (The city completed only a fraction of what Haag envisioned, has scandalously neglected what was built, and now, ironically, has embarked on a costly engineered means to further “clean” what is now a low-risk site.)

Such projects are meeting wide public applause, though they are still tentatively deployed. They have also escalated dramatically in scale. Julie Bargmann whose D.I.R.T. Studio is based in Charlottesville, Va., has collaborated for several years with artist Stacy Levy, historian Allen Comp, and hydrogeologist Robert Deason on a “regenerative park” in Vitondale, Pa., about 60 miles east of Pittsburgh. The design

both interprets and aestheticizes the process of converting acid drainage from the region’s dense networks of abandoned mines into clean water. Much of the time has been spent raising funds for this 45-acre project, even though it may stand as a model for the cost-efficient reclamation of an enormous, damaged landscape. “There’s something like 3,400 miles of waterway polluted by acid mine drainage,” says Bargmann. The project includes a series of settlement ponds where successive stages of treatment are visible in the color of the water, which enters tinted a heavily polluted rust red and exits clear. The process is echoed in color-matched plantings. The treated water spills into a constructed wetlands adjacent to the river that Bargman calls “the finishing rinse” (see related story in Building Science, this issue, page 127.) Part of the reclaimed landscape will be formed into conventional picnic and playground areas, but bits of the giant colliery that once occupied the site will evoke its past use, and a pedestrianized rail bridge will offer an overlook.

Project: *Downsview Park, Toronto, Ontario*
Design team: *OMA; Oleson Worland; Bruce Mau; Inside/Outside*

A first phase of clover will enrich the soil while beginning the long-term transformation of a damaged industrial landscape. In later phases, the designers intend to overlay a dense network of paths among nodelike clusters of trees.



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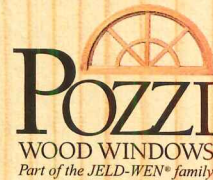


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Project: Delaware Riverfront plan, Philadelphia

Designers and planners: Field Operations

Interim park uses will bring Philadelphians back to the riverfront in anticipation of a long-term mix of recreation, housing, and other uses.



Bargmann specializes in projects that intertwine noxious-site cleanup with civic aspiration. Her highest-profile project is a collaboration with architect William McDonough on new facilities for Ford, at its vast but heavily polluted River Rouge plant south of Detroit (page 70). It's one of the most important settings in American industrial history, because it is where, for over 16 years starting in 1918, Henry Ford built a fully integrated automaking complex, a design copied worldwide. Arriving by canals, roads, and rails, raw materials were turned into parts, which were then assembled into finished vehicles. Ford's architect was Albert Kahn, who designed several buildings at the 1,200-acre site that remain among the most elegant essays in 20th-century industrial architecture. William Clay Ford, Jr., Ford's board chairman, hopes to make Rouge again an emblem of innovation, but this time, one of "sustainable industry." The design team has installed a large porous parking lot to reduce runoff, soil-cleansing planting, and new manufacturing



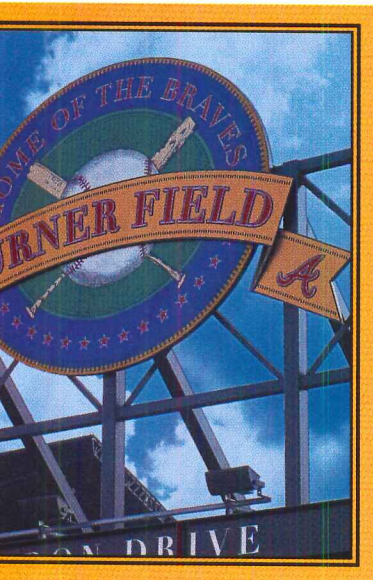
facilities incorporating such sustainable-design features as a sodded roof. Clerestory lights and monitors, a trademark of Kahn's naturally ventilated buildings, will also reappear in new facilities. The team has also persuaded Ford to preserve some of the remaining fragments of the site's engineering prowess. But Ford has not signed onto many of the team's more ambitious goals. "What D.I.R.T. tried to bring in is the idea that you could continue to produce hundreds of Mustangs daily while regenerating the site," says Bargmann. "But the day-to-day production folks aren't convinced yet that these principles and technologies of 'industrial ecology' make a lot of sense."

There is now precedent for very large-

scale transformation of damaged landscapes by design. "The massive change of land use entailed by industrial sites creates a whole new park-development potential," says Barbara Wilks, a New York City architect and landscape architect. She sees the public as more engaged in reusing urban leftovers, and points to Manhattan's High Line, a rusting, long-abandoned elevated railroad track that slices through almost two dozen blocks of rapidly gentrifying Chelsea. A few years ago, activists clamored for its removal; now a substantial constituency wants to see it saved and put to recreational use. And it seems only fitting that the aptly named Fresh Kills, a giant mound of trash looming over New York's borough of Staten Island, is the subject of a design ideas competition. ■

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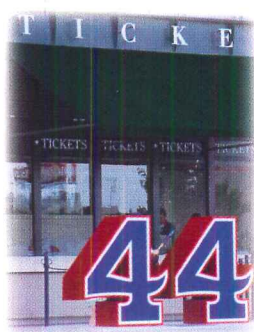
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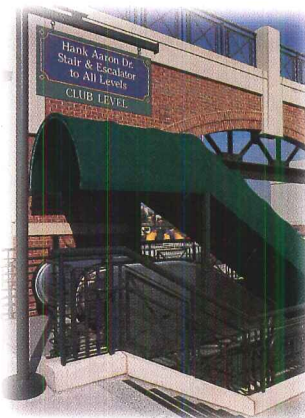
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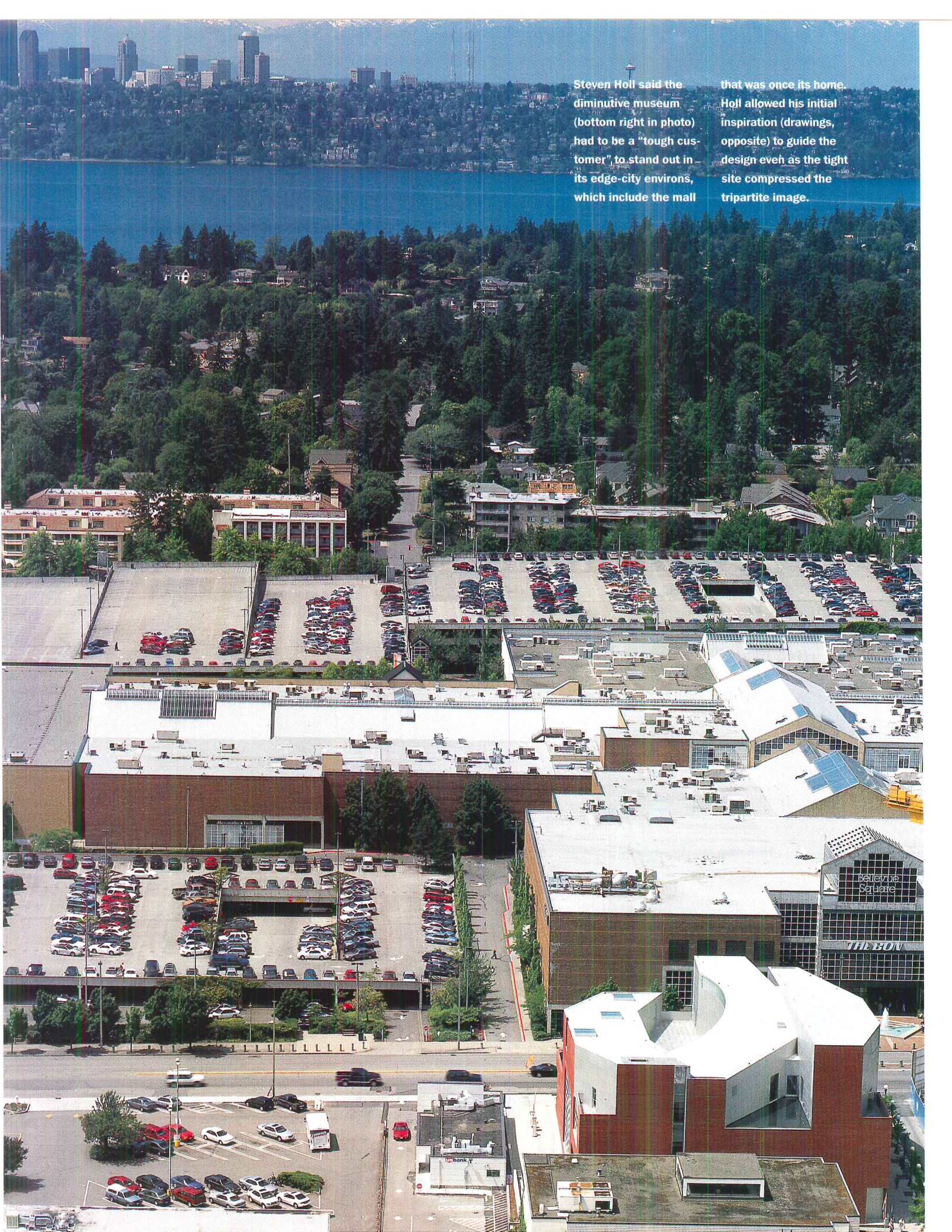
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Steven Holl said the diminutive museum (bottom right in photo) had to be a "tough customer" to stand out in its edge-city environs, which include the mall

that was once its home. Holl allowed his initial inspiration (drawings, opposite) to guide the design even as the tight site compressed the tripartite image.

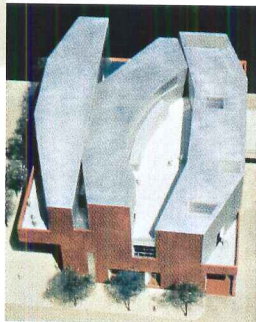
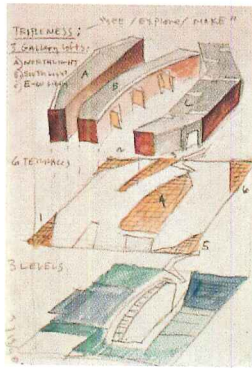
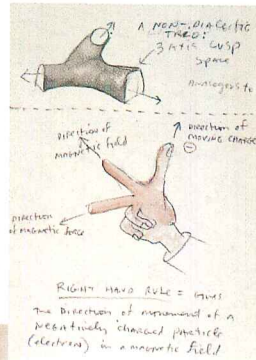
For the **BELLEVUE ART MUSEUM**, which values making art as well as viewing it, **Steven Holl** invented a place that engages visitors with architecture—and with one another

By Sheri Olson

Thirty-three years after Steven Holl's first draftsman job acquainted him intimately with the asphalt environs of Seattle's biggest suburb, he returned to build what he describes as a prototype for urbanizing suburban sprawl. "A single piece of architecture can be a more effective catalyst for change than a corps of urban planners," he says. It is an ambitious statement with an outcome difficult to judge. If urban means engaging the sidewalk, holding the street edge, and replacing a parking lot with an underground garage, the Bellevue Art Museum (BAM) does all that. But it is clear that Holl aims for more when he refers to the project as a "social condenser," suggesting the density of connections and opportunities for chance encounters that suburbs have rarely fostered. This does not happen overnight, but, like a rainmaker, Holl seeds the process.

Fortunately, Holl's agenda meshes with the museum's. BAM is unusual in the degree to which it reaches out to its community and encourages visitors to produce art, not just look at it. A row of continuously occupied potters' wheels, visible in a large second-floor window above the front entry, makes the agenda clear. "We want you to walk in and smell the paint," says BAM director Diane Douglas. The museum has no permanent collection (it was traded to another regional museum in exchange for borrowing privileges) to better focus limited resources on commissioning works, bringing in traveling shows, and cultivating artists. BAM's definition of "artist" is broad: from preschoolers signed up for arts camp to artists-in-residence from around the world.

Holl picked up on the museum's propensity for describing itself in terms of three (its motto: see, explore, and make art). Using the triad as a starting point for the design, he borrowed a conceptual strategy from the field of physics. Its Right-Hand Rule is a mnemonic device in which the splay of thumb, index, and middle finger models the direction of charged particles in a magnetic field (top drawing). Holl sees a connection to the museum in the way forces move in opposing ways but remain part of the same system. While it is a leap to connect



this jumping-off point to the finished project, the three galleries grafted on top of the building's cube (middle drawing and model) are visibly descended from early conceptual models that show sawed-off fingers of plaster-filled latex gloves.

As an institution, the museum had equally unusual beginnings: first as a sidewalk art show in 1947, followed by stints in a schoolhouse and a funeral home before its last incarnation on the top floor of the sprawling Bellevue Mall. The intention of the mall space was laudable—bring art to the people—but the location was too out-of-the-way to draw traffic. The new 36,000-square-foot museum sits directly across the street from the mall, on a high-visibility corner. A grocery store lies to the south, a 41-story mixed-use project is rising on the north, and a furniture store abuts it on the east. In such confused surroundings, the design is distinguished by the authority of its architectural language. Holl notched the 60-foot-tall volume so that the structure reads as an intriguing but undecipherable glyph. The dense yet variegated texture of Holl's board-formed exterior concrete surface draws attention simply because it is palpably more real than its textureless synthetic-stucco-and-mirror-glass neighbors. (The effect was achieved by spraying concrete onto rough-sawn boards inside a steel slip form. During a continuous month-long pour, the contractor moved the form up as the concrete set. The technique minimized pour joints and allowed Holl to avoid control joints, achieving a monolithic surface.)

The notches in the mass reveal the red skin as thin, like an apple's,

Project: Bellevue Art Museum, Bellevue, Wash.

Architect: Steven Holl Architects—Steven Holl, AIA, Tim Bade, Martin Cox, Hideaki Ariizumi, Elsa Chryssochoides, Annette Goderbauer, Yoh Hanaoka, Justin Korhammer, Stephen O'Dell

Associate architect: Sclater Partners

Architects—Alan Sclater, FAIA, Brad Smith

Consultants: Skilling Ward Magnusson Barkshire; Guy Nordenson & Associates (structural); Sparling Engineering; Nelson Electric (electrical); McKinstry (MEP)

Contractor: Sellen Construction

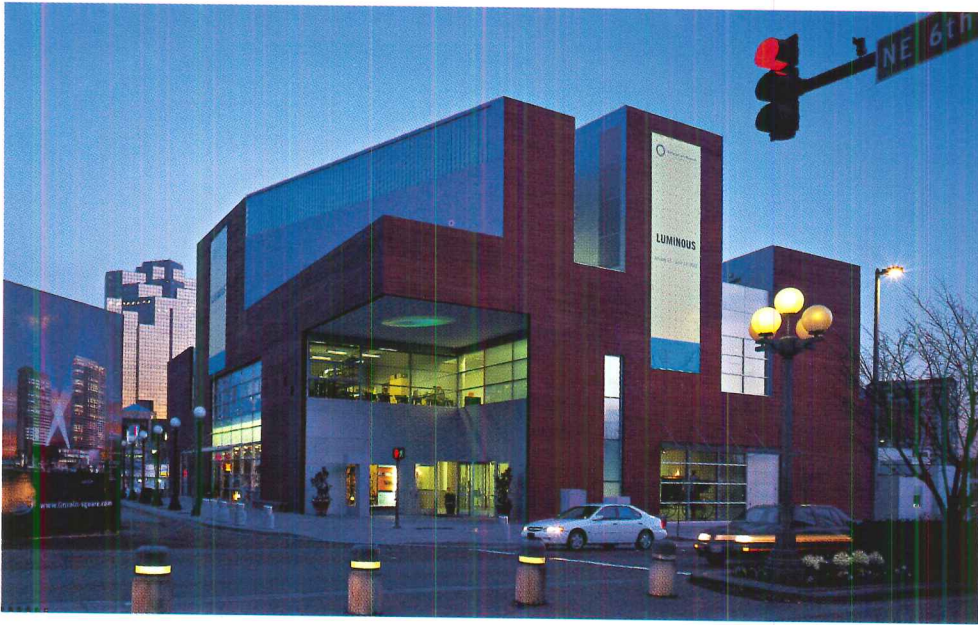
Sheri Olson, AIA, is RECORD's Seattle-based contributing editor and the author of Miller/Hull (Princeton Architectural Press, 2001).



The exterior achieves a unity of opposites: the bright-colored concrete projects a powerful, almost fortresslike image, while the extensive glazed openings invite the passerby to consider what's inside.

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The museum's beefy profile draws visitors from a cutaway entrance corner (left) of a narrow pedestrianized street (opposite, top), to a mall entrance (vantage point of photo, left). The south elevation (below) rubs elbows with a drive-in bank. The concrete exterior gives way to aluminum panels and translucent glass planks (opposite, bottom).



with marine-aluminum panels hand-sanded to a soft, matte finish appearing as the “flesh” inside. A third of the exterior is a mix of transparent and translucent glass, creating an unusually open and light-filled museum. This also works in reverse: at dusk, which arrives early during Pacific Northwest winters, zippers of clerestory windows give BAM an enigmatic luminosity against the oyster-gray sky.

Holl counterbalances weight and weightlessness, playing the heft of the exterior against an ethereal quality within. The Forum is the heart of the museum. As its name suggests, it is a meeting place (in fact, the whole first floor, with cafe, store, and auditorium, is open to the nonpaying public), but its enigmatic, even spiritual, aura takes the visitor far from the traffic-clogged commercial environs of suburbia. Space slips through openings cut in corners; wall planes disappear up past the ceiling; and the black terrazzo floors mirror the bright white plaster walls to create a space that is defined yet boundless. For all the wall space, it's not easy to look at art hung here, but it is becoming the gathering place Holl hoped it would be: It's already heavily scheduled for weddings and parties.

The Forum invites comparison to a similar space at Kiasma, Holl's Museum of Contemporary Art in Helsinki [AUGUST 1998, page 86] in their shared function and importance. Where Kiasma's main atrium is more attenuated—the foreshortening of perspective is more extreme, and its ramp zooms more dramatically out of view—BAM offers a leisurely corkscrew sequence of unfolding spaces. A stepped ramp is the definitive element, physically altering a visitor's gait with deeper than normal treads. The steps are surprisingly comfortable, drawing visitors up to an oversized landing (used as stage, lectern, and bandstand) in the cusp of the public

HOLL'S “SOCIAL CONDENSER” INSPIRES A DENSITY OF HUMAN CONNECTION AND CHANCE ENCOUNTERS THAT THE SUBURBS HAVE RARELY FOSTERED.

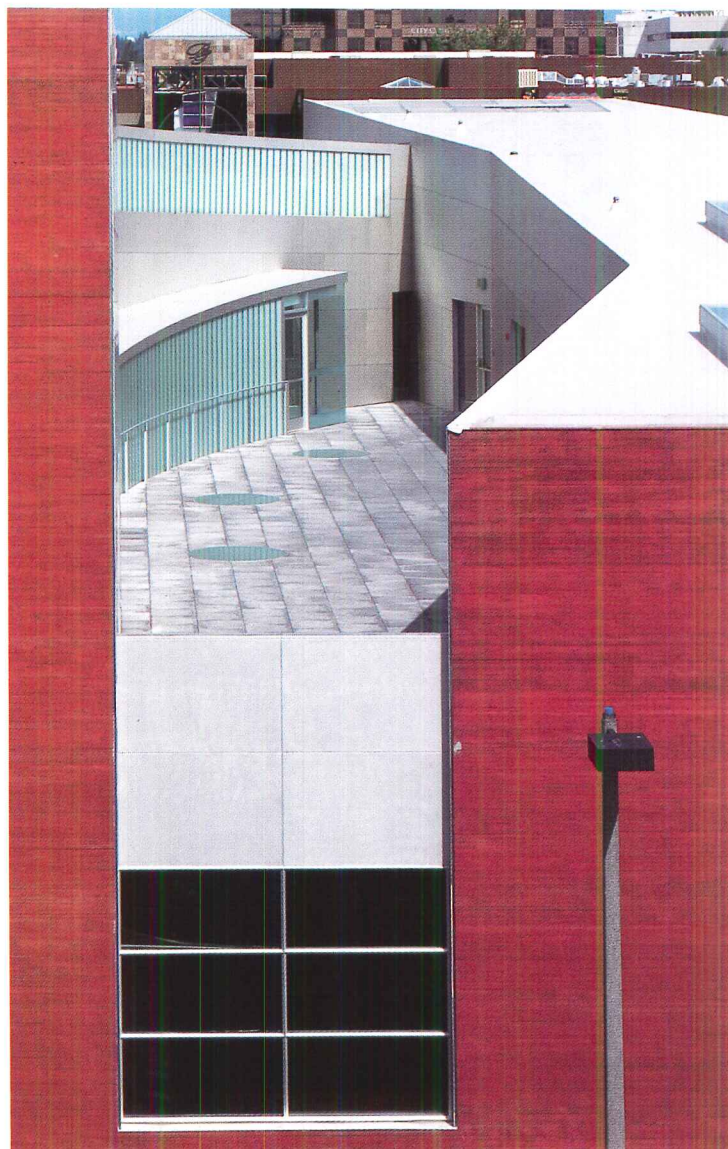
Forum. “By walking through the space, people become part of the design; they're central to the experience,” says Douglas.

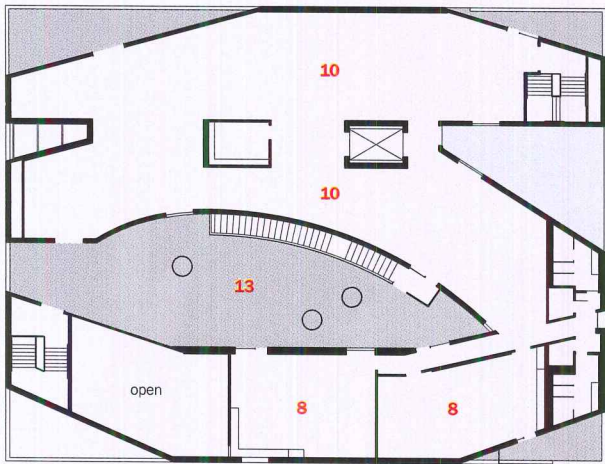
On the second level, the museum's unique mission becomes even more apparent. Behind an oversized, pivoting wood door at the corner of one gallery, you'll find an artist-in-residence who has agreed to share both studio and work process with visitors. You can watch amateurs at work in two of the museum's four classrooms.

From the second floor, a stairway clad in translucent glass disappears up into the ceiling. Light infuses this minimalist curve of space sandwiched between rough plaster and glacier-green glass. Holl opened the stair into a culminating outdoor space. The flattened ellipse of its enclosing walls brings to mind the surreal near-emptiness of a De Chirico painting; it focuses your view on the lens of sky above.

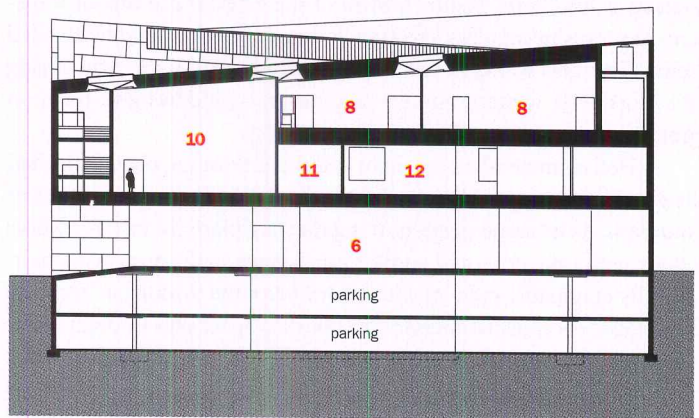
This Court of Light is one of six exterior terraces for sculpture and experimental artwork. On another terrace, an edgeless pool fills a triangular gap between galleries. Rippled reflections of sunlight animate the ceiling of the south gallery.

In the boomerang-shaped lofts on the third floor, Holl manipulates light not just to augment the spatial experience but to mark the passage of time. “Linear ongoing time has its parallel in the evenness of the light in the north gallery” is his mystical explanation. “Cyclic time has its parallel in the arc of the south gallery,” where low winter sun traces its daily path along a narrow clerestory, “and fragmented, or gnostic, time has a parallel in the skylights of the classroom loft,” where shafts of sunlight enter only briefly through punched openings. Douglas welcomed natural light, the bane of most museum curators.

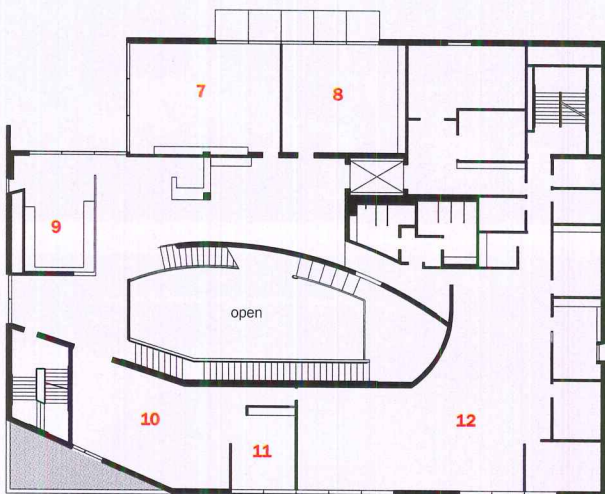




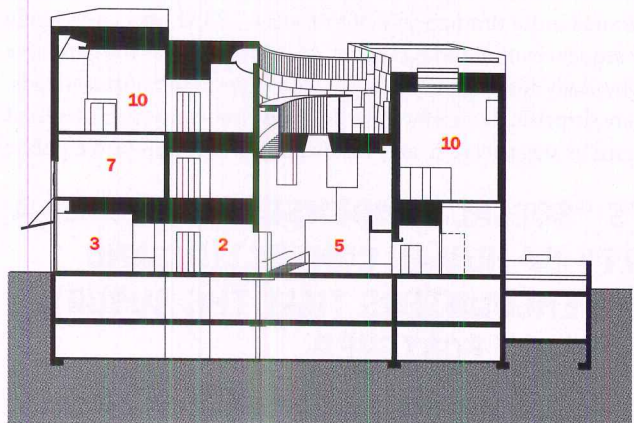
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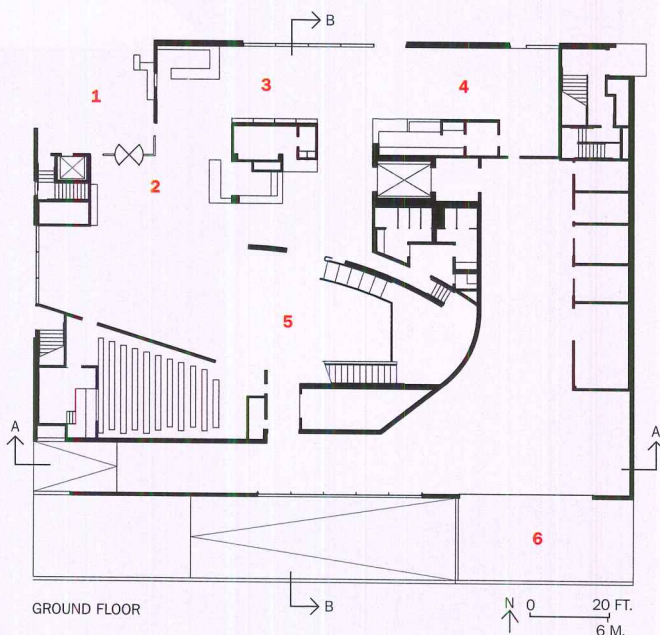
SECTION A-A



SECOND FLOOR



SECTION B-B



GROUND FLOOR

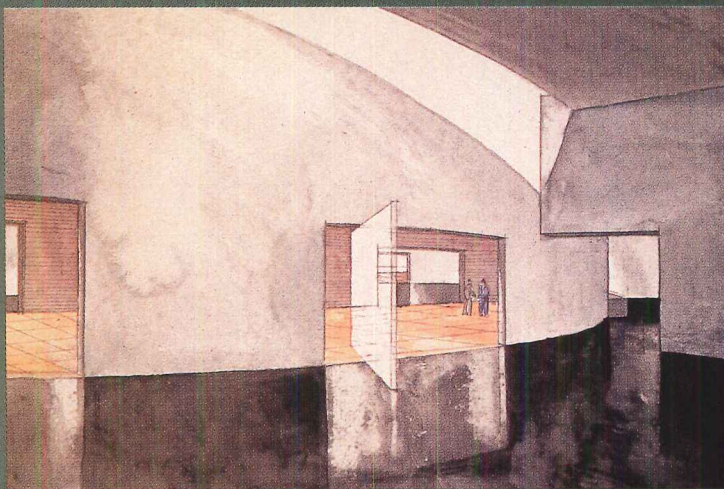
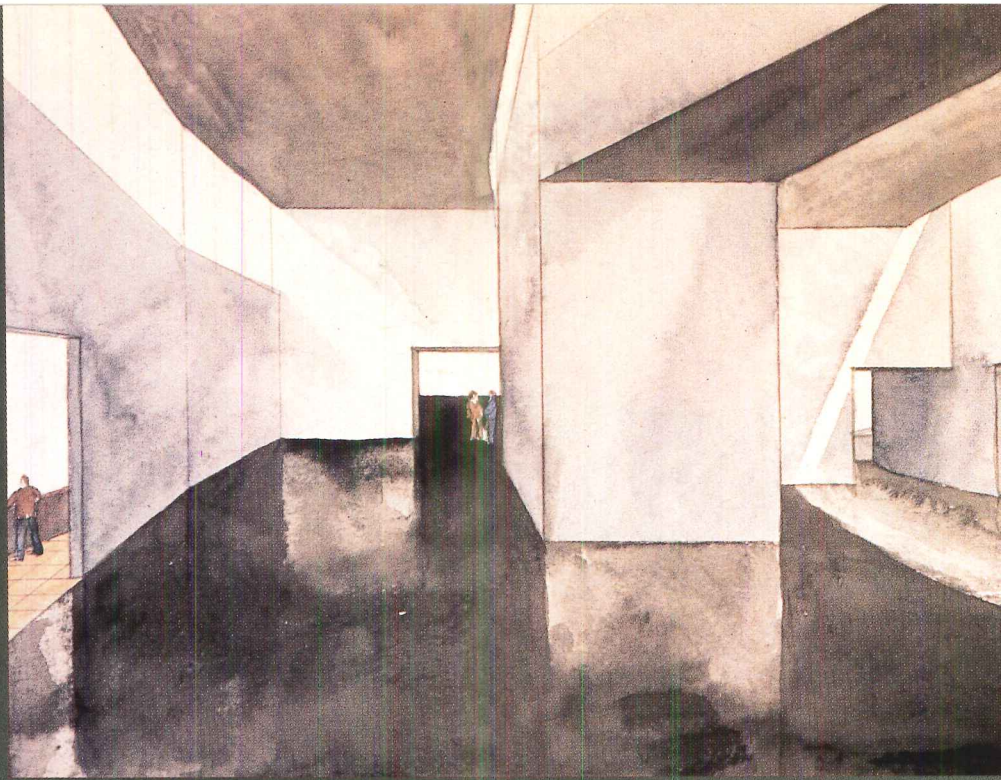
1. Porch
2. Entry
3. Shop
4. Cafe
5. Forum
6. Loading
7. Ceramics studio
8. Studio
9. Library
10. Gallery
11. Artist-in-residence
12. Administration
13. Court of Light

The Forum unites the ground-floor functions and acts as a vertical organizing element for the museum (plans). The visitor follows a corkscrew path up and around it. A glass-clad stair carries viewers up to daylit top-floor galleries and the outdoor Court of Light.



A curving, glass-plank enclosed stair (shown on page 90) opens to the elliptical enclosing walls of the Court of Light (left and below). In this serene outdoor room, roofed only by sky, edge-city distractions fall away.





Holl's evocative dreamscape comes to life

I grew up in Bellevue waiting to get out. The sameness of its subdivisions and shopping centers seemed to stretch endlessly, and the interchangeable fathers all worked at Boeing. We derided it as “the Void” or “Blahview” as we raced our teen jalopies across the bridges floating on Lake Washington to the real city whose spires beckoned to us: Seattle. Times change, and Bellevue has become, well, *interesting*, even diverse.

Though it has the traffic-clogged freeways hugged by reflective glass mid-rises, Bellevue is not entirely like other suburban

business centers that, driven by real-estate industry imperatives, flow heedlessly over vast landscapes. What was, in the early 1950s, little more than a gaggle of summer houses and blueberry patches has consciously attempted to forge its own sense of place, even as its population has moved into the hundreds of thousands. Bellevue is ahead of most of its edge-city brethren, perhaps because it is so acutely aware of the competition, especially in the form of Redmond, the next suburb outward—the place Microsoft moved to. And Bellevue has always had the urge to compete

with thriving Seattle. Its cluster of high-rises, for example, emulates Seattle's soaring downtown towers.

The summer arts fair from which the museum sprang always mixed in just enough avant-garde-aspiring art to lend regional legitimacy, without going so far as to upset comforting expectations too much. People don't live in Bellevue to have their values upended or their sense of themselves deeply disturbed. They expect to control the environment in which they live, and they do.

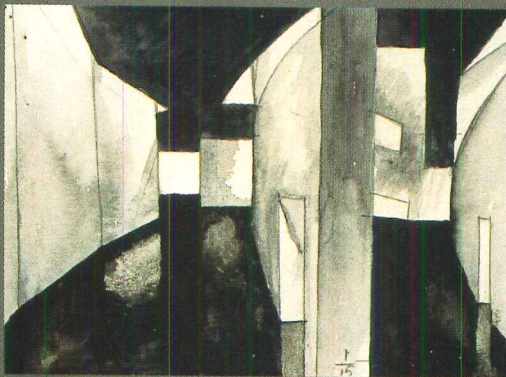
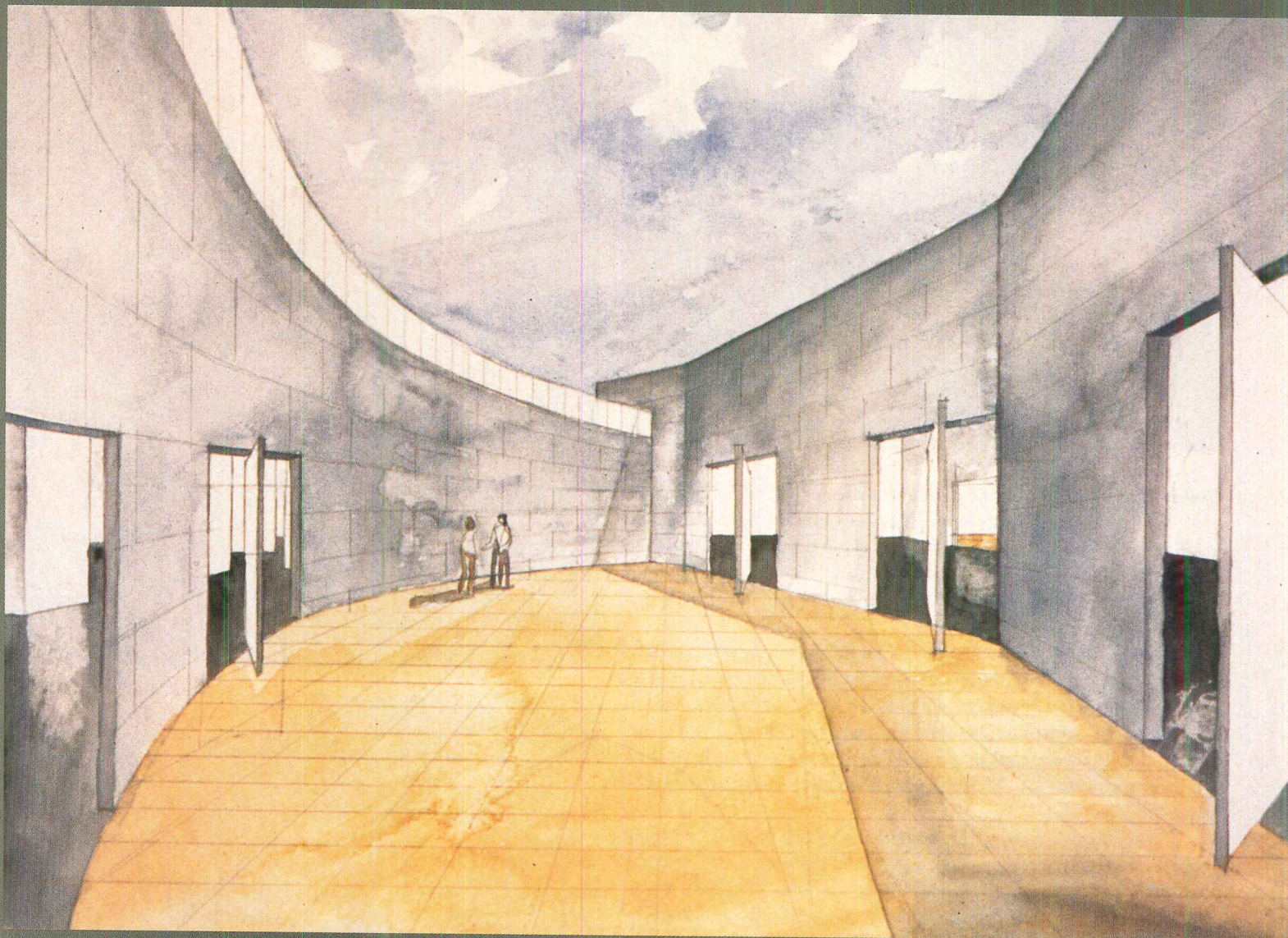
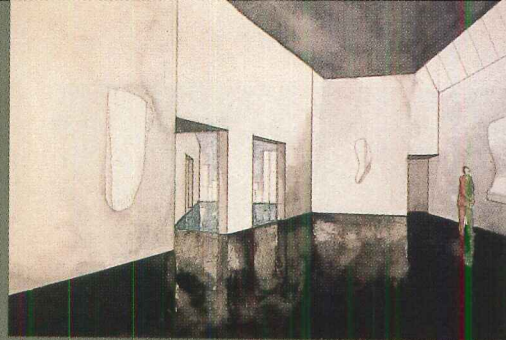
Curator Brian Wallace is keenly attuned to these values in the way he organizes exhibitions. “I try to make group-show themes that are accessible,” he says. He mixes local artists' work with that of established national and international figures. The video and electronic work on display answers another agenda item, “to connect art and science” in this hub of high technology.

Moving the facility out of the Bellevue Square Mall was an important step toward self-respect as an institution, but its leaders recognized that a real work of architecture could be more than mere walls for paintings. In Holl's building, I suspect Bellevue got much more than it bargained for. To me, the red elevations read as pulsing living innards revealed when the polite metal edges of the

building were “sliced” off. The drawings on these pages show portals, spaces to consider exploring, paths that one might regret not taking. Light comes through oculi from mysterious, perhaps heavenly, sources. The floor underneath is icily reflective. Is that patch of light the solid, and the dark a void into which I will sink?

In the Forum, and in the ever-changing experience of moving through the building, Holl has managed to retain much of the dreamscape quality so hauntingly evoked in his drawings. The stair to the third-floor galleries, for example, is tight, yet glowing with light. You might have entered some tubular living organism that seems to expand and contract like a lung. Then you emerge into the galleries, which, with their gentle curves and attenuating heights, suggest the spiritual calm of a chapel.

Bellevue accidentally went over the top. The suburban grip of hyper-control has loosened. The “subject” here is emotional and psychological rather than just tactile. It's a rarity not only in places like Bellevue, but in architecture. And the museum's leaders have created something extraordinary that will reward (if not answer) the questions aroused in an inquiring mind. *James S. Russell, AIA*





“We wanted to go beyond the hermetically sealed white box,” she says.

The inaugural exhibition showed a not-yet-fully-negotiated relationship between building and art. Blackout curtains were drawn in the south gallery for the inaugural video installation, obscuring Holl’s intention. Since the museum is wired for digital shows, this will happen again in the future.

The most successful gallery for viewing art is the north gallery, with its high band of translucent clerestory windows that trace the exterior wall as it creases and angles down to the west. The orchestration of light, along with the subtle bend of the gallery, creates a space that resists revealing its exact size and shape. Oblique views through galleries and windows and across courtyards present themselves in a changing series of perspectives.

In these derivative times, the authenticity of Holl’s personal vision is powerful and may challenge BAM’s budding artists to chart their own course. Together, Holl and BAM are united in their faith in the transformative powers of art. While the museum seeks to unlock the inner artist, Holl hopes viewers will see architecture as an urban amenity, one that is beautiful even as it connects people—a first step in the utopian transformation of an edge city. Whether or not such aspirations are realized, BAM is a luminous drop of inspiration. ■

Sources

PVC Roof: Sarnafil

Exterior concrete color additive:
Custom, added to clear OKON sealer

Interior concrete color additive:
Solomon

Exterior storefront and glazing:
PPG; Northwest Industries

Glass planks: Pilkington Profilit

Terrace pavers: Westcon pavers over
Hydrotech roof system

Interior plaster: Structo-lite

WWW For more information on
the people and products involved in
this project, go to Projects at
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Many of the spaces retain the dreamlike quality visible in Holl's drawings. The Forum (this page and opposite, bottom) is both primary

circulation route and orienting device. A glass-clad stair (opposite, top) leads to the top-level daylit galleries (north gallery, top left).



A single 75-foot gold-leaf cross adorns the facade. The building and chapel sit on a fieldstone plinth. The center glows at night, revealing the elements (opposite, top). The rear facade is a curtain wall.



Leo A Daly delivers ecumenical elegance and grace to the nation's capital with the new POPE JOHN PAUL II CULTURAL CENTER

By Sara Hart

Washington, D.C., has not lived up architecturally to the ambitious master plan that Pierre L'Enfant conceived for the nation's new capital. Grand boulevards radiating from the U.S. Capitol demanded grand buildings. With the exception of a few pleasant Neoclassical homages to democracy, grandeur is conspicuously absent from the urban fabric. Indistinguishable, squat concrete-and-marble-veneered blocks have hatched along the avenues, creating a relentless monotony to which critics seem resigned.

Finally, however, Washington has received an architectural transfusion from an unexpected source—the Catholic Church—in the form of a quasi-religious cultural center honoring Pope John Paul II, designed by the Washington office of Leo A Daly Architects. The firm is one of the five largest architecture and engineering firms in the U.S., and often plays a supporting role as executive architect on many projects. With the Pope John Paul II Cultural Center in northeastern Washington, D.C., the firm raises its own design standards, along with the city's.

The design team developed a close working relationship with Cardinal Adam Maida, archbishop of Detroit and close adviser to the pope. It was Cardinal Maida, president of the Pope John Paul II Cultural Foundation, who envisioned the center and raised \$65 million through private donations to build it. The journey from their initial meeting until the official opening in March spanned a decade.

In the beginning, the client envisioned a center modeled after a presidential library. Such institutions are built to document historical events and archive the achievements of an administration, as well as pay tribute to an individual president. And yet, this was not to be a moribund archive or static museum. Instead, client and architect envisioned an unusual hybrid of old-school exhibitions featuring Vatican artifacts; state-of-the-art interactive explorations; hands-on activities for all ages; an interfaith think tank; and a chapel. Furthermore, Maida and the pope wanted to present the Catholic Church and the papacy in an ecumenical environment to emphasize inclusion of and respect for all faiths.

As expected, pressure came from traditionally minded clergy and foundation trustees to imitate the ecclesiastical vocabulary of domes and marble arches, not unlike those of the Byzantine-Romanesque dome and bell tower of the basilica of the National Shrine of Immaculate Conception, which looms above the treetops nearby. The design team lobbied convincingly for a modern architectural vocabulary, rendered in traditional materials, to present a forward-looking church—a building



that was monumental but not imposing, respectful but not solemn, and, most important, one that emphasized the perpetuity of the church.

Visitors reach the building via a tree-lined drive along the north edge of the 12-acre site. Such a ceremonial approach, normally reserved for monuments on Washington's Mall, emphasizes the significance of the center and creates anticipation and excitement for the experiences to come. The front facade, an asymmetrical composition of glass and limestone, is anchored at the north end by a 40-foot-tall entry rotunda and at the south by an elegant cubic chapel, which reposes over the edge of a long reflecting pool. All of these elements sit upon a granite terrace, raised upon a rusticated fieldstone plinth. The structural columns emerge from the interior through the top to hoist the patinated copper-clad roof that bends upward like a bird's wing.

The interiors are animated with light, sights, and sounds, in contrast to the hushed solemnity of most religious institutions. Visitors move vertically through the museum via sloping concrete walkways that create a vertical slice through the building's core, which is flooded with light through the rear curtain wall. Because the openings between the steel stanchions that support the railings are glazed, visitors can see

Project: Pope John Paul II Cultural Center

Architect, engineer, interior

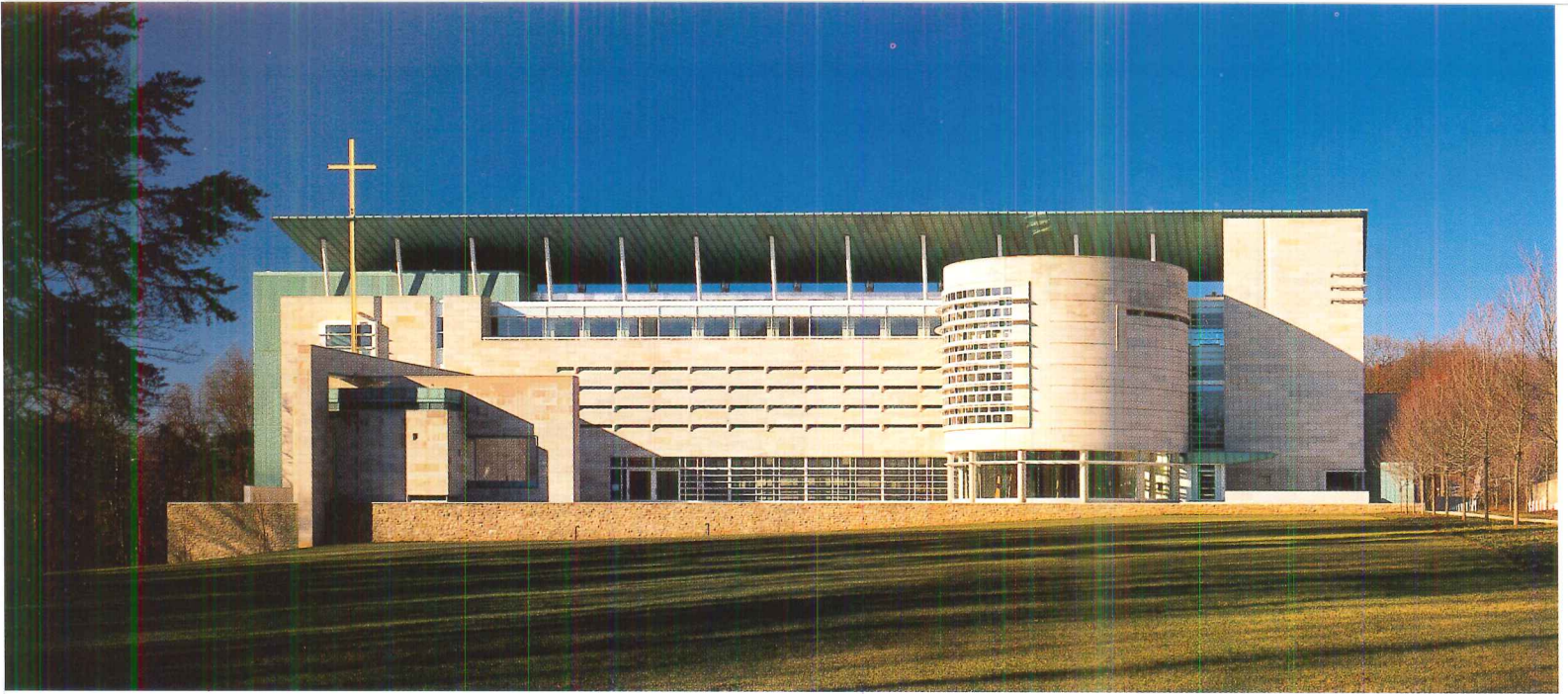
designer: Leo A Daly—Leo A. Daly III, FAIA, Michael Winstanley, AIA, Al O'Konski, AIA, Lori Arrasmith, AIA, Adriana Radulescu, Assoc. AIA, Ellis Whitby, Kourush Afsharjavan, Tina Bushee, Richard A. Clarke, AIA,

F. Kelan Dyer, AIA, Vernon Geisel, AIA, Timothy Grandy, AIA, Kelly Hogg, Robert Osborne, Craig Wright

Exhibits: Edwin Schlossberg
Landscape: Michael Vergason
Landscape Architects

Contractor: James G. Davis
Construction Corporation

PROJECTS

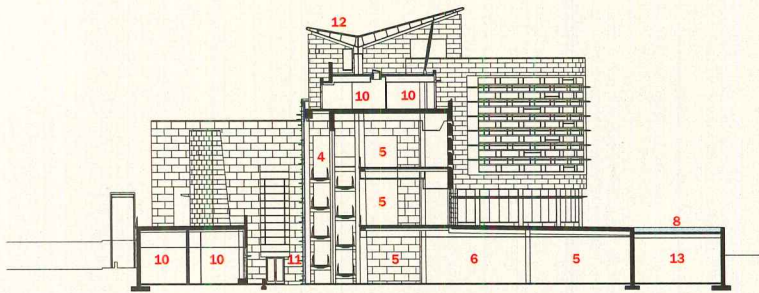


Visitors enter the center through a large rotunda (above). The glass panels (below right) will eventually be replaced with stained and art glass funded by donations. The dominant interior materials are concrete, copper,

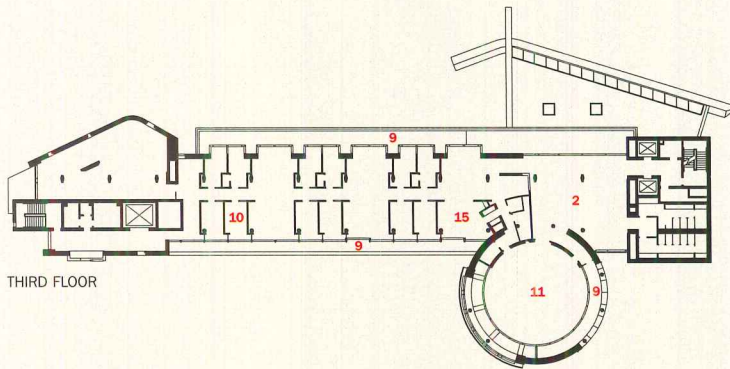
glass, and granite (below left). "Light cavities" with colored glazing reveal thick walls meant to suggest an enduring Church. Primary circulation is a series of eight sloping walkways with glass sides (opposite).



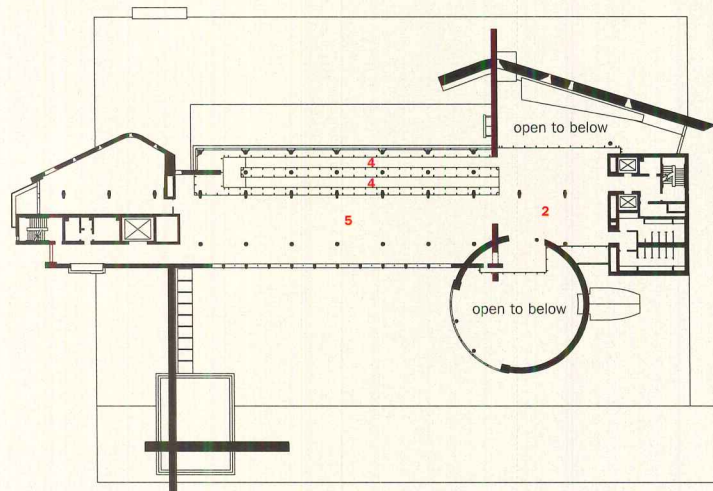




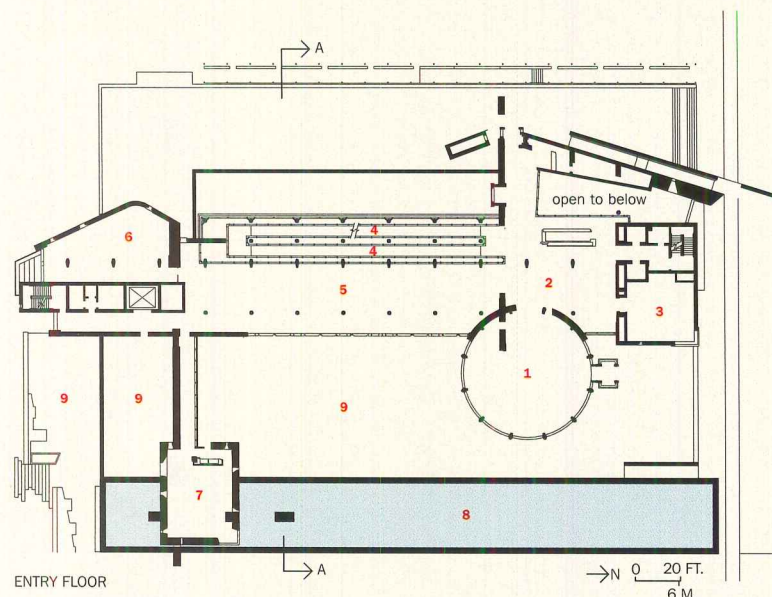
SECTION A-A



THIRD FLOOR



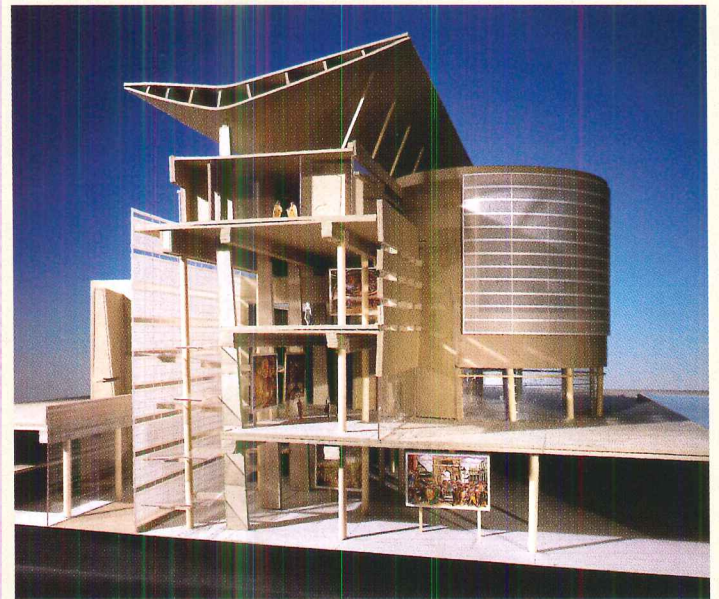
SECOND FLOOR



ENTRY FLOOR

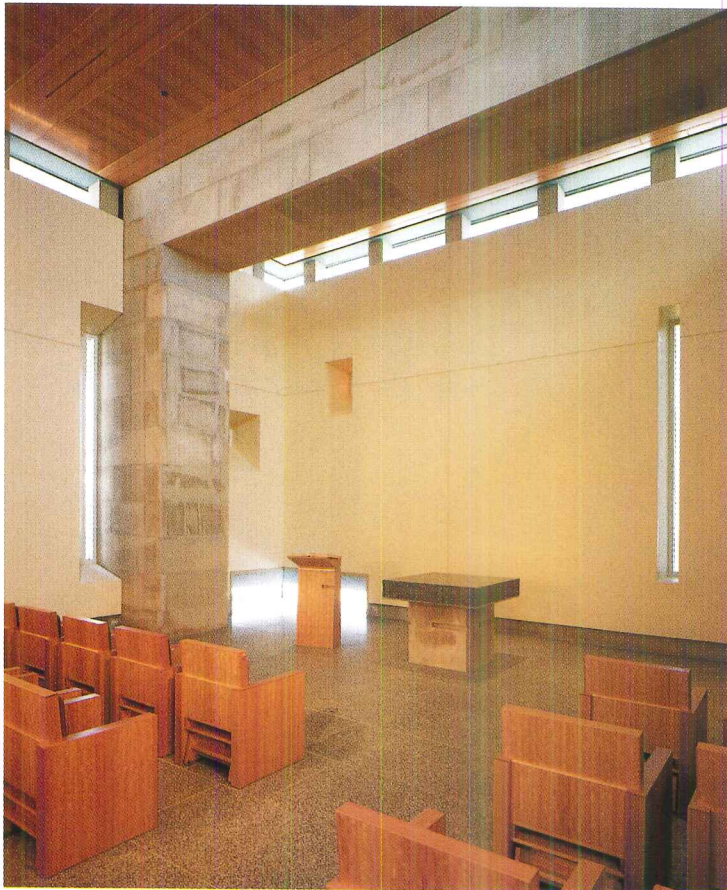
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6 M.

The sectional model (below) describes the vertical organization of the building. The section (left) shows the relationship of the sloping walkways to the exhibition spaces. Heights are generally 20 feet from floor to floor.



- | | |
|--------------------------------|--|
| 1. Entrance | 8. Reflecting pool |
| 2. Lobby | 9. Terrace |
| 3. Gift shop | 10. Intercultural forum
offices (typical) |
| 4. Sloping walkways | 11. Boardroom |
| 5. Galleries | 12. Copper-clad roof |
| 6. Gallery of
papal history | 13. Storage |
| 7. Chapel | |

The top floor is occupied by the Inter-cultural Forum (right), where 16 visiting scholars, representing many faiths, will do research, write, and lecture. Leo A Daly Architects designed the chapel furniture (below) and the benches throughout the building. Gold dust sprinkled in the plaster walls reflects light that enters through an unorthodox composition of windows.



into the galleries above and below the walkways.

The basement level is the most robust, with the orientation theater and an astonishing variety of multimedia and interactive activities designed by New York-based Edwin Schlossberg Incorporated (ESI). ESI is a multidisciplinary company whose exhibit designers, space planners, inventors, and computer programmers study human interaction, and design for how people respond in the evolving era of multimedia, interactivity, and virtual reality. Daly recruited ESI early on as a design team member to make certain that the sophisticated interactive areas interface seamlessly with the architecture. (To view ESI installations, go to www.architecturalrecord.com.)

The success of this project really boils down to how well the architect put the church's message into the architecture. Secondary details and ornamentation are minimal. Light and sound create an atmosphere of inclusion and participation, while large expanses of concrete, granite, and stone speak for theological continuity. In a few bold moves, Daly has restored faith that modern architecture can carry a complex message, whether sacred or secular. ■

Sources

Limestone: Lorton Contracting, Bybee Stone

Curtain wall: LBL Skysystems


Copper: Revere Copper Products & Manufacturer, Prospect Waterproofing

Glass: Viracon, Bendheim Architectural Glass

Lighting: Lytespan Nessen, Sharper,

Leucos USA, Lightolier, Lithonia, Rambush (interior), Hess America, Bega, Lumiere, Forum (exterior)
Furniture: Knoll, Thomas Moser, Craftwood, Wilkhahn

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The facade's concave glass arc (this page and opposite) makes an urban gesture, extending conceptually to encircle a medieval stone castle—the town's historic origin.

With its **FINGAL COUNTY HALL** **Bucholz McEvoy Architects** signals Ireland's new role in a global society

By **Raymund Ryan**

Ireland is undergoing seismic change as it participates in a global economy and culture. On a recent bus trip to Swords, en route to Fingal County Hall, the driver—with reflective shades and an embroidered baseball cap—was of Southeast Asian origin. Several passengers were from Africa, and two others were reading in French. As they passed the international computer facilities and sprawling new shopping centers of Dublin's suburbia, these passengers may have been unaware of Ireland's traditional homogeneity and poverty. The country now boasts one of the highest per capita incomes in Western Europe.

Ireland's economy has opened up to embrace financial services and information technologies with zeal. MIT's media lab, for instance, has now launched its first foreign outpost in part of Dublin's famous Guinness Brewery. The word *globalization*, so often used to describe today's transnational economy, can be associated correctly with the dissolution of local culture and power. But globalization may also lead to a fuller comprehension of architectural objects and institutions. For an architect to act "globally," in this positive sense, implies contemporary understanding of a building's full economic and environmental context, a knowledge and promotion of building as a complex system of parts.

As the Irish capital expands well past its 18th- and 19th-century core, county Dublin (home to approximately one-third of the Republic's 3.5 million citizens) has been reconfigured into four constituent administrative units. Fingal occupies the northern zone near Dublin Airport, rich in agricultural land mingling with a new landscape of call centers and high-tech facilities. Swords, the county seat, is a market town with its medieval character intact—a healthy, if provocative, site for a major

Raymund Ryan, coauthor of Building Tate Modern and author of Cool Construction, was Irish Commissioner for the 2000 Venice Architecture Biennale.

Architect: Bucholz McEvoy Architects—Karen McEvoy, AIA, Merritt Bucholz, partners-in-charge and project designers; Jim Luke, Graham Petrie, Mary Louise Kelly, project team; Karen McEvoy, Merritt Bucholz, Jim Luke, Pamela Sams, John Fitzgerald, competition team
Associate architect: BDP Dublin—

Donal Friel, partner-in-charge; Mary McDonald, project architect; Dierdre Prince, Sabine Klingner, Gerard O'Sullivan, Elaine Butler, Richard Byrne, project team
Engineers: RFR France
General contractor: PJ Hegarty & Son
Consultants: Sandy Brown (acoustical)





Light in appearance, the foyer's arcing glazing hangs curtainlike from the roof. (It actually moves if pushed by hand.) Each pane attaches to the one above it by an oak spar. The entire structure is held in place by a fine web of concave and convex steel cables (left, below, and opposite). In the office wings (right), brises-soleils shade extensive glazing. Service cores occur where these wings join the main arc.



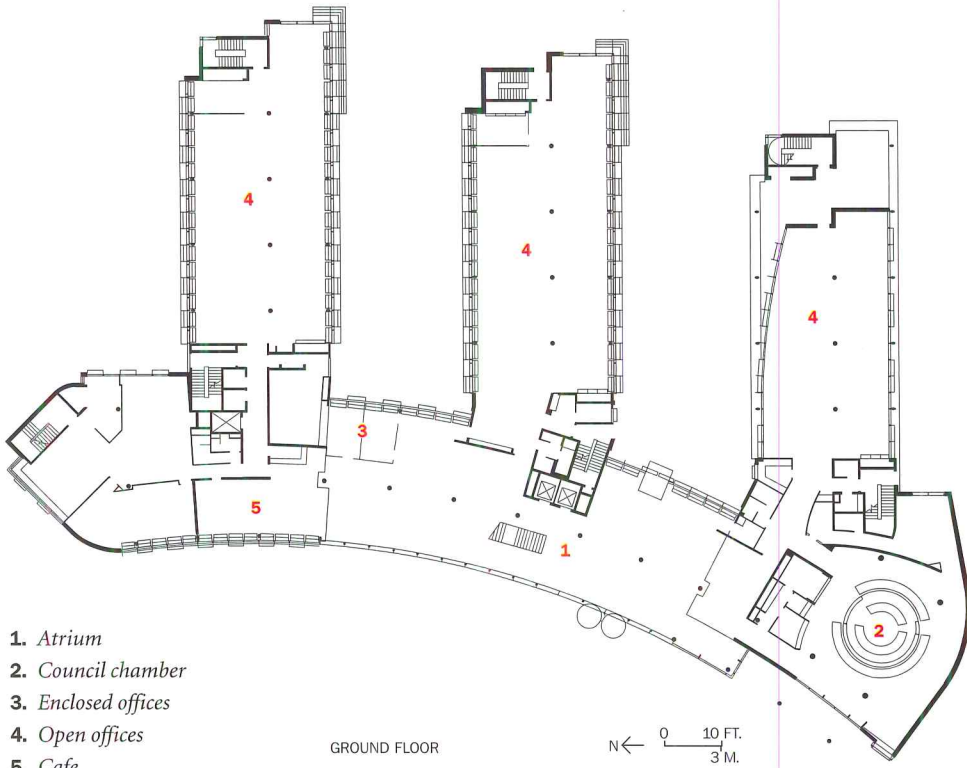
contemporary building. Fingal County Hall must simultaneously connect with its immediate historic neighbors and stand as a symbol of Irish democratic progress. It's the clearest example yet of a critical architecture to accommodate and signal Ireland's new role in a global society.

Merritt Bucholz and Karen McEvoy, AIA, won the open design competition for Fingal County Hall in 1996. The young American-Irish duo, who met at the New York office of Emilio Ambasz, had until then never built in Ireland (Bucholz had received his M. Arch. from Princeton only the year before).

Their Fingal County Hall is unmistakably modern. It is also a fragment—one component in a spatial procession at an urban scale. The public front is a concave glass arc that conceptually extends across a main street to encircle a medieval stone castle—the town's historic origin. This glass screen reflects and is protected by mature evergreen trees that have been carefully retained. Linear strips of green slate paving, gravel, and plantings lead from the castle gate and public street under the canopy of trees into a four-story foyer toward the center of the arc. Although landscaping elements that will extend the circle about the castle grounds have yet to be implemented, the entire panorama of Swords seems encompassed from the upper stories of County Hall.

Distinct from more established Irish practices, Bucholz McEvoy approaches construction with an attitude akin to industrial design and attuned to issues of sustainability. At Fingal, the glass facade and foyer present the clearest example of this intent. Fabricated in Italy, the glass hangs from the roof like a curtain. (It actually moves if pushed by hand.) Each glass panel connects with the one above it by a timber spar. The entire structure is held in place by a fine web of horizontal steel trusses that project into the void of the foyer: Engineering as a dynamic form of

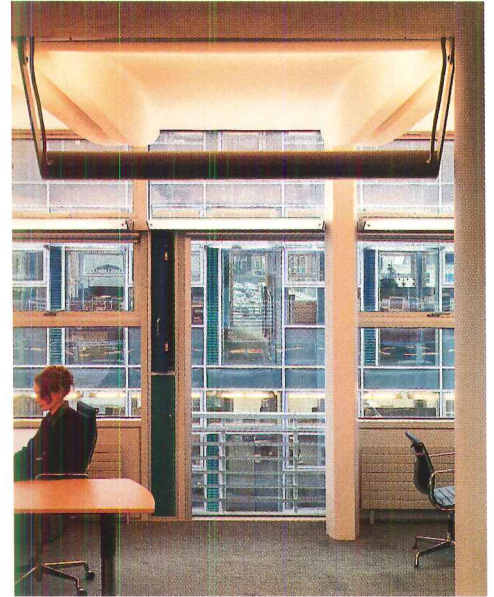




- 1. Atrium
- 2. Council chamber
- 3. Enclosed offices
- 4. Open offices
- 5. Cafe

Designed as an environmentally attuned workplace, the building—in its office spaces (below), council

chamber (bottom), stairwells (opposite), and foyer—receives generous, but well-modulated, daylight.





ornament. The foyer, furthermore, is ventilated naturally. Hot air or smoke rises to be expelled at the clerestory. The roof is a double-curved steel structure clad on the interior in birch plywood.

The central 110-foot-long facade was designed in collaboration with Paris-based engineers RFR. (Unfortunately, the late Peter Rice, RFR's Irish-born founder, did not live to see a commission in his homeland.) Toward the north end of the foyer is a public cafe, and to the south the council chamber. The more public or important offices, faced on the exterior in small terra-cotta tiles, rise above these spaces (along with an employee canteen). A strip of skylight helps illuminate the double-height council chamber as it protrudes beyond the main building volume. Views out to the street are through tall oak louvers that can be closed for sun protection or, presumably, if council proceedings become too heated.

Most of the 450 employees work in three linear wings accessed from corridors connected to the foyer by cantilevered stairways. The offices are typically open-plan with exposed ceilings of prefabricated concrete-slab modules. Light trays on the exterior and interior bladelike fittings bounce daylight and electric illumination up onto gently curved soffits. Service rooms occupy knuckles that connect with the foyer; and partitioned offices tend to be corralled near the eastern tips. The wings are sheathed in a variegated palette. Here, panels of glass and tile and anodized aluminum break down the building's scale as it nudges up against two-story houses behind it. Thin vertical panels, painted blue and green on the exterior, open for ventilation. For solar protection, the

south-facing elevations have cantilevered aluminum brises-soleils.

All these components are dimensionally coordinated with one another. They have been ambitiously sourced by Bucholz McEvoy from a range of manufacturers across Europe. Fingal thus sets an example and offers a stimulus for Irish architects to think globally, to consider buildings not only from the scale of the city to that of the door handle, but also to seize the possibilities of new technologies.

Eighty years after independence, the Republic now acknowledges a history made up not from one unitary indigenous culture but from layers of immigration, emigration, and superimposition. While it may be excessive to claim that Fingal County Hall somehow represents all these characteristics, it nevertheless gives a clear signal of a new, open intelligence operating in the Irish scene. ■

Sources

Curtain wall: Kawaneer, Pilkington

Tile: Eisenberg Terra Cotta Tile System (exterior), American Olean (interior)

Glazing: Polar Glass Systems (suspended glass facade)

Doors: Boon-Edam

Hardware: D-Line (locksets, hinges); Geze (closers)

Plastic laminate: Formica

Stone: Carlow Limestone, Welsh Green Slate, Welsh Black Slate

Lighting: Concorde, Marlin, Thorn; Delmatic (controls)

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By Clifford A. Pearson

1.

Bad Elster, Germany

Behnisch & Partner sparks the revival of a historic spa with a set of colorful glass pavilions inserted within a 19th-century complex.



2.

Amiens, France

Using a system of curving steel ribs and glass panels, Chaix & Morel creates a soccer stadium that brings fans close to the action.



3.

East Hampton, New York

A recreation center by Davis Brody Bond provides attractive, well-lighted spaces for exercising both the mind and the body.



4.

Chicago, Illinois

DeStefano + Partners treats a driving range in a public park as a landscape feature, defining it with metal trellises that "dance" above the ground.



How do we relax? In a world of high-speed Internet connections, fast-paced business transactions, and high-altitude air travel, what we do to kick back says a lot about us. Although labor-saving devices once promised to set us free to enjoy the good life, we know better now: Microchips and megabytes have only made us busier than ever, so whatever time we steal to unwind is precious.

Like our lives, leisure time has become more active and more structured. Sitting on the porch in a rocking chair has been replaced by rock climbing and roller-blading. Work hard, play hard. All this can be seen in the kinds of leisure facilities we are building today. More often than not, these are places to break a sweat.

Driving much of this trend is a healthy concern for health. But there is more than a whiff of desperation (and vanity) in the Baby Boom generation's obsession with working out. As many of us settle into middle age, we seem more determined than ever to fight the inevitable forces of aging on our bodies. And there's a touch of guilt, too, in our filling spare time with activities that are good for us. As we juggle work and family responsibilities, we feel the need to justify what we do when there's nothing we really need to do. So instead of just relaxing, we bike 20 miles or go to that holistic meditation-through-suffering program because those activities promise to make us better people (and tighten our abs). The generation ahead of us isn't much different. Instead of letting up on life's gas pedal, many of our elders are staying as active as ever, expanding the market for all kinds of athletic and fitness facilities. Everybody wants to live forever (and have nice biceps).

Call it pampering with pain. The recent spa boom may best exemplify what's happening here. No longer places to just sit back and drink funny-smelling mineral waters, spas now offer an array of therapeutic treatments for mind, body, and spirit: early morning tai chi instruction, lung-challenging jogs in the woods, macrobiotic lunches, and master classes in the Zen of winning. According to the International Spa Association, the number of spas in the U.S. and Canada jumped from 1,331 in 1990 to 5,689 in 1999. In making 95 million visits to spas in 1999, Americans and Canadians spent \$5.3 billion. Sports and recreation venues have experienced the same kind of proliferation, as a quick tour of almost any North American town clearly shows.

As developers of spas, health clubs, and sporting facilities expand their reach, they're learning that image counts. Their customers not only want to look good and feel better, they want their gyms and spas to look good, too. That's where architects come into the picture. ■

NEW: For 10 more places of leisure go to Building Types Study at www.architecturalrecord.com. The monthly expanded Web BTS features project descriptions, photographs, drawings, statistics, and links to people and products.

Spa Bad Elster

Bad Elster, Germany

1

GÜNTER BEHNISCH AND MANFRED SABATKE BRING A 19TH-CENTURY SPA UP TO DATE WITH A SERIES OF COLORFUL GLASS PAVILIONS.

By Claudine Weber-Hof

Project: Spa Bad Elster

Bad Elster, Germany

Architect: Behnisch & Partner—Günter Behnisch, Manfred Sabatke, partners; Christof Jantzen, project architect; Michael Blank, Dieter Rehm, Richard Besler, Nicole Stuemper, Thorsten Kraft, project team

Client: Sächsische Staatsbäder GmbH, represented by the State Department of Building, Zwickau

Engineer: Fischer & Friedrich Engineers

Consultants: Luz und Partner (landscape); Erich Wiesner (colors); Engineers Shtop (lighting); Transsolar Energietechnik (energy)

General Contractor: Harms and Partner

Size: 187,000 square feet

Cost: \$43 million

Sources

Curtain wall: Metallbau Friess

Colored-glass louvers: Bischof Glastechnik

Pool tiles: Agrob Buchtal Keramik

Glass-mosaic walls and floors: Bisazza

WWW

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

The situation

Ancient Romans used the phrase *sanitas per aquas* (health through water) when describing the place. Goethe devoted passages in a poem to the healing properties of its natural springs. Saxon royalty opened the first official bathing season here in 1848. And by the turn of the 20th century, the south Saxon town of Bad Elster featured a full-scale spa offering curative mud baths and Jugendstil charm near the Bavarian and Czech borders.

Bad Elster's glory days ended with World War II. Though used by East German *apparatchiks* during the Cold War, the spa fell into disrepair. In 1994 the district of Saxony decided to renovate the landmark buildings and give new life to the derelict inner courtyard, which had been used by the Communists to store mud, coal, and equipment.

Since the fall of the Berlin Wall in 1989, Germany's 350 spa towns have been competing for a younger clientele to supplement the pensioners on cures who had been their traditional market. To attract stressed-out young executives and shopped-out fashionistas, though, Bad Elster needed a makeover. What it got was the works.

The solution

The spa hired the Stuttgart architect-

Claudine Weber-Hof writes about architecture from Munich.



tural firm of Behnisch & Partners to give its historic buildings a face-lift—renovating everything from subterranean steam pipes to old wall surfaces—and to add new facilities. Instead of imitating the old architecture, the new elements are mostly glass and steel and are clearly modern: A bathhouse, an information hut, and a treatment pavilion. The architects also attached glazed passageways and galleries onto the spa's historic walls. The result is a playful “bath-scape” with a colorful bathhouse as the youthful new heart of the expansive complex.

Visitors enter the spa from the

west, through Albert Hall, a grand space that sets the stylistic tone for the complex. Built in 1910, it is elaborately tiled with fish and shell motifs. Together, the old buildings form a great court with two-story wings running perpendicular to the main facade.

Architects Günter Behnisch and Manfred Sabatke understood people's great affection for the old buildings, but argued successfully that the new facilities should mark a deliberate break with the existing architecture. The architects' solution was to insert within the old courtyard a set of buildings that use color and glass to establish their own

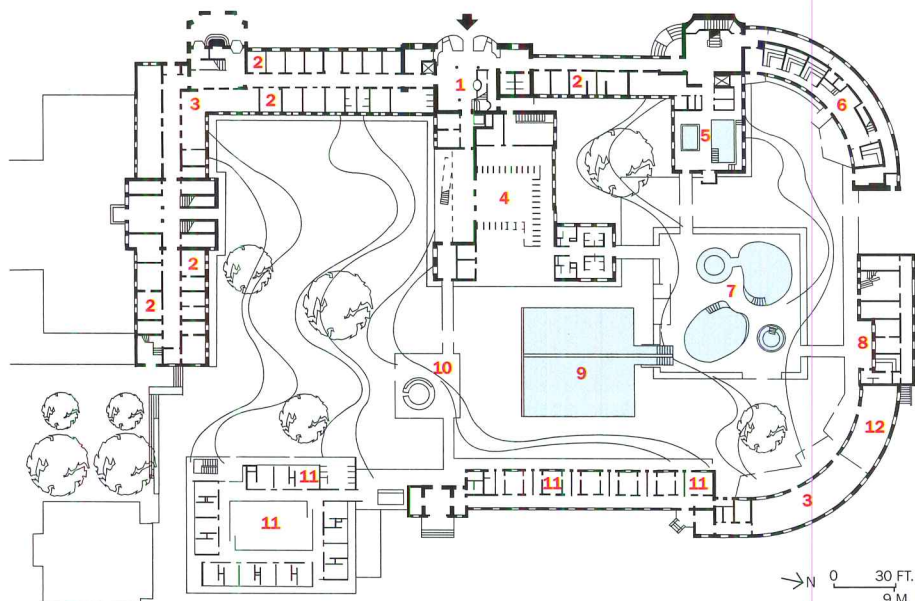


The architects inserted a series of modern glass structures in the courtyard of the old spa (model photo, opposite). To get from an outdoor pool to an indoor one, guests can swim through a water gate (left), and enjoy the colored glass dancing above their heads (below).





While rooms in the old buildings were restored to their 19th-century glory, new spaces were given a modern treatment (above). The pool pavilions have double skins of glass with 3.3 feet of air-space as a thermal buffer. Operable glass louvers have a 45 percent white frit printed on their upper surface and colored film on their undersides (left and opposite). A clear glass roof above the louvers sits on a steel grid and glass beams.



LOWER FLOOR

1. Albert Hall
2. Treatment
3. Resting
4. Changing/showers
5. Motion pool
6. Sauna
7. Pool pavilion
8. Steam bath
9. Outdoor pool
10. Scheduling
11. Mud treatment
12. Cafeteria

too many new buildings so the courtyard wouldn't be cramped.

The Behnisch firm practices what it calls "situational architecture." At Bad Elster it set the transparent new structures inside the existing courtyard, using the elevations of historic buildings as a rich backdrop. The additions are placed in a loose and open manner within the old space, inviting social interaction. Visitors can see one another from the buildings, but they get a feeling of enclosure from the wings of the spa wrapping around the courtyard.

The client "wanted us to transform the court into a beautiful, usable space," says Sabatke. "We decided on a 'Persian carpet' concept, rolling out a field of color."

The bathhouse, the largest structure in the courtyard, contains three small splash pools connected by a water gate to two 66-foot outdoor pools. The building's double-skin construction has 3.3 feet of air-space between its twin layers of glass, so it acts as a thermal buffer between outdoors and in. The roof contains an ingenious climate-control system with an outer layer of clear insulating glass mounted on a white steel grid and glass beams. On top, the roof's gently sloping surface keeps rainwater on the move. Below this, suspended from the main steel frame, glass louvers can open or close, depending on the weather. The outer surface of the louvers is printed with a 45 percent white frit to reduce the impact of the sun, but the underside is livelier: Berlin artist Erich Wiesner coated these surfaces in blue, green, yellow, and red, making the uneven fields of color look like clouds floating across the sky.

Commentary

More than 10 years after the fall of Communism in East Germany and after an investment of some \$43 million, Bad Elster has helped revitalize its region. "The baths are a point of pride, and all agreed that Bad Elster was well worth the investment," says Christoph Flämig, the mayor of the tiny township, who is also an architect. ■



Licorne Stadium

Amiens, France

2

CHAIX & MOREL DESIGNED AN EXPANDABLE STADIUM THAT BRINGS THE INTIMACY AND EXCITEMENT OF SOCCER BACK TO THE FANS.

By Claire Downey

Project: *Licorne Soccer Stadium*
Amiens, France

Architect: *Atelier d'architecture*
Chaix & Morel et associés—Philippe
Chaix, Jean-Paul Morel, principals

Client: *City of Amiens (Direction de*
la Culture et du Sport)

Engineers: *Ingerop, Inex, AR & C*

Lighting consultant: *Ingerop*

Size: *12,000 seats, expandable to*
20,000 seats

Cost: *\$12 million (86.8 million*
francs)

Sources

Masonry: *Quille*

Curtain wall: *Diter; Spapa*

Metal roofing: *Ursaa*

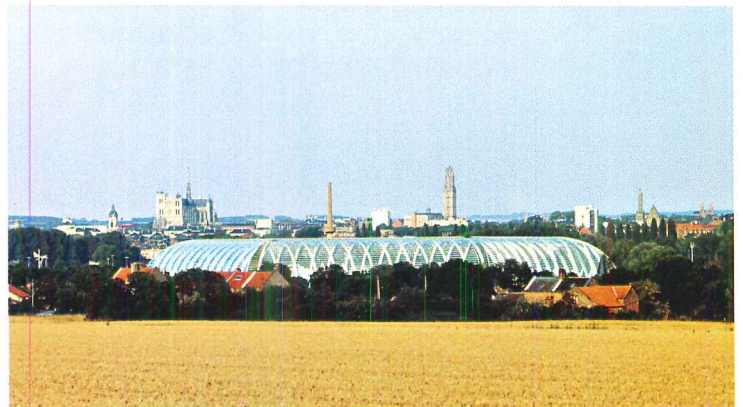
Elevators and escalators: *Thyssen*

The situation

When the rainy, northern French city of Amiens decided in 1995 to build a new soccer stadium, it planned for the big time. Although its soccer team was a Division Two club, it hoped to move up to Division One, an elevation in rank that would require the city to expand the 12,000-seat Licorne Stadium to 20,000 seats.

The site available for the stadium had several assets, including proximity to the city center and a convention center, with ready access to existing parking and a new highway. But it had long been considered unbuildable because its boggy soil wouldn't support much construction. Whoever built on the

RECORD correspondent *Claire Downey* edits *This City Paris* magazine.



site would need to coordinate architecture with some sophisticated engineering.

The city's department of culture and sports chose Paris-based Chaix & Morel to design the stadium, after admiring the firm's entry to a design competition for France's Grand Stade, a large stadium and concert venue in the Paris suburb of

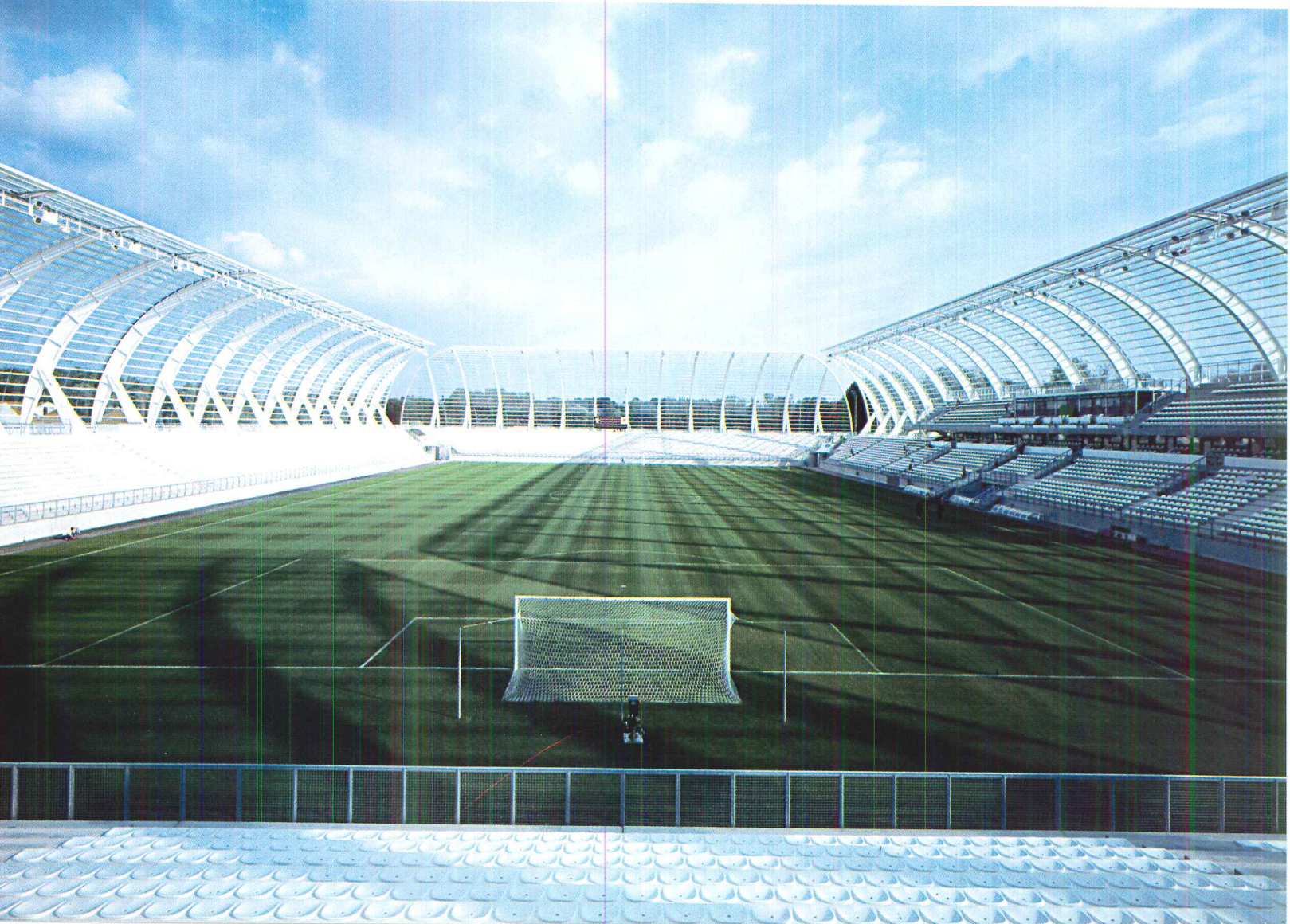
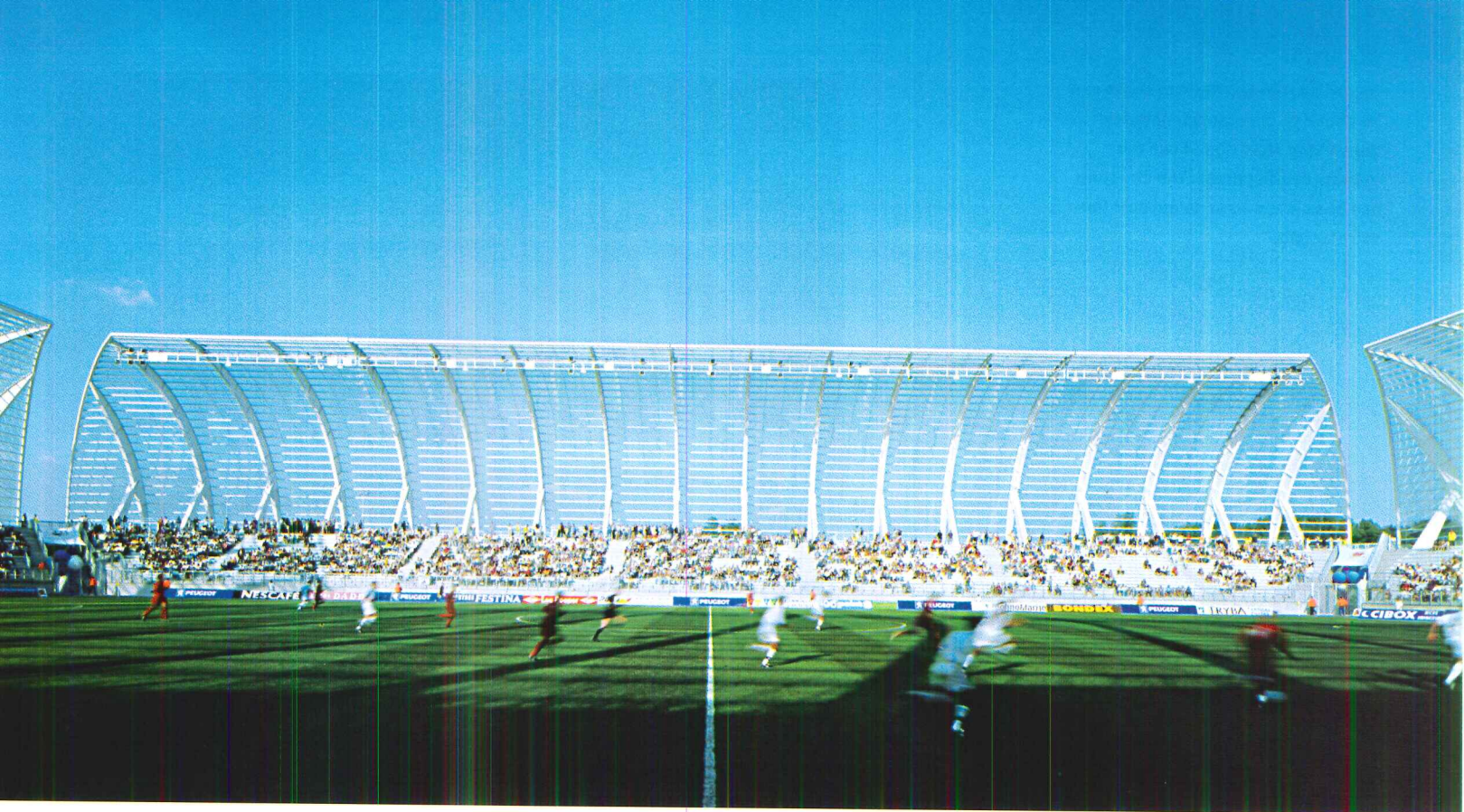
From a distance, the stadium seems to hover or glow before the city (above and below). But inside, it gets fans close to the action on the field (opposite, top and bottom).

Saint-Denis. Although Chaix & Morel didn't win the Grand Stade commission, Amiens gave the architects the chance to realize at least part



WWW

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



Balconies with 8,000 extra seats can be added to the stadium between the curving steel ribs above the existing seating areas. The structure has been engineered to support the extra weight.



of their airy scheme, albeit at a much smaller scale, at the city's new Licorne Stadium.

The solution

The design developed by Chaix & Morel works from the ground up, literally. To stabilize the soil, the architects dug wells in a grid pattern under the grass and filled each with rock and gravel. Supporting the stadium itself are concrete piles sunk deep into the site.

The architects used a simple rectangular plan for the stadium, eliminating any superfluous structure and minimizing the building's weight. The ticket office, dressing rooms, VIP boxes, press booths, and all administrative services are located in a three-story pavilion on the western side of the stadium. Refreshment stands and a continuous circulation corridor run under the bleachers.

In section, the project strikes a memorable profile against the stone and medieval buildings of Amiens. On the inside, steep, uniform concrete seating acts as both bench and stair. The seating is divided into four sections, one on each side of the playing field.

To allow daylight in and to block wind and rain, the architects designed two pairs of curving glass-and-steel wings that rise above the four sections of seating. Arching steel ribs, 26 feet (8 meters) on center, support the glass, along with horizontal steel tubes running between each rib in a series of "ladders." The four glass wings, which don't touch at the corners, allow air to circulate between the seating areas and provide access to the field at the ground level. From outside Licorne Stadium, the wings appear to float above a recessed first-level wall, painted sky blue. Lighting for night games is attached to the upper edge of the arc, 85 feet (26 meters) above the field.

Curving steel ribs and horizontal steel tubes support glass panels that protect fans from strong winds while allowing sunlight to shine into the stands and onto the field (right).

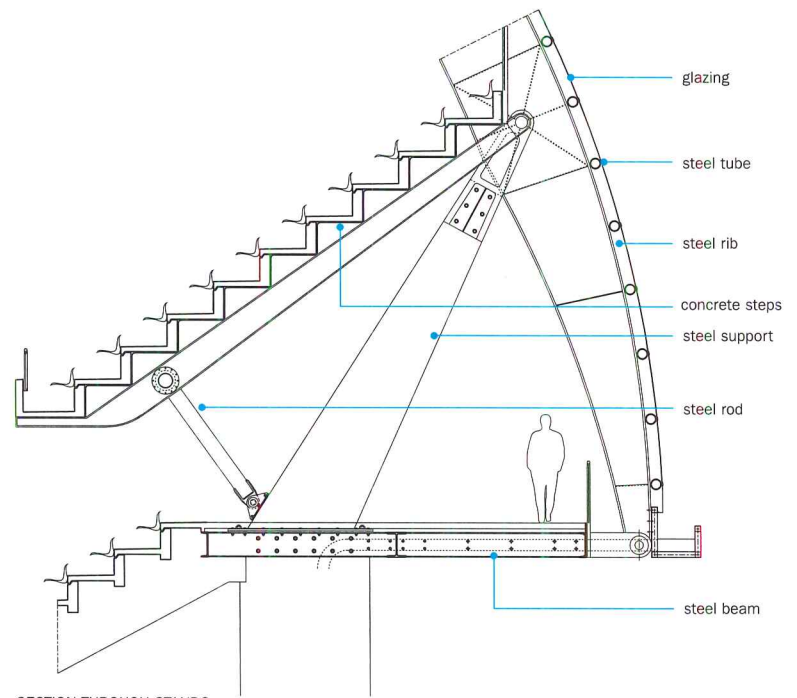
If Amiens moves up to the big league, it can add 8,000 seats with minimal expense by inserting balconies between the curving steel ribs above the existing seating. The connecting detail to hook the balconies onto the ribs has already been designed, and the existing structure has been built to handle the extra weight.

Commentary

While designing Licorne Stadium with his partner Jean-Paul Morel, Philippe Chaix remembered his own soccer-playing experiences, especially the way the green playing field met the blue sky. To Chaix, today's bunkerlike stadiums, which often turn their backs on their surroundings or even close off the sky with roofs and domes, are alienating, even unsportsmanlike. At Amiens the idea was to reduce the mass of the bleachers and enclosing walls, reinforcing the idea of being outdoors, while at the same time bringing the public closer to the action on the field.

Ironically, the architects' vision of a graceful sports arena in touch with its surroundings was helped by a change in French law meant to deter hooliganism. To encourage compliance with the law, the authorities installed surveillance cameras around the stadium at Amiens, which freed the architects to do without the high chain-link fences found at other arenas. It also let the designers bring the bleachers closer to the playing field, so they almost touch the grass. Now open for over a year, the stadium has been a popular success, attracting large (and well-behaved) crowds.

Licorne Stadium is also successful for its integration with the landscape—nestling among farm fields and the historic town center. In fact, if the game is a bit slow, the stadium's crystal shell offers great views of the town with its magnificent Gothic cathedral and an early office tower by Auguste Perret. Using modern construction and elegant proportions, the stadium fits into its setting without imitating the city's older architecture. ■



East Hampton Rec Center

East Hampton, New York

3

DAVIS BRODY BOND STRIPS AWAY SOME OF THE USUAL WRAPPINGS TO SHOW OFF A SWIM-AND-FITNESS CENTER'S WELL-TONED MUSCLES.

By Clifford A. Pearson

Project: East Hampton Rec Center, East Hampton, New York

Architect: Davis Brody Bond, LLP—Steven Davis, FAIA, partner; Frank Michielli, AIA, design partner; David Manty, AIA, Ron Eng, Fred Chomowicz, AIA, project team

Owner: Town of East Hampton

Engineers: S.L. Maresca & Associates (structural); Mottola Rini Engineers (mechanical)

Lighting designer: Anita Jorgensen

General contractor: Sandpebble Builders, Inc.

Size: 21,000 square feet

Cost: \$3.6 million

Sources

Standing-seam aluminum panels: Atas International

Mahogany-frame windows: custom by Sandpebble Builders

Clear, low-E glass: Otto Glass

Metal doors: Vista Wall

Plastic-laminate work surfaces: Formica

Unglazed ceramic tile for pool: American Olean

Ground-face masonry units: Tren Wyth Industries

Recycled rubber-roll floor cover: DodgeRegupol, Inc.

WWW

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

The situation

The Hamptons may be famous for beaches and outdoor parties, but they have never had many indoor recreational facilities. A nonprofit organization called the East Hampton Youth Alliance decided to fill the void with a multipurpose center that would provide a place for young people to exercise their bodies and minds on rainy days and during the long winter months. By including areas for computers and for just hanging out, in addition to swimming and exercising, the group hoped to attract a broad range of users and give the facility some of the attributes of an unofficial community center. After its completion, the project was leased to the YMCA, which now runs the facility.

Although conveniently located within walking distance of the train station, the site abuts a residential neighborhood where homeowners worried that a large institutional building would change the character of the area. Height restrictions and a tight budget of just \$3.6 million (\$175 a square foot) provided further challenges in an area where \$350 a square foot is considered a reasonable price for private houses.

The solution

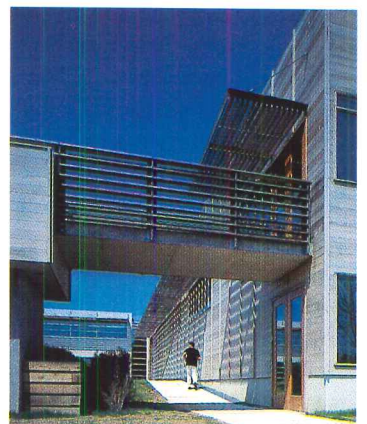
To relate the new building to the area's rural history, the architects at the New York City firm Davis Brody Bond thought of the 21,000-square-foot rec center as if it were a large



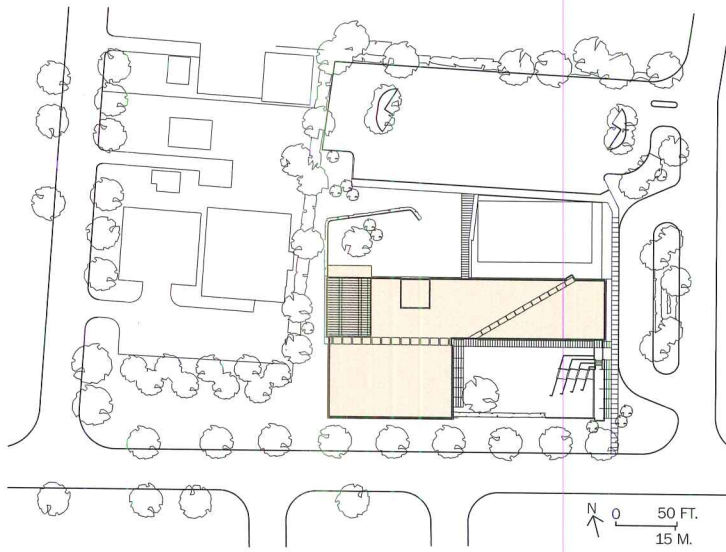
farm building. "We saw the project as a tailored barn—a cross between a rough farm structure and a refined cabinet," says Frank Michielli, AIA, design partner for the project.

The architects clad the building in Western red-cedar lapboard laid flush between cedar battens. The distinctive fenestration on the main (north) facade echoes a ramp running through the east half of the building and other interior features such as a lounge and a set of offices. "We wanted to project the building's section on the facade to hint at what's going on inside," says Michielli. The wood cladding and a design that recalls the area's vernacular buildings helped convince local homeowners that the rec center would be a good neighbor. "We met with the neighbors a lot and talked about the materials, scale, and height of the building."

Structurally and functionally, the rec center is really two buildings:



a steel-frame one for the swimming pools and a wood-frame one for fitness and computer activities. A concrete-block core with offices, locker rooms, and showers connects the two halves of the building. Although the architects had originally hoped to make the entire building wood-framed, steel was a more economical way of spanning the 65-foot-wide volume enclosing the two swimming pools.

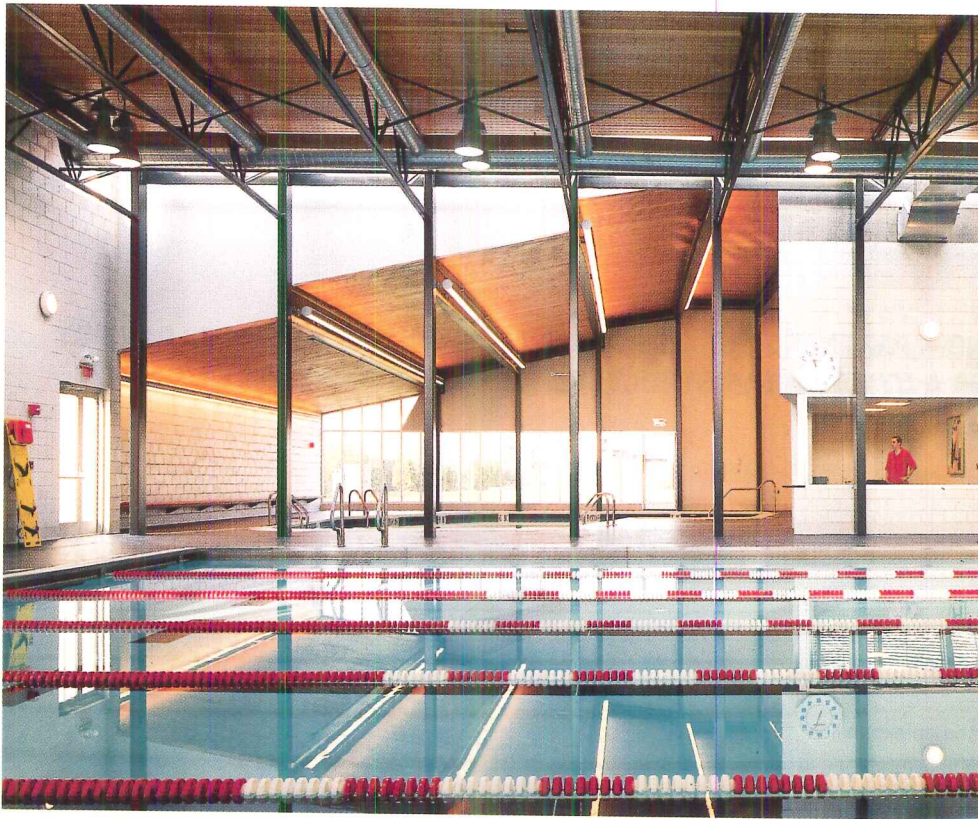


Individuals enter the building from the north (opposite, top), but groups are dropped off on the east side (opposite, bottom), where they can congregate in a grassy courtyard. Mahogany-slatted elements help protect the south-facing elevations from the sun (below).



A ramp separates the tech lounge from the fitness area and provides access to a cafe on the mezzanine.





In both halves of the building, the architects exposed the structural framing, using it as an essential element in the project's architectural expression. In the fitness and lounge area, 24-foot-high wood studs set four feet on-center establish a visual rhythm that holds the large space together—literally and figuratively. In the swimming area, steel columns create eight-foot-wide bays that help give this portion of the building its own character. "In this building, the structure is the enclosure," states Michielli.

The architects applied a similar kind of stripped-away approach to the ceilings, exposing roof trusses under long, narrow skylights. Showing off the building's bones seems appropriate for a place dedicated to building human bones and bodies. It also works well with an open plan that relies on ramps and low balustrades instead of walls to separate areas. Indeed, as visitors walk along the ramp that divides the fitness area from the computer-equipped tech lounge, they have the chance to see everything happening here. "I wanted the circulation to be part of

the life of the building," says Michielli. The ramp, which leads to a mezzanine cafe, also eliminated the expense of having an elevator.

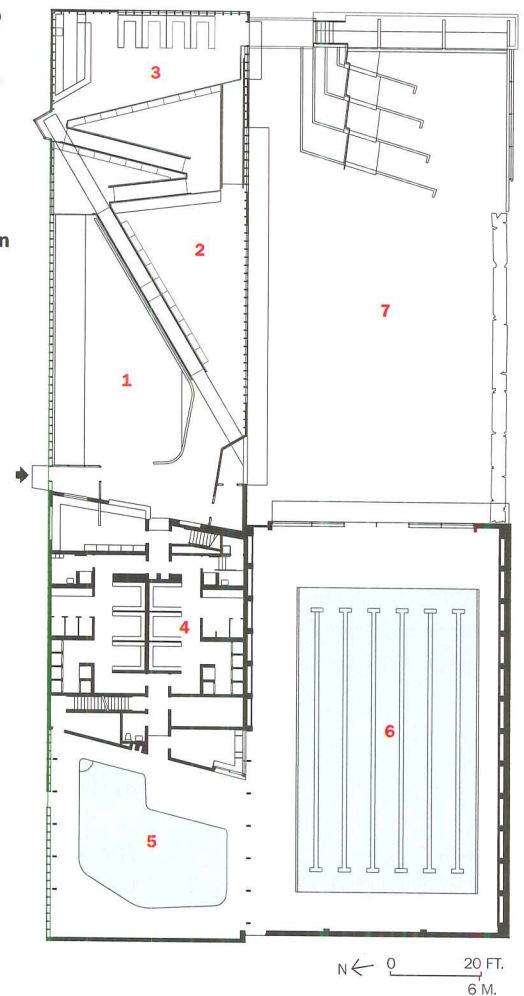
Controlling sunlight was an important consideration since swimmers and computer users need to be protected from glare. So south-facing elevations are shielded by mahogany sunshades cantilevered from the building and stabilized by metal cables. In the pool area, south-facing glass starts only 15 feet above the ground, while on the east, glazing is floor-to-ceiling.

Commentary

With sunlight rippling between its exposed-stud frame, the East Hampton Rec Center is a magnet for kids and adults alike. "The building is really welcoming," says Roberta Bisignano, executive director of the facility for the YMCA. "It doesn't have an institutional feeling," adds Bisignano. Without a budget for refined finishes or details, the architects used simple materials in a straightforward manner and gave it a rugged, honest charm that seems just right for a place where people pump iron and sweat. ■

A six-lane, 25-yard lap pool and a small children's pool occupy the steel-frame portion of the building (above), while lounges and workout areas are in the wood-frame portion (above right).

1. Fitness
2. Tech lounge
3. Cafe
4. Lockers
5. Children's pool
6. Lap pool
7. Courtyard



Diversey Driving Range Chicago

4

DESTEFANO + PARTNERS TURNS WARY COMMUNITY GROUPS INTO FANS BY DESIGNING A UTILITARIAN STRUCTURE AS A LANDSCAPE FOLLY.

By Clifford A. Pearson

Project: Diversey Driving Range, Lincoln Park, Chicago

Architect: DeStefano + Partners—James DeStefano, FAIA, managing partner; Avram Lothan, AIA, design partner; Carl Moskus, AIA, technical coordinator; Ian Bush, project architect

Client: Chicago Park District

Engineers: Matrix Engineering (structural); Building Systems Design (electrical)

Landscape architect: Peter Lindsay Schaudt Landscape Architecture

General contractor: F.H.

Paschen/S.N. Nielsen, Inc.

Size: 72 driving stalls; 324 feet long; 12,400 square feet

Cost: \$1.1 million

Sources

Structural steel: Shelco Steel Works

Steel screens and stairs: Mechanical & Industrial Steel Services

Paving: Artley Paving

Paint and coatings: FranCo.

Concrete: Newfoundland

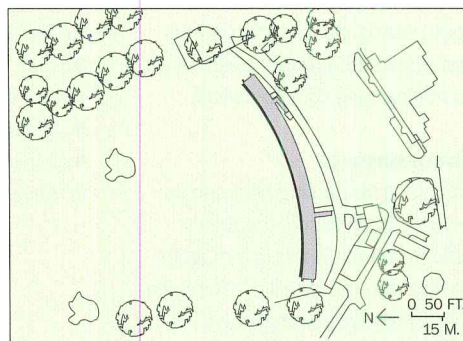
The situation

When the company that manages golf facilities for the Chicago Park District proposed an expansion of the Diversey Driving Range in Lincoln Park by simply adding a no-frills, second-level deck, community groups gave it the thumbs-down. The second time around, the company, Kemper Golf Management, and the Park District took a different approach, hiring an architectural firm that understood the important role that even simple structures play when set in a public park.

The project's program couldn't be more basic: double the number of driving stalls from 36 to 72, while maintaining essentially the footprint of the existing single-story range. But as everyone learned from the first proposal, simply adding a utilitarian steel deck above the old facility was not the answer. To get approvals, the new structure would have to pass muster, not just with urban golfers, but with a diverse group of people who use Lincoln Park.

The solution

Understanding the sensitive setting for the project, the architects at DeStefano + Partners decided to “reinvent the structure as a landscape feature or folly,” explains



Avram Lothan, AIA, the project designer. The idea was to make a light and transparent object, using trellises and perforated metal instead of solid walls. Ivy and Virginia creepers on the trellises would connect the metal structure to the landscape.

Since the site was landfill

made from the debris of the 1871 Chicago Fire, the architects had to keep the structure fairly lightweight. To support a second level, they rebuilt the existing foundation as a network of concrete grade beams; like a raft, it allows the whole structure to move as one piece. While the new facility follows the same 324-foot-long arc as the old range, an additional three feet behind the golfers provides extra room for circulation.

The architects used concrete for the foundation and second-level deck, but designed the rest of the structure as an exercise in metal. Steel columns set 18 feet on center establish 18 bays, each with two golfing stalls. To reduce the time

WWW

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

The architects broke down the scale of the range by using trellis panels set at varying angles and heights. A sense of transparency helps the project fit into the landscape.





The second level of the range (above) was designed almost as an urban streetscape with curving metal golf-bag stands and benches defining the walkway and framing views of nearby high-rises. Instead of trying to hide the structure or make it invisible, the architects treated it as a metal folly in the landscape (right and below).



needed for construction, the steel-mesh trellises were built off site during the winter, then bolted onto the structure's welded-steel frame in the spring.

The trellis panels are 16 feet 8 inches wide and vary in height from 12 to 14 feet. Attached to the structure at different angles and heights (from 6 to 36 inches off the ground), these prefabricated trellises help break the facility into a series of architectural moments. "We wanted them to dance," says Lothan. "We didn't want this project to be too serious."

While the architects sold the project to the public as a light and airy structure, they wanted to give it an architectural presence too, says Lothan. So they built up layers of materials—metal mesh over steel frame, and gridded-metal balustrades attached to steel stairs. "From some angles, the golf range seems remarkably transparent, but from others it has more density," explains Lothan. In the winter, canvas is attached to the structure to protect the lower stalls, which have heaters to keep die-hard golfers in the swing. The Diversey facility is the most popular of the city's three driving ranges and stays open 364 days a year. On good days, it rents 1,000 buckets of golf balls.

"The most important aspect of the project is the relationship between the architecture and the landscape," states Robert Megquier, director of planning and development for the Chicago Park District. "The range has to fit in and make a contribution to the park as a whole," adds Megquier. "When you're not in it, the structure almost disappears because it's so transparent. But when you're in it, it feels like a real piece of architecture."

Commentary

Taking advantage of the public-approvals process, the architects turned what started as a purely utilitarian project into an architectural exercise. Neither a shrinking violet nor a visual bully, the \$1 million golf range helps animate a piece of Lincoln Park by offering a spiky metal contrast to the green all around it. The project's curving plan and its "dancing" trellises create a series of design vignettes, a lively procession of see-through elements. While the enclosure around the project's 18-acre site is the usual dumb fencing found in many public parks, the driving structure itself is an intriguing insertion in the landscape. And like the little Palladian temples that English gentlemen added to their estates in the 18th century, the golf range offers an excellent vantage point from which to admire the surroundings. ■

Drain It Right: Wetlands for Managing Runoff

MANAGING STORMWATER RUNOFF WITH DETENTION PONDS IS LIKE TRYING TO LOSE WEIGHT BY TAKING DIET PILLS: LONG-TERM CONSEQUENCES OUTWEIGH SHORT-TERM BENEFITS. NATURAL SYSTEMS SUCH AS WETLANDS DO THE JOB BETTER, MORE BEAUTIFULLY, AND MORE RESPONSIBLY.

By Deborah Snoonian, P.E.

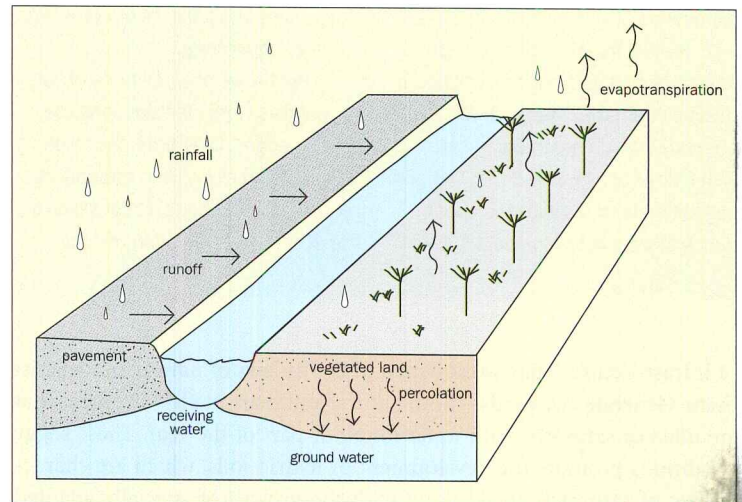
Think of a summer storm as a form of theater. Lightning shrieks across the sky, thunder reverberates in your chest, raindrops splash onto their earthly targets—a spectacle of heavenly sight and sound whose final act is played out underfoot. Next time you're caught in a thunderstorm, look down at it, not up—what you'll see is runoff. Environmentally speaking, it's a real problem.

The main culprit is "progress": The concrete jungles of increasing urbanization interfere with the normal water cycle. When rainwater falls in forests or on vegetated lands, some of it is used by plants, some percolates through the soil and replenishes aquifers, and some of it evaporates; consequently, there's little or no surface flow over these natural areas. In contrast, a whopping 70 to 90 percent of rainwater that falls on impervious surfaces ends up as runoff.

As rainwater streams down city streets, it picks up sediment, oils, greases, metals, and airborne particulates. This cocktail of pollutants often flows untreated into natural bodies of water, and numerous studies show it's a major cause of impaired water quality and harm to aquatic plants and wildlife. According to the Environmental Protection Agency (EPA), almost half of the nation's waterways are compromised by polluted runoff. Even when there is a treatment program, large surges of runoff entering sewage treatment plants during storms stress these systems to their capacity.

But just as nature punishes, so it can accommodate. Intentionally constructed wetlands, implemented as part of site planning or landscaping, reduce the amount of runoff leaving a site while also cleansing it of harmful substances.

Granted, architects don't design landscapes. Or wetlands. But they do design the buildings and cities that create runoff, meaning that their decisions have implications beyond the projects in their immediate control. Just as environmental laws are turning up the heat on clients to



Wetlands are attractive, as well as functional, site elements (top). Rain that falls on hard surfaces, instead of natural land, runs off into waterways (above).

safeguard natural resources, they're also compelling architects to learn strategies such as natural stormwater management to mitigate the overall environmental effects of their work.

Green machines

Flood control has long been the bailiwick of civil engineers, who study a building site and then design storm sewers and detention ponds to drain it. These strategies prevent short-term flooding, but they've contributed to the problems we face today. And engineered solutions for stormwater management tend to be, shall we say, clunky. "An eyesore" is what one architect termed them.

Constructed wetlands, on the other hand, are an organic form

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's architectural record/AIA Continuing Education article. To receive one AIA/CES LU hour of health, safety, and welfare credit, turn to page 186 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Explain the problems caused by stormwater runoff from urban areas.
2. Explain the importance of wetlands.
3. Describe ways to reduce the problems caused by runoff from building sites.

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

CASE STUDY

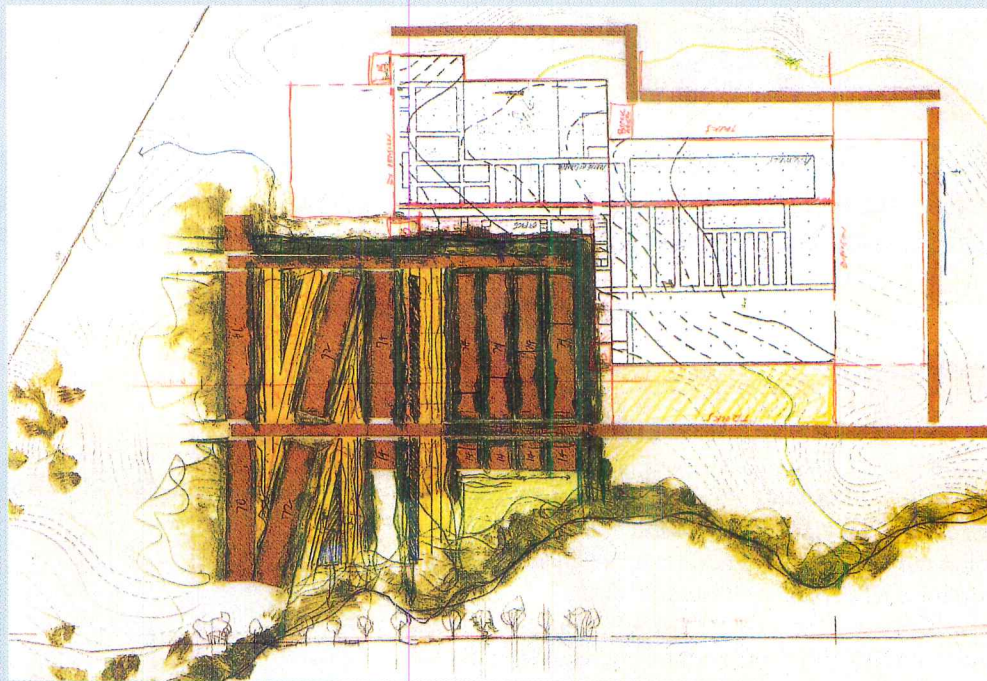
Herman Miller furniture plant, Cherokee County, Ga.

Firm: Michael Van Valkenburgh Associates, Inc., New York

Working with Mack Scogin Merrill Elam Architects, vanguard landscape architecture firm Michael Van Valkenburgh Associates designed the site for a new factory for the leading furniture mavens, located in pristine, hilly farm country north of Atlanta. The program called for an immense flat-roofed factory building, 550 parking spots, and a paved area for staging hundreds of storage trailers. The project team wanted to reduce the volume of runoff leaving the site.

"Typically, you take care of the building program requirements, then shunt stormwater in pipes to a retention basin," said Matthew Urbanski, a firm principal. "Instead, we used stormwater management to inform the landscape design, break up the parking areas structurally, and make an experience of going into the factory."

Rather than creating a single large parking lot, Urbanski designed a mosaic of smaller, triangular lots without curbs, which are interspersed with flat terraces planted with wetland vegetation in which water will pool during storms before percolating



slowly through the soil. "They're sort of like rice paddies," he observes.

One concern was that mosquitoes would breed in the standing water, but the terraces are designed to retain water for no more than seven days—less than the incubation time for a mosquito egg.

Tight rows of small trees of varying species were planted along the terrace edges. Over time, the trees will grow and distinguish the parking areas as site features. Urbanski calls the scheme "a conflation of infra-

structure, landscape, and program."

The landscape has a repetitive quality to it—a fitting solution for a factory.

Also on the boards is the Athletic Center at the University of Iowa, in conjunction with this year's AIA-award-winning firm Herbert Lewis Kruse Blunck Architecture. The project will involve regrading a 50-acre site, with sculptural forms and grading around a new soccer field dictated by runoff management. Infiltration strips and wetlands will manage parking lot drainage.

of infrastructure: They work with and by the laws of nature, not against them. Generally, wetlands—both natural and man-made—are areas that are filled or saturated with water for all or part of the year. These soggy conditions promote the development of hydric soils, which are characteristic of saturated areas, along with the growth of specially adapted plant species. A bog is a wetland. So are marshes, swamps, and creeks.

Wetlands serve several important ecological functions: Their plants and aquatic life cleanse surface and groundwater; they reduce flooding by acting as natural sponges, storing stormwater and slowly releasing it back to natural waterways; they prevent erosion by stabilizing soil; and they serve as a critical feeding ground and habitat for fish, waterfowl, and other wildlife. As stormwater runoff enters a wetland system, its velocity decreases, which allows sediments and solids to settle out. Plants break down and synthesize organic pollutants, such as oils and greases, and also use metals and minerals in urban runoff as nutrients for growth.

The environmental benefits of wetlands extend beyond the mere site level. Ponds and plant life diminish the "urban heat island" effect, in which impervious surfaces, such as rooftops and parking lots, radiate sunlight back into the atmosphere, increasing the temperature over these regions—a phenomenon that contributes to global climate change.

Obeying nature's ways

The design of constructed wetlands are the purview of specialized consultants (see "Doing It the Natural Way," page 129), who work with architects and landscape architects during the early phases of a project, generally during design development. Their first task is to calculate the "water budget"—not a dollar figure, but the amount of runoff that will leave the site. These calculations are usually made using a worst-case scenario of a storm of known intensity and duration. Next, the size and

WETLANDS, IN WHICH PLANTS AND AQUATIC LIFE CLEAN WATER NATURALLY, ARE A FORM OF LIVING INFRASTRUCTURE.

configuration of the wetland are determined, and its location chosen based on the site's topography and overall plan.

The more paved or hard surfaces a building site has, the more runoff it will generate. Since wetlands rely on natural treatment techniques, using them may require changes in the site plan to ensure they function properly. "The first flush of stormwater runoff is usually highest in pollutants," says Georganna Collins, a wetland scientist with Turner

DOING IT THE NATURAL WAY: A wetlands expert spells out the benefits

Can you design a runoff treatment system using Mother Nature's ingenuity? The answer is yes—specialized consultants provide these services. *RECORD* asked Wendi Goldsmith, a certified stormwater quality specialist and president of the Bioengineering Group in Salem, Mass., to explain how it's done and why it's important. Goldsmith's firm designs natural runoff-management solutions and provides technical and policy guidance to the EPA on a variety of stormwater issues.

Trained as a geologist, soil scientist, and landscape designer, Goldsmith has an unerring grasp of wetland and watershed science, and she's an avid proponent of making developed sites operate as ecosystems. "A landscape isn't just a pretty place," she says. "It has forms and functions that make it work a certain way to control flooding naturally and rid water of pollutants. When we pave over the landscape, it loses these functions. Where water goes and doesn't go,

what it comes into contact with as it flows, how long it takes to move from a pipe to a natural body of water—all these have an effect on water quality." If landscapes were allowed to work the way nature intended, she says, we'd have no need for storm sewers or detention ponds.

Using land treatment is a relatively new concept in the U.S. Before the 1960s, stormwater management meant draining city streets as quickly as possible to prevent flooding, and channeling the runoff to the nearest body of water. The result was ever-larger networks of storm sewers, as urbanization increased to accommodate population growth. When building these networks became too expensive, engineers began using detention ponds to hold runoff before letting it drain to waterways. "We spent a lot of money building and now maintaining a system for water management which Mother Nature was taking care of beforehand," Goldsmith says. Finally, in the 1970s, the sci-



Constructed wetlands at Fort Devens Federal Medical Center in Devens, Mass., treat stormwater runoff and control erosion.

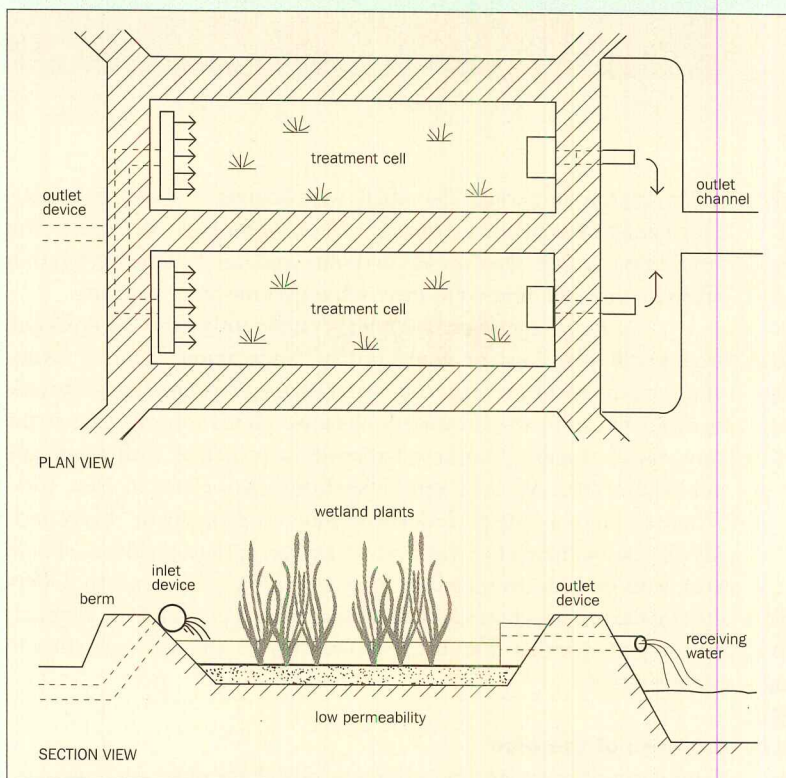
entific community recognized that not only were these practices only marginally effective in preventing flooding, they were also causing significant environmental damage. With the EPA's enactment of the Phase II stormwater rules in December 1999, the problem has garnered an unprecedented level of national attention. The Phase II laws require virtually all developed sites to manage runoff more responsibly. "Every architect and builder needs to have at least a rudimentary understanding of stormwater issues now," she notes.

Runoff management should focus on reducing flow and creating landscapes whose hydrology mimics that of natural systems. This means roughly 50 percent of precipitation leaves the site through evapotranspiration (a combination of evaporation and respiration through the leaves of plants), and about 45 percent seeps through soil into groundwater, with no more than 5 percent leaving as runoff. Sustainable watershed hydrology happens naturally in forested and vegetated lands, which Goldsmith calls "multifunctional, self-maintaining, solar-operated water quality treatment systems."

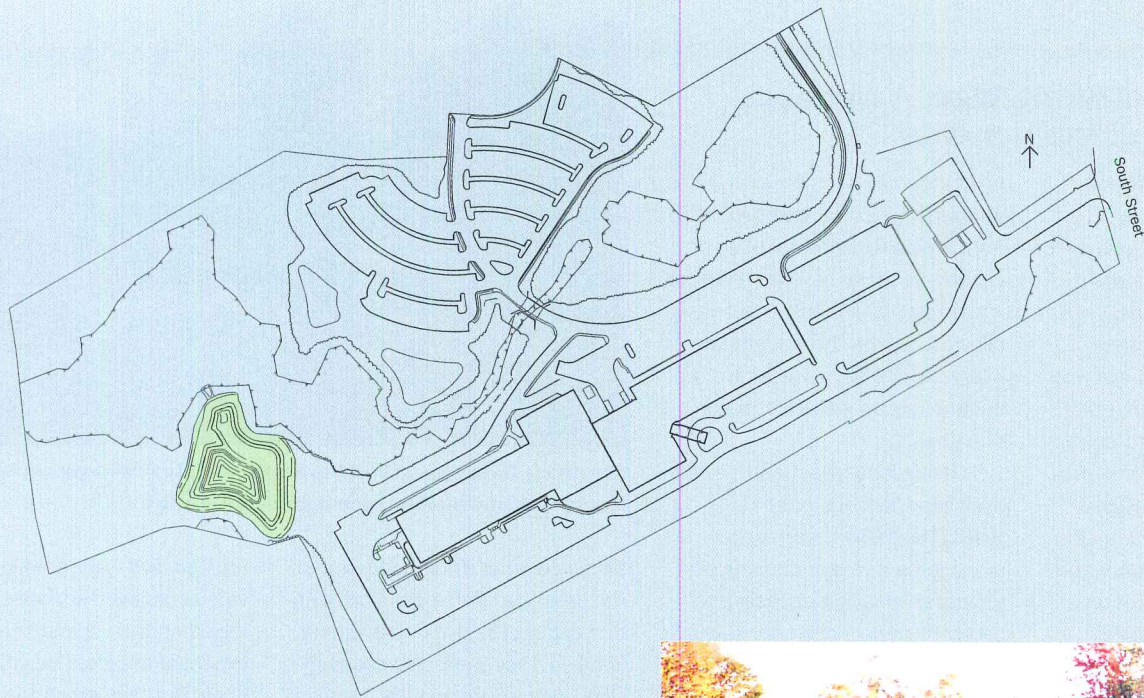
When a constructed wetland is part of a site plan, design parameters such as size and depth are determined based on the site characteristics (area

drained, soil type, amount of paved versus unpaved surfaces) and based on the volume of runoff expected in certain weather conditions. But they aren't the sole solution to every runoff problem. Nor do sites have to be entirely covered with vegetation to operate as healthy ecosystems. Goldsmith is a pragmatist. She acknowledges that development will happen, that conventional paving materials and construction methods aren't going away any time soon, and she's quick to point out the variety of techniques that can be used to achieve the right balance. "The best way to manage runoff is to use every square foot of a site wisely," she says. "Green roofs [roofs planted with vegetation] are an excellent way to capture and hold runoff from a rooftop. Porous pavements allow parking lot runoff to percolate through the soil. Water can be captured in underground filtration beds and allowed to trickle back into the ground, or caught in roof cisterns and used for on-site irrigation."

Balance is the operative principle here; unfortunately, urbanization has tipped the scales toward one-dimensional, engineered quick fixes. Goldsmith, whose passion to protect watersheds is clearly articulated in both her words and her firm's work, is glad that regulations and a general heightened awareness of environmental issues is turning the tide against the status quo. "The minute you let water enter a piping system," she muses, "you've basically lost the opportunity to treat it." DS



Plan and section views of a typical constructed wetland system.



CASE STUDY

EMC Corporation, Hopkington, Mass.

Company: *Beals and Thomas, Inc.,
Southborough, Mass.*

A constructed wetland was built at this research and development facility to treat runoff and control flooding for seven and a half acres of paved surfaces.

Runoff first enters a catch basin (not shown here) to slow its velocity and remove some sediment, as well as oils and grease,

that floats on the water surface. As it enters the wetland system, the water is further treated by wetland vegetation. "We wanted to pretreat the water so it wouldn't overburden the constructed wetland system during large storms," said Andrea Kendall, an environmental specialist with Beals and Thomas. Her firm completed all the site work for the project.

Following construction, the second phase of the project involves monitoring water quality to ensure compliance with EMC's discharge permit.



Collie & Braden, an environmental planning firm in Houston. "An overly high flow or a high dose of pollutants will kill the plants that treat runoff." To reduce the chance of shocking the system, experts often recommend using vegetated swales or filter strips upstream of a constructed wetland. These features serve to reduce and pretreat runoff.

A dense cover of plant growth is necessary for removing pollutants. Native plants are preferred, but research seems to indicate that controlling the growing conditions, rather than the specific plant species,

A DENSE COVER OF PLANT GROWTH IS NECESSARY FOR REMOVING POLLUTANTS AND CONTROLLING RUNOFF.

is the most important criterion of success. Conditions are most fragile when a wetland is first installed, as seeds germinate and plants first establish themselves. Planting seeds or vegetation correctly can be challenging for traditional "mow, blow, and go" landscapers who usually plant large lawns. Andrea Kendall, an environmental specialist with Beals and Thomas, of Southborough, Mass., recalls her experience with one contractor in the Northeast: "After the wetland was installed, we had to go

back to the job site because the cattails were floating on the water surface. They hadn't been planted correctly." Those who design wetlands admit that finding qualified landscapers to do site work can be difficult, but they believe service will improve as the systems become more popular.

Natural vegetation also behaves differently from the grass and ornamental plantings of conventional landscaping. "Unlike lawns, which are monocultures that can be irrigated and fertilized to grow uniformly, you can't expect a variety of native plants to propagate at the same rate," explains Matthew Urbanski, a principal with landscape architecture firm Michael Van Valkenburgh Associates in New York. "There's a bit of a ratty period when things are growing in." Ratty periods may be anathema to owners, so when appropriate, architects should work with other team members to accommodate this concern. Often, altering the construction schedule so that landscaping and site elements are completed earlier than usual allows enough time for vegetation to establish itself.

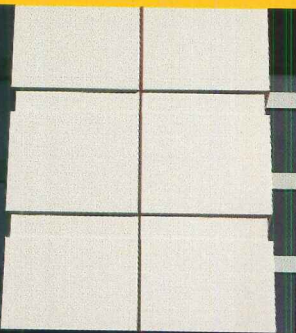
The ways of the wise

Natural runoff management techniques look all the more attractive considering the current regulatory environment (see "Regulations for

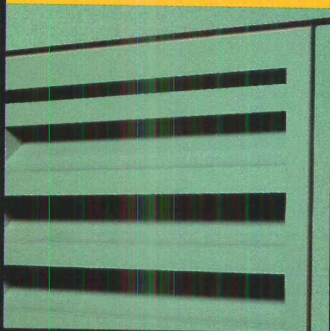
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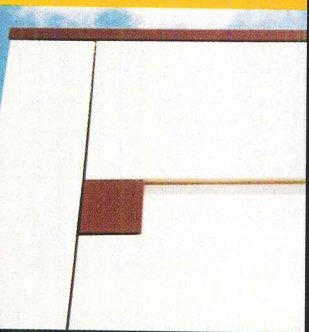
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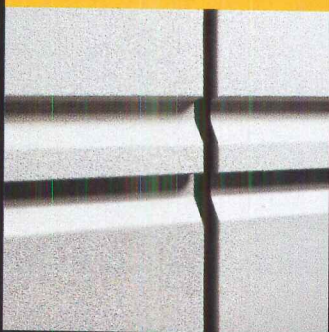
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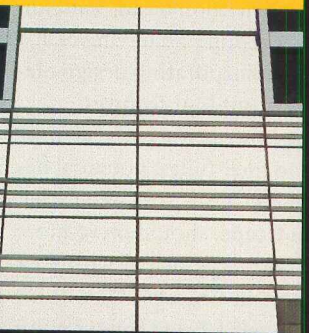


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CASE STUDY

Cottonwood Creek Relocation, San Marcos, Tex.
Company: Turner Collie & Braden, Inc., Houston

Developers were required to reestablish a creek displaced by the expansion of a nearby shopping mall. Cottonwood Creek receives runoff from not only the mall's roof and parking lot, but also from I-35, a major highway, and from a sand-and-gravel-making operation located not far upstream of the site.

The creek receives runoff from a variety of sources, then drains into the San Marcos River—one of the most pristine waterways in Texas hill country. “The local economy really depends on the tourism generated by the river—glass-bottomed boats, fishing, and so forth,” said Georganna Collins, a wetland scientist who helped design the project. “We had to make sure the water leaving Cottonwood Creek was as clean or cleaner than it was before the mall was expanded.”

The project team decided that the best way to accomplish this goal was to move Cottonwood Creek—literally (see photo at right). “We drained the creek and salvaged all its organisms: aquatic life, vegeta-

tion, even the soil and large trees whose roots grew under the streambed,” said Collins. If done right, moving the stream flora and fauna meant less time would be needed for the wetland to reestablish itself in a new location.

The project hit a snag when the landscape contractor walked off the job after a few days, citing the idea as crazy. Luckily, the project's general contractor stepped up to the challenge of relocating the stream. Within six weeks, plant and animal life had reestablished itself in the new creek location.



The monitoring of Cottonwood Creek's water quality is ongoing. So far, the wetlands are cleaning runoff to permitted standards.

Runoff and Wetlands,” page 134). “Local governments and communities are much more environmentally savvy than ever before,” says Wendi Goldsmith, a landscape designer and president of the Bioengineering Group in Salem, Mass. “Using wetlands can be a way for developers to endear themselves to citizens who review their proposals.” It can also be a way for architects to endear themselves to clients—Goldsmith notes

USING WETLANDS TO MANAGE RUNOFF CAN REDUCE THE NEED FOR SEWER LINES AND OTHER INFRASTRUCTURE.

that the process often goes more quickly when natural treatment systems are part of the overall plan.

Land-based treatment can also reduce the need for conventional infrastructure. Lance Davis, AIA, of RTKL Associates in Washington, D.C., recommended wetlands and a green roof (a roof planted with vegetation to reduce runoff) for the upcoming renovation of the Walter Reed Community Center in Arlington, Va. “It turns out we won't have to install pipes or storm sewers, which is a huge benefit, because it offset the cost of implementing the green features,” he

says. “And those green features were ones our clients really wanted to incorporate.”

The aesthetic value of these systems can't be overlooked either; natural treatment systems can inform building design in a way that traditional civil infrastructure doesn't. “Most people would much rather look at a vegetated pond than a rip-rap-lined detention basin,” said Jon Calabria, a landscape architect with North Carolina State University. Architects can use wetlands as a stimulus for incorporating design elements that allow users to see, access, and enjoy outdoor features.

As the population continues to burgeon, open space gets more and more precious—so using building sites to their fullest potential has become a more pressing concern for architects. “Our principle is that every feature of a project, including the landscape, should serve more than just one purpose,” says Kevin Pierce, AIA, a principal with Farr Associates, an architecture and planning firm in Chicago. One of his projects—a grade school at Prairie Crossing, a self-labeled conservation community north of Chicago—features wetland treatment for runoff. “The classrooms are on grade with the wetland, which is at the edge of the building,” he explains, “so it's not only a site amenity—the students can also walk right out to it for a science lesson.” Double duty, indeed.

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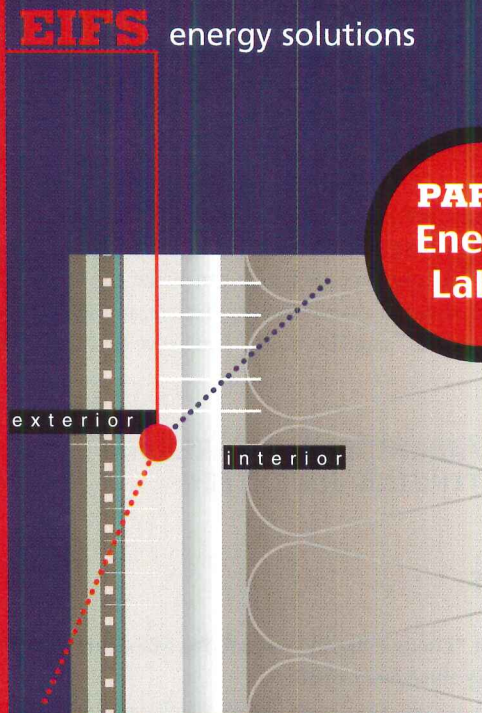
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A 'growing' trend

Though it's not yet typical for architects or even landscape architects to concern themselves with stormwater management, the atmosphere is slowly shifting. "It's a big conceptual and financial leap for clients to understand that the establishment of the landscape can actually be part of the infrastructure—not just a treatment that's applied to the land after the building is complete," says Urbanski. "It changes the way building programs are planned." The confluence and increasing interdependence of built and natural environments is a trend or, more correctly, a resurgence that is still in the making (see "Landscape Urbanism," page 66).

Architects may be the catalysts for making natural treatment systems more popular, because using them requires action early in a project, when the architect's involvement is highest. The project budget might need reshuffling, for instance, to allocate adequate funds for wetland design. "People tend to view and fund the building program, the supporting infrastructure, and the landscape as separate elements," says Urbanski. "But managing runoff innovatively means you have to treat them as what they really are—interrelated systems."

It's not unlikely that today's innovations will become tomorrow's status quo. Constructed wetlands aren't just a feel-good solution or a way to assuage environmentalists—they're a way for architects to showcase their inventiveness and increase their credibility and value to clients and the public. Cutting-edge practitioners who have walked the talk know that this is one key to remaining relevant in a society that increasingly questions their role. "If architects and landscape designers can make the landscape into something beautiful, something people can appreciate, and something that's also ecologically beneficial," says Urbanski, "then we've succeeded." ■

Regulations for Runoff and Wetlands

Stormwater discharges are regulated by the EPA under the Clean Water Act (CWA) through the National Pollutant Discharge Elimination System (NPDES). Under NPDES, the EPA or an authorized state agency issues a permit to a municipality or private industry limiting the type and amount of pollution entering natural bodies of water.

The NPDES program first focused on controlling point sources of pollution, such as discharge from a manufacturing facility. But unlike most industrial activities, urban runoff is a nonpoint source—one that has no single point of origin, or doesn't enter a waterway through a single outlet. Regulators are now focusing increasingly on controlling these nonpoint sources. The Phase I and Phase II NPDES rules require regulated entities to obtain permits and use Best Management Practices (BMPs), such as constructed wetlands, to keep pollutants out of runoff.

Alteration of natural wetlands is regulated under Section 404 of the CWA and administered by the U.S. Army Corps of Engineers. Owners or developers must apply for a special permit when construction will disturb natural wetlands. Surviving the complex application process has no doubt taxed the sanity of many an architect overseeing construction. Often, developers must build new or enhance existing wetlands to restore functions lost during construction—a concept known as mitigation. In a controversial practice called wetland banking, developers can even build new wetlands to use as "credits" against future projects that may destroy natural ones. DS



AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article "Drain It Right: Wetlands for Managing Runoff" using the learning objectives provided.
- ◆ Complete the questions below, then check your answers [page 186].
- ◆ Fill out and submit the AIA/CES education reporting form [page 186] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. What environmental problems have been created by increasing urbanization?

2. How do wetlands reduce problems of stormwater runoff?

3. Why is a site's water budget calculated?

4. What can architects do to make sure natural vegetation thrives in constructed wetlands?

5. What are the political and economic implications of using intentionally constructed wetlands?

Combining project and practice management

By Jerry Laiserin, FAIA

With the financial mania for e-business behind us, architects can focus on the real promise of the Internet: to share firm and project data online in a variety of methods and for a variety of purposes, using standard, familiar Web browser software. The problem is that information transmitted online comes in many bewildering forms: public Web sites, intranets, extranets, project-specific Web sites, and so on. To their dismay, firms that wish to become Web-enabled find they must reorganize and republish their data according to the type of "Net" they are on (Inter/intra/extra), rather than according to the needs of users or the logic of content.

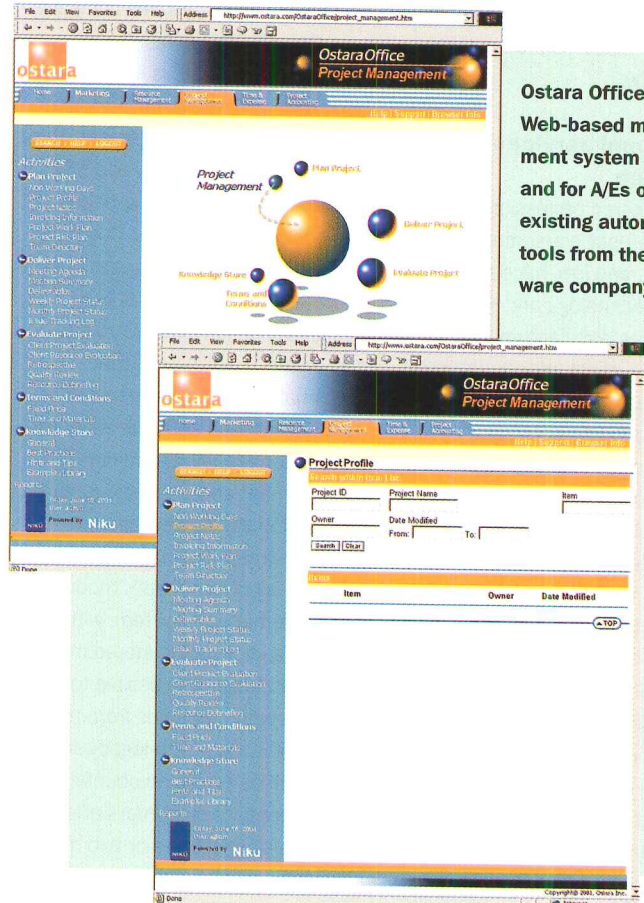
Whether the technology of practice consists of ruling pens on linen or the latest 3D computer interface, the business of architecture still revolves around people and projects, not programs and protocols. Architects don't really want extranets or intranets—they want a way to share project and practice information rapidly and securely with appropriate team members. An ideal system would seamlessly merge the best features of a firm's internal Web site or intranet [MARCH 1999, page 39],

its project-specific Web sites or extranets [SEPTEMBER 1999, page 53], and its third-party Web services [MARCH 2001, page 173], all using information from a shared database [JANUARY 2000, page 149]. "Many architects think that the collapse of the dot-coms means they don't have to pay attention to Internet technology," says Jonathan Cohen, AIA, author of *Communication and Design with the Internet*. "But the profession hasn't yet tapped into the real opportunity to leverage all this information."

Depending on a firm's size and goals, diverse options are available. Extremely large firms can develop their own software in-house, or they can acquire enterprise software that's used by large corporations. Mid-size and large firms can explore an emerging category of Web-based software called professional services automation (PSA). Smaller firms may be able to leverage existing Internet technology for sharing programs to enjoy many of the same benefits as their larger peers. Or firms may wish to mix and match these solutions to fit their needs.

Living large

Starting in the mid-1990s, many multioffice firms began to unify their practices by installing wide-area networks (WANs). The ability to communicate among far-flung groups created a demand for software that would enable groups to collaborate. The solution was software known as groupware, best exemplified by IBM's Lotus Notes.



OstarOffice is a Web-based management system built by and for A/E/s on top of existing automation tools from the software company Niku.

DIGITAL TECHNOLOGY

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

For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at www.architecturalrecord.com

Notes and its Web-enabled cousin, Domino, consist of multiple synchronized databases capable of storing and managing diverse content—such as e-mail, budgets, project schedules, and CAD files. Burt Hill Kosar Rittelmann, a 350-person firm with headquarters in Butler, Pa., customized its Notes system into a comprehensive practice management tool. Mark Dietrick, AIA, the firm's chief information officer (CIO), adds, "Today, we replicate some of our Notes databases outside our fire wall, so they are accessible to clients and consultants for project management purposes."

While a Notes/Domino system works well as a single-source intranet/extranet, the software is

demanding on network servers and requires specialized programmers and skilled database administrators to customize its features in order to realize the software's full potential. For large firms, another approach to practice and project integration is building an intranet on nonproprietary, easily programmed Web software such as HTML and adding off-the-shelf project extranet software, such as ActiveProject from Framework Technology. "Because Framework uses a Web browser interface and runs internally on the same networks as our intranet, we have no problem with data access," says NBBJ vice president Connie Ricer, who is based in Columbus, Ohio, and who manages IT for the

Digital Architect

firm's eastern offices. Everyone at NBBJ can access practice and project information without having to log on to an external server, as would be the case with extranet services such as buzzsaw.com, which require users to log on to special sites to access information stored outside the company.

Professional services automation

Project-centered professions such as management consulting, accounting, and law, have many of the same technology and integration needs as architectural firms. For example, client information has to be managed from initial contact through proposals, contracts, mobilization of the project team, performance of the work, and post-project follow-up. A new class of Internet-based software has been developed to help automate these functions. Companies like ChangePoint, Evolve, Portera, and Niku offer PSA solutions in a variety of career fields, from computer consulting to healthcare management. None have yet tailored their offerings for architects, according to John Thomas, AIA, a principal with BAR Architects in San Francisco, who looked closely at Niku and several other programs for his 85-person firm. Like many other design firms, BAR relies on an assortment of internally developed, unconnected FileMaker Pro databases for many of the functions that a comprehensive PSA solution would provide.

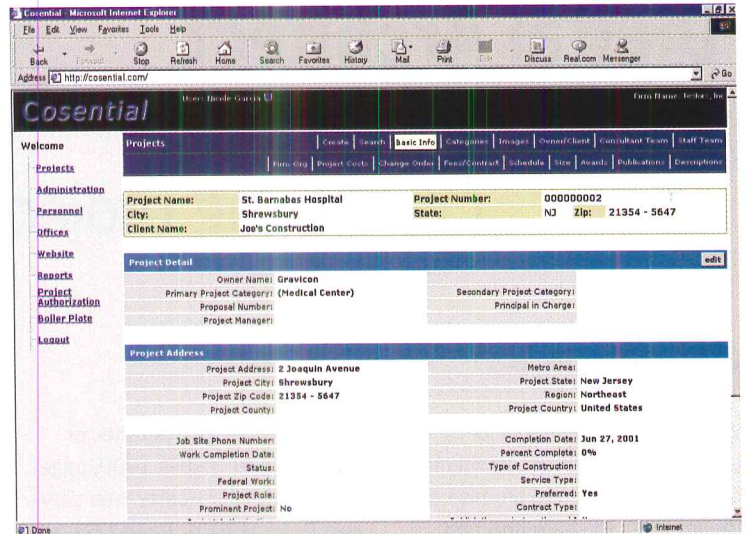
MBT Architecture, also of San Francisco, anxiously awaits the proposed PSA solution from Deltek Systems, which gained a leading market share of A/E accounting and marketing programs by acquiring Harper and Shuman, Semaphore, and RFP. Russell Drinker, MBT's chief operating officer, says, "We're looking to pull together all our FileMaker databases with our Harper and Shuman financial soft-

ware," but the firm balked at the \$100,000-plus price tag for custom integration. "We have so much client and project information in our existing financial system that it makes sense to look at an overall practice automation system from the same company."

One advantage of Internet technology, however, is its ability to interface with preexisting software such as financial management. This is the approach taken by two PSA startups that focus on the needs of architects and engineers. Cosential, based in Danbury, Conn., and best known as the developer of the DesignArchitecture.com Web site and e-zine, is rolling out the Cosential System, a series of externally hosted Web software modules for functions ranging from contact management and proposal generation to Web site publishing and project extranet collaboration. Because all of Cosential's modules work together as a system, with all of a firm's information stored in a single database, it's possible to mix and match modules from the Cosential System with legacy software such as project accounting.

Cosential's customers often start by using just one or two modules, such as Web publishing or marketing management [JUNE 2000, page 190] and expand their data integration from there. For example, Susan Moran, manager of marketing communications for HLW International in New York, uses the Cosential publishing and data management tools for her firm's public Web site, but she expects that her firm will follow shortly with both the intranet and extranet components.

Perkins Eastman Architects, another large firm, has started working with Cosential to build an intranet that also will use its contact manager, according to Martin Siefering, AIA, Perkins Eastman's CIO. "Although our Web site is not on the current development schedule, we will eventually ask Cosential to host it and sup-



The Cosential System is a suite of software modules for databases, Web sites, extranets, contacts, and so forth, accessible through a Web interface.

port it from their database solution. We looked at Niku and at Deltek but thought that Cosential had a better understanding of our business model and proposed a more cost-effective solution."

An emerging competitor for the Cosential System is the Ostara Office, from New York-based Ostara, Inc. Founded by tech-savvy architects and engineers frustrated by the scarcity of software tailored to their needs, Ostara approaches development differently than Cosential does. Vice president Pierre Levesque, AIA, explains that the company spent nearly two years designing a comprehensive practice and project management system to be powered by general-purpose PSA software. "Rather than reinvent the wheel and try to build a contact manager or proposal-tracking database from scratch, we add value by creating a very architect-aware workflow and information flow on top of a proven system from an established, publicly held company. Roughly 60 percent of Ostara Office builds on the PSA platform from Niku, and we customized the rest." With some individual modules available now and the complete system expected before year-end, the Ostara Office appears to offer the best of both worlds—architecture-specific features previously lacking in Niku, plus firm-specific customization of established software.

Can't we just get along?

Kevin J. Connolly, AIA, owner of a small firm in Milwaukee, finds the prospect of new project and practice integration and automation tools both exciting and intimidating: exciting because of the enhanced productivity and client service promised by such tools; but intimidating because the benefits are beyond the technical grasp or financial reality of thousands of small firms like his own. Connolly believes that small firms have the opportunity to exploit Internet technology to "improve both the product and the process of architecture" through a collaborative system of common tools, administrative resources, and an "information ecosystem" shared by noncompeting, independently owned firms. He's laid out the features and benefits of his vision at Triglyph.net and Triglyph.org, an organization he founded to bring to small firms the kind of resources available to large firms; he reports that he has 50 firms "interested in participating" in the launch of such a service.

Although the search for integrated information solutions for architectural practice offers no easy, off-the-shelf answers in the short term, it's clear that alternative paths are open to firms of all sizes. Every forward-looking firm should start or enhance its practice automation strategy within the coming year. ■



USG Presents

SPECIFYING FOR PERFORMANCE: UNDERSTANDING KEY SPECIFICATION CRITERIA FOR WALLS, CEILINGS AND FLOORS

by: Richard Master, AIA
Manager, Architectural Systems
USG Corporation

Does it meet code? Does it comply with ASTM standards? Is it UL classified?

These are some of the key specification issues architects must address when selecting systems and materials for wall, ceiling and floor assemblies.

While codes and standards may sometimes seem to be more of a hindrance than a help to design creativity, successful architects learn to work *with* these criteria, not against them. They also develop an understanding of the key attributes that determine what materials and systems deliver the best results for their project requirements.

DEVELOPING STANDARDS

Performance standards for wall, ceiling and floor assemblies are based on requirements established by the major code bodies, such as BOCA (The Building Officials and Code Administrators International), ICBO (The International Conference of Building Officials), SBCCI (The Southern Building Code Conference International) and ICC (The International Code Council). Testing procedures to define the minimum performance criteria needed to meet these code requirements are developed by

ASTM (the American Society for Testing and Materials). ASTM does not, however, actually conduct tests or verify that any specific product or system meets the standards it establishes. That work is accomplished by independent verification companies such as UL (Underwriters Laboratories, Inc.).

Specifiers should be aware that manufacturers frequently have to use modified ASTM testing protocols as they bring products and systems to market. This is usually done to create performance standards where none currently exists or when existing ASTM test protocols do not apply fully to the unique features or attributes of a product or system. When dealing with modified ASTM tests, know what the modifications are and why they were done. Modified tests do provide valuable performance information, but they can also make it more difficult to compare products and systems. Two manufacturers offering similar products may publish two very different modified test results that demonstrate two very different product performance capabilities. Don't assume you're comparing apples to apples.

AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION Series

Use the learning objectives below to focus your study as you read **SPECIFYING FOR PERFORMANCE: UNDERSTANDING KEY SPECIFICATION CRITERIA FOR WALLS, CEILINGS AND FLOORS**. To earn one AIA/CES Learning Unit including one hour of health safety credit, answer the questions on page 175 and follow the reporting instructions on page 186 or, use the Continuing Education self report form located at www.architecturalrecord.com.

LEARNING OBJECTIVES:

- Describe key performance criteria for wall, ceiling and floor assemblies.
- Explain what roles ASTM and UL play in the specification process.
- Describe why modified ASTM tests are used.



All ceiling grid systems from USG are classified for load compliance by UL.

DOES CEILING GRID MEET ASTM LOAD COMPLIANCE?

Just because there are published ASTM or UL standards for a particular building system, does that mean that every manufacturer that makes such a system complies with those standards?

Without third-party verification, the answer is sometimes unclear.

Consider ceiling grid. Per ASTM C635, grid must meet minimal standards for load compliance. These standards are designed to assure ceiling structural integrity and minimize grid deflection problems.

While all manufacturers state that their products comply with ASTM C635, none were obtaining third-party

verification that those standards were actually being met. That changed in August 2001, when USG began a UL classification program to verify load compliance for all of its grid products. Under the program, UL representatives visit and randomly select grid products from each of USG's four North American suspension system manufacturing plants. The products are then tested for deflection performance, providing specifiers with verifiable third-party data.

Structural integrity is one of the key factors that architects and specifiers must consider in selecting a ceiling system. The issue is central to long-term aesthetics and expected performance, and provides a front-line defense against deflection problems.



Fire testing is a critical performance criterion for wall, ceiling and floor assemblies. Here, a floor-ceiling assembly is removed from a testing furnace.

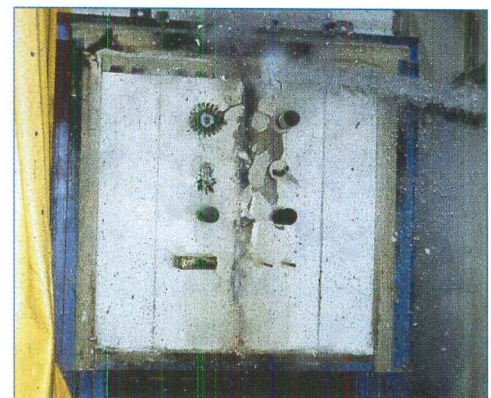
FIRE RESISTANCE

For commercial construction, interior gypsum board walls must meet one-, two-, three- or four-hour fire ratings, as required by local codes. These ratings are established by ASTM E119 (also UL 263 and NFPA 251) test standards.

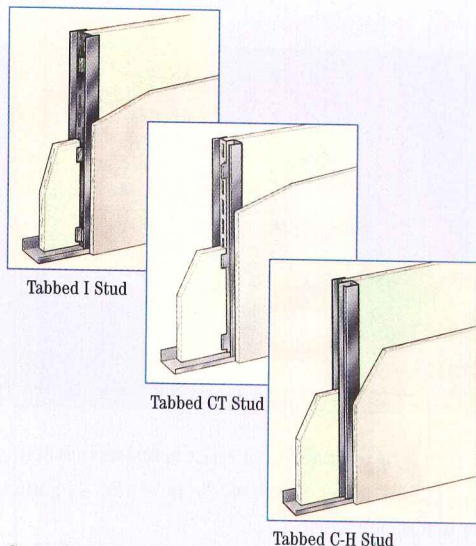
It's important to realize that these testing standards do not measure performance of just the gypsum board panels. Even though gypsum board is naturally fire resistant, it has no intrinsic fire rating. Rather, fire ratings are established by testing entire assemblies, including gypsum board, studs, fasteners and other components.

ASTM E119 measures two critical performance criteria. One is heat transfer. The goal of this test is to determine at what temperature the surface or adjacent materials on the side of the assembly not exposed to the heat source combust.

ASTM E119 also measures structural integrity via a "hose stream" test. Despite its name, this test does not



A hose stream test simulates how well a wall assembly stands up to impact from falling debris (e.g. a floor truss). It also measures the cooling and eroding effects of water.



Cavity Shaft Wall Studs

Unlike other cavity shaft wall studs that use tabs for panel retention, the USG Steel C-H Stud (right) provides a more secure grip to support liner panels, ensuring superior panel retention and better protection against potential breaches in the system's fire integrity.

WHERE FIRE RESISTANCE COUNTS MOST

Cavity shaft walls are engineered wall systems that deliver critical fire resistance and structural integrity around stairwells, elevators and other building enclosures. During a fire, they allow occupants to exit the building safely using stairwells, and they protect the elevators, allowing firefighters access to all areas of the building.

While a variety of materials can be used to construct shaft walls, gypsum partition systems are favored due to their proven track record, lightweight design and quick installation. Because a gypsum-based shaft wall system is more than the sum of its parts, architects should specify a single-source system that offers tested and proven performance. It must include both the components (gypsum shaft wall liner panels, face gypsum panels, and steel studs) and comprehensive fire and sound test data.

One option, which is widely used on low-, mid- and high-rise construction, is the USG Cavity Shaft Wall System. It is a single-source system consisting of gypsum liner panels, gypsum board, specially designed C-H Studs and J-Runners. It provides UL-tested one- to four-hour fire resistance ratings and sound transmission class ratings up to 52 STC, and offers architectural detailing for various applications. The design of the C-H Studs permits greater limiting heights, enhanced deflection resistance and better panel retention than competing systems. It also makes the fire and sound performance possible, while withstanding intermittent air pressure loads ranging from 5 up to 15 psf.

No matter what gypsum-based system is used, maximum wall height is a key structural consideration. For elevator shaft walls, designers must first calculate wind loads, based on elevator cab speed and the number of elevators per shaft. Limiting heights are then determined by factoring in deflection limits, bending stress of the studs and end reaction shear.

measure what happens when a wall is hit with water from a fire hose. Rather, the test uses a hose stream to simulate how well the assembly stands up to impact from falling debris (e.g. a floor truss). It also measures the cooling and eroding effects of water.

The hose stream test is conducted after the assembly has been exposed to fire for one-half its intended rating. The duration of the test depends on the desired rating. A two-hour fire-rated wall, for example, must withstand the hose stream for 2-1/2 minutes without having water protrude beyond the plane of the wall, while a one-hour wall must stand up for one minute.

Another key standard related to fire resistance is ASTM E84, which measures the flame spread and smoke density of surface materials. According to the National Fire Protection Association, (NFPA), a Class A Interior Wall and Ceiling Finish has a flame spread rating of 25 or less and a smoke density developed rating of 450 or less.

STRUCTURAL INTEGRITY

A range of criteria covers the structural performance and capacity of wall and ceiling systems. Some of these factors are covered by ASTM standards, such as deflection in ceiling grid, which is detailed in ASTM C635. Other criteria, such as limiting heights, are not. Limiting heights measure the slender ratio of a wall partition as it relates to span (height) and the load capability of individual structural components (studs, joists, etc.). Generally speaking, structural performance is affected by a variety of factors, including the required number and spacing of screws, the thickness and spacing of metal framing, and bracing. Eccentric loads caused by wall-mounted shelving and fixtures, lighting and other accessories must also be considered. Depending on the location and type of construction, shear forces from wind and earthquakes may also come into play.

SOUND CONTROL

The technology of sound control is highly complex, and pitfalls can await the designer who does not give it careful attention. Sound control is not covered by most building codes. Rather, it is driven largely by customer satisfaction. Factors that must be considered include background noise levels, flanking sound paths, the combination of materials in each assembly, the combination of systems in the space and even the profile of the sounds to be attenuated. Especially confusing is the process for



Because it expands as it sets, LEVELROCK Brand Floor Underlayment enhances sound control by sealing gaps and cracks. When installed over an acoustical mat, as shown here, the poured gypsum flooring also decouples the floor from the ceiling membrane, further enhancing sound control.

SEALING FLOORS FOR SOUND CONTROL

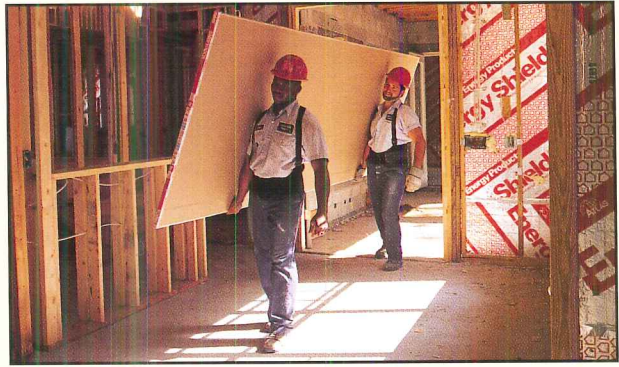
The science of sound control in building design is complex, yet many of the principles behind good acoustics are relatively straightforward.

One of the most basic – and most important – rules of good sound control is to seal all air gaps in wall, ceiling and floor systems. The impact can be significant. For example, a 1/4-inch perimeter crack surrounding a 96-sq.-ft. partition system represents an approximate 1-sq.-ft. hole. Assuming that the STC rating for the partition is 53 STC, the perimeter crack reduces actual STC performance to 29 – a huge reduction in acoustical performance. This is one reason why a product such as LEVELROCK™ Brand Floor Underlayment provides superior sound control. This poured gypsum floor underlayment installs quickly and provides industry-leading compressive strengths. Unlike portland cement-based underlayments that contract as they set, LEVELROCK Brand underlayment finds – and fills – gaps and cracks along wall intersections and penetrations. The product can be used with acoustical mats for even greater noise reduction.

determining how various components – floors, ceilings, partitions, wall openings and so on – work together to meet a given sound isolation criterion for the composite construction.

When sound control is a priority, it may be advisable to hire an acoustical consultant to ensure that the design meets desired performance criteria. However, all specifiers should be familiar with basic sound control terminology and measures. Following are some terms commonly used by acousticians and sound control experts.

ASTM Standard	Test Method
C473	Physical testing of gypsum panel products
E84	Surface burning characteristics of building materials (flame spread/smoke)
E90	Laboratory measurement of airborne sound transmission (STC)
E96	Water vapor transmission of materials (permeance)
E119	Fire tests of building construction and materials (hourly ratings)
E136	Behavior of materials in a vertical tube furnace at 750°C (noncombustibility)
E492	Laboratory measurement of impact sound transmission of floor/ceilings (IIC)
E695	Measuring relative resistance of wall, floor and roof construction to impact
E814	Fire tests of through-penetration fire stops



- *Sound Transmission Class (STC)* is the single-number rating that is used to characterize the sound insulating value of a “partition,” which can be a wall or floor/ceiling. It measures how much sound will be reduced when traveling through the partition. The higher the rating, the less sound that is transmitted through the assembly.
- *Ceiling Attenuation Class (CAC)* measures how much sound energy will be dissipated when it is transmitted through the ceiling of one room into an adjacent room through a shared plenum. Like STC, the higher the rating, the less sound that is transmitted.
- *Noise Reduction Coefficient (NRC)* measures sound absorption of a specific material. It can range from 0.00 to 1.00. Again, the higher the rating, the more sound that is absorbed.
- *Articulation Index (AI)* measures the degree of privacy between two locations. It is an adaptable measurement that can be used in open or closed office spaces, and accommodates any speech or background noise level.
- *Flanking Sound* refers to sound leakage. Elements that lead to flanking include improperly sealed floor and ceiling junctions, connecting ductwork, poor door seals and electrical outlets.

ABUSE RESISTANCE

Given the fact that the design life of most modern buildings is more than 50 years, specifying partitions that deliver appropriate levels of abuse resistance offers substantial construction life-cycle benefits. ASTM is in the initial stages of reviewing various test methods to measure abuse resistance, but until standards are established, specifiers must rely on data from individual manufacturers.

USG has developed one of the more detailed rating systems for defining and measuring wall system abuse resistance. This system, coupled with the ASTM evaluation, may provide a model for future industry standards.

The USG method defines partitions by their ability to resist abrasion, indentation and hard-body and soft-body impact under simulated “real world” conditions. Systems are then classified into five categories:

- *Light-duty* is a basic upgrade over standard drywall.
- *Moderate-duty* provides resistance to incidental surface and impact damage.
- *Heavy-duty* provides resistance to heavy surface and impact abuse.
- *Extreme-duty* provides resistance to extreme levels of impact and damage.
- *Security* is for areas requiring forced entry and ballistic resistance.

Other manufacturers use different abuse-resistance criteria and testing procedures. When comparing abuse-resistant products and systems, make sure manufacturers are using test methods that accurately measure performance, understand what test modifications are in place and select the system that best meets the real-world conditions anticipated in the project.

OTHER PERFORMANCE CRITERIA

This article has only touched on some of the basic specification performance issues relative to fire, structural integrity, sound control and abuse. There are, of course, a multitude of other performance criteria that must be considered during the design process. Factors such as water and moisture resistance, light reflectance, cleanability and maintenance affect the performance of wall, ceiling and floor systems and should be given proper attention during design.

In the end, successful specifications often boil down to researching relevant performance issues and making choices based on substantiated data. By considering code requirements during initial project planning, architects can incorporate them into the creative design process. This strategy ensures that the structure meets the desired performance standards, as well as the expectations of the client, and complies with all relevant code requirements.

ABOUT USG

USG is a Fortune 500 company with subsidiaries that are market leaders in their key product groups: gypsum wallboard, joint compound and related gypsum products; cement board; gypsum fiber panels; ceiling tile and grid; and building products distribution.

For more information about the company’s wall, ceiling and flooring products and systems, write USG at P.O. Box 806278, Chicago, IL 60680-4124, call USG’s Customer Service Department at 1-800-USG-4YOU or visit the company’s Web site at www.usg.com.

LEARNING OBJECTIVES

- Describe key performance criteria for wall, ceiling and floor assemblies.
- Explain what roles ASTM and UL play in the specification process.
- Describe why modified ASTM tests are used.

INSTRUCTIONS:

Refer to the learning objectives above. Complete the questions below. Then turn to page 175 and check your answers. Fill out the self report form on page 186 and submit it or use the Continuing Education self report form on *Record's* web site - www.architecturalrecord.com - to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS:

1. Name four key specification criteria that apply to walls, ceilings and floors and briefly explain the importance of each.

2. What roles do ASTM (the American Society for Testing and Materials) and independent verification agencies such as UL (Underwriters Laboratories) play in the specification process?

3. Why are modified ASTM testing protocols used?

4. What are the two critical performance criteria measured by ASTM E119?

5. What is flanking sound?



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CIRCLE 55 ON INQUIRY CARD

LIGHTING

Will the last person out please recharge the electronic defibrillator implant?



The Winstar e.center, designed by Graham Hanson with lighting by Syska & Hennessey Lighting Design Group.

It is disturbing when people don't make the connection between the availability of uninterrupted supplies of electric power and the stable continuation of life as we know it. Take Vice President Dick Cheney, for example. As

everyone must know by now, he was recently fitted with an electronic defibrillator implant, a device that senses when there are irregularities in his heart rhythms and sends out electrical impulses to correct them. If ever there was someone whose consciousness should have been raised about the need for reliable power, it should be Cheney.

Then there's the situation about the electric bill for Cheney's house. The White House is asking Congress to move the electric bill from the executive budget over to the Navy's. As far as I'm concerned, this doesn't matter very much. The house is owned by the navy, after all, and federal spending often is a shell game anyway. No matter which budget the electric bill is paid out of, it's still the taxpayers' money, and it should be used wisely.

Last spring Cheney said, "Conservation may be a sign of personal virtue, but it is not a sufficient basis for a sound energy policy." True enough. No policy based on a single idea can solve all of the nation's energy woes. It has been predicted that the vice president's electric bill will be \$186,000 for 2001. This is double what was paid in 1999. This kind of increase makes no sense, unless Cheney and the house's former resident, the environmentally conscious Al Gore, have been whopped with some pretty heavy peak-demand charges. I haven't actually been invited to the house, but I have a strong feeling that a good lighting consultant could do plenty to improve the energy efficiency of the lighting there. That would decrease both the air-conditioning load and the peak-demand charges.

Rolling blackouts occur when people need more power than is available at one time. Energy efficiency can make a dramatic difference under these conditions—and I would suggest that the Vice President could even look to projects on the following pages (such as the Winstar e.center pictured at left) to see sound policy in action. *Charles Linn, AIA*

149 Creative uses

151 Lighting technology

Compact fluorescents

152 Winstar e-center

Syska & Hennessey Lighting Design Group

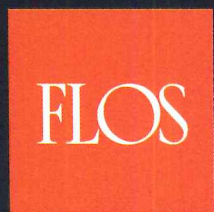
158 Birch Telecom and River City Studio

Derek Porter Studio

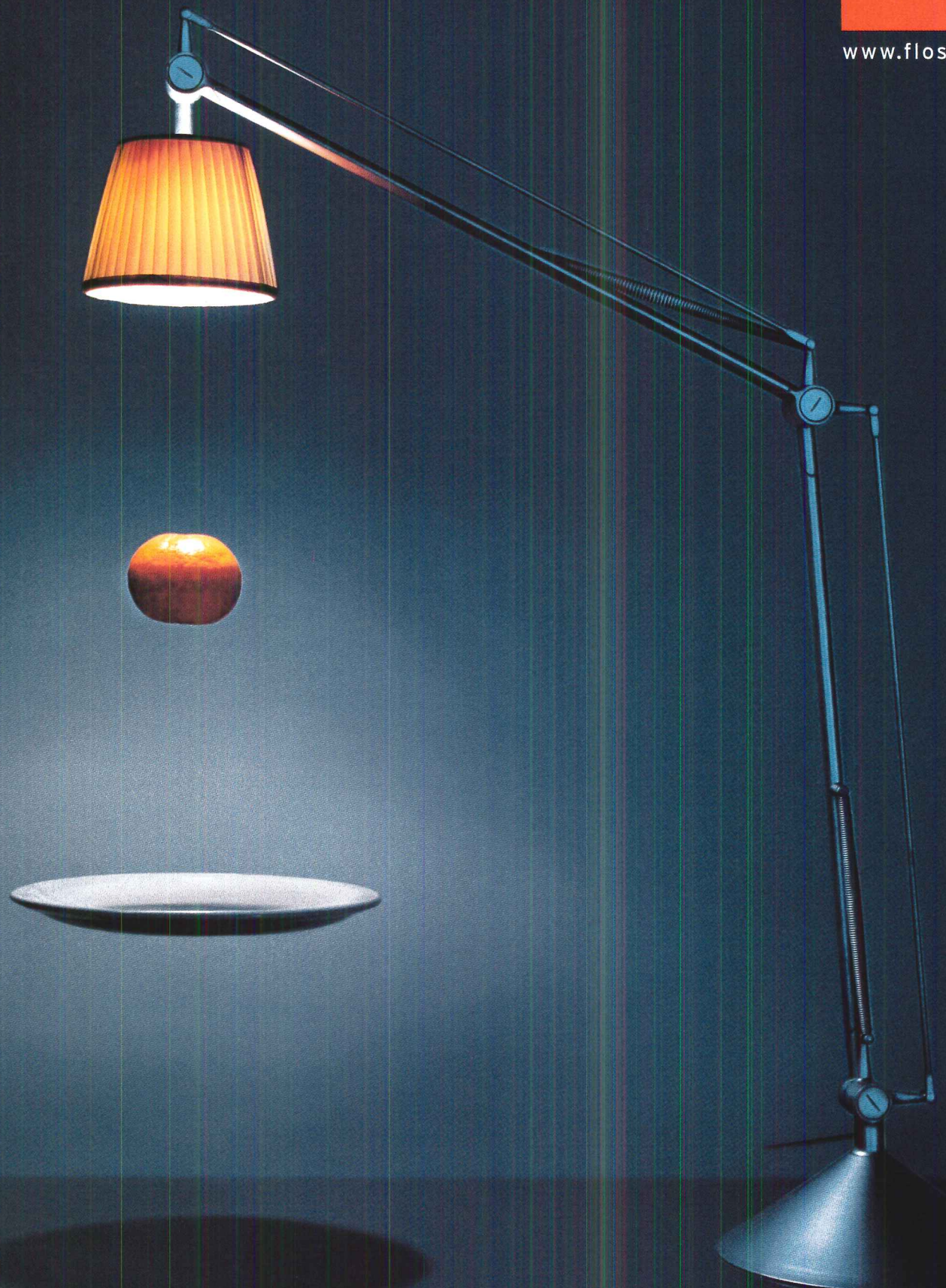
165 Lighting resources

Trade show roundup

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CIRCLE 56 ON INQUIRY CARD

Creative Uses

A California office creates a colorful water wall with fiber optics set against glass panels • An artist sheds light on the relationship between instruments and industrial objects



Fiber optics animate a curved glass wall to enhance the lobby of a San Francisco firm

The prominent curved glass wall in the offices of Crosslink Capital started out on the drawing board as an 8-foot-tall waterfall. Because there was no access to windows or views within the reception area of its facility, the San Francisco-based firm, which links capital to technology, wanted to make a dramatic statement with the water feature.

The initial concept was to create a full-height waterfall cascading behind the company logo. When building regulations prevented such a bold intervention, interior designer Joel Hender of Hender Design and David Malman of Architectural Lighting Design collaborated on the design of the colorful curved glass wall that would serve as a

metaphor for free-flowing water.

The 20-foot-long glass wall is fabricated of large sheets of slump, or free-molded glass, with gradations that evoke a rain pattern. The trapezoidally shaped sheets, each measuring approximately 3½ feet by 8 feet, were arranged in an arc and angled by 7 degrees. The glass sheets are held in place by standard extruded-aluminum brackets, which were developed for handrails.

"The design concept changed as we started to work with the materials and configuration," says Malman. Opining that there was "nothing worse than trying to simulate water," the designers decided instead to evoke the essence of water. "Rather than trying to project



An illuminated slumped glass wall, programmed to change color gradually, provides a lobby focal point.

an abstract image of water or waves with special lenses, we wanted to capture the movement, color, and sparkle of water with color-changing fiber optics playing off the shimmer of the glass," he says. "It became a signature image for the company."

The best way to illuminate the feature wall would have been to place stationary accent luminaires behind the glass, according to Malman, but this was not possible because the office perimeter wall was just a foot behind the feature wall, making any fixtures placed behind it inaccessible. "Fiber optics offered the best solution for animating the wall with moving color," he says.

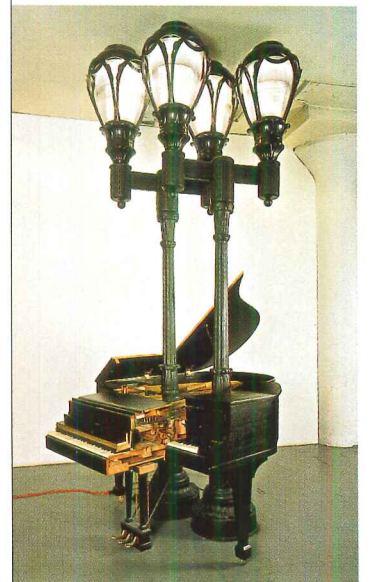
The fiber strands are arranged in three rows of 24, with two rows set behind the glass at the top and at the bottom, and one row in front of the glass at the top. The illuminating projectors contain color wheels, so that the entire surface of the glass wall can change color simultaneously. Currently, the wall turns yellow, purple, green, and blue. Because there are separate light boxes, the color changes can be done with gradual overlays, which can also create a three-dimensional effect. *Nayana Currimbhoy*

Cast-iron lampposts hit a musical note

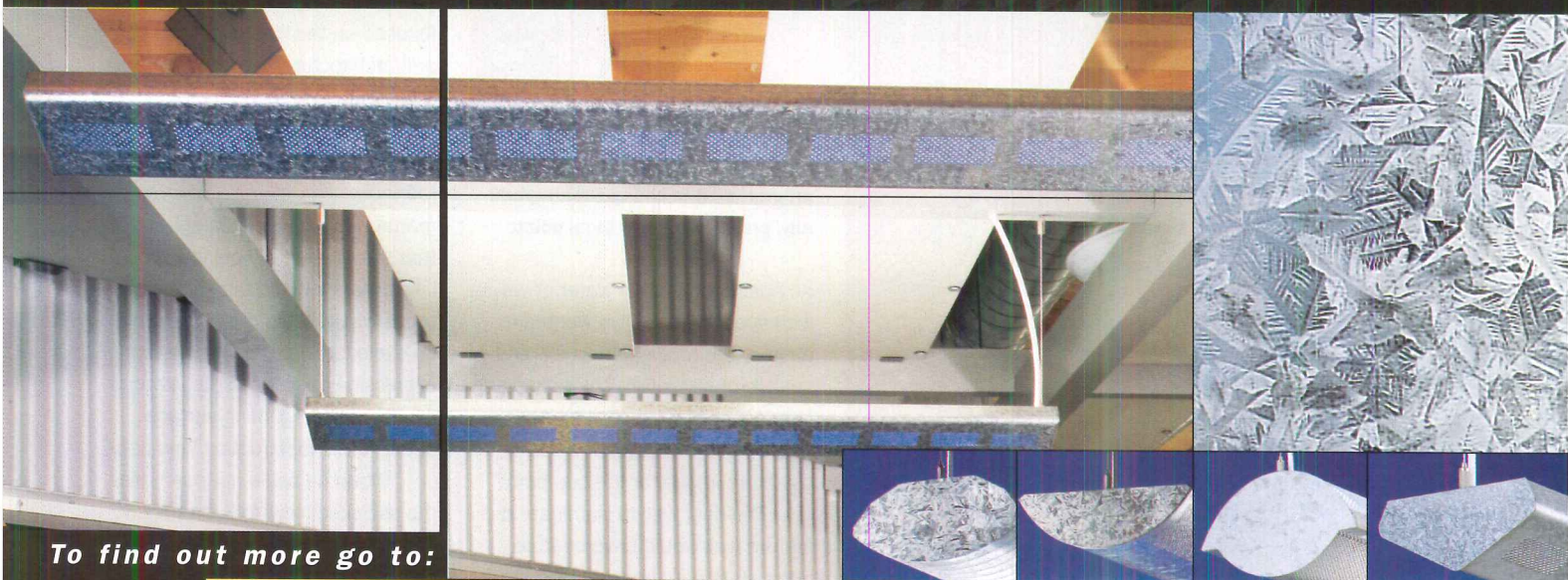
The artist known as Arman explores the territory where the categorizations of objects collide, whether they be works of art, industrial parts, handcrafted relics, or discarded pieces of trash. Recently he has focused on the kinship of musical and architectural composition, and the iconography of both disciplines.

Part of the Sandwich Combos exhibition at New York City's Marlborough Gallery, *Maldoror* features two towering lampposts that skewer a grand piano (below). Like other works in the show, its juxtaposition of stolid civic icons and an exploded instrument of artistic expression challenges the viewer's expectations regarding surface detail, form, construction, and use.

When he could not purchase the salvaged New York lampposts he had spotted near Battery Park, the artist found a Midwest manufacturer to reproduce the cast-iron luminaires. The lampposts appear as a monolithic candelabra lighting a hybrid keyboard for a composer pursuing Deconstruction. *William Weathersby, Jr.*



FINALLY GALVANIZED FIXTURES

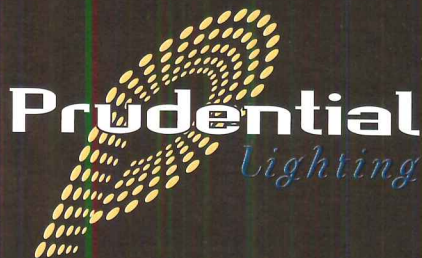


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CIRCLE 57 ON INQUIRY CARD

Energy-saving lighting: no more excuses

RELUCTANCE TO CONVERT TO EFFICIENT LAMPS IS BASED ON OUTDATED KNOWLEDGE. TODAY'S CFLs ARE SMALL, SILENT, AND FLICKER-FREE.

By Lindsay Audin

On both coasts, talk about keeping the lights on and the electric bills down has spurred demand for energy-efficient lighting products. Some electric-supply stores in California have seen sales of fluorescent fixtures and lamps jump by 500 to 1,000 percent over the last year. Maintaining stock became a serious problem as people prepared for a summer when the power supply may be precarious—and electricity will no doubt be expensive. But lighting surveys show that many buildings with efficient fluorescent lighting continue to use incandescents in their downlights, track, floor lamps, and decorative lighting.

Outdated knowledge is a big part of the problem. Early compact fluorescent lamps (CFLs) were expensive, bulky, buzzy, slow-starting, and sometimes short-lived, and they often emitted oddly colored light. These drawbacks have all but vanished with the latest units. Even dimmable and purely decorative CFLs are now available. Ever-shrinking electronic ballasts—now no bigger than a nickel in some self-ballasted CFLs—drive smaller, more efficient, flicker-free lamps that start instantly and last 5 to 10 times longer than their incandescent ancestors. Even with these improvements, cost of the lamps has decreased. Current prices for power in California, New York, and New England are so high that the payback period for converting from incandescent to CFL has been reduced from years to months.

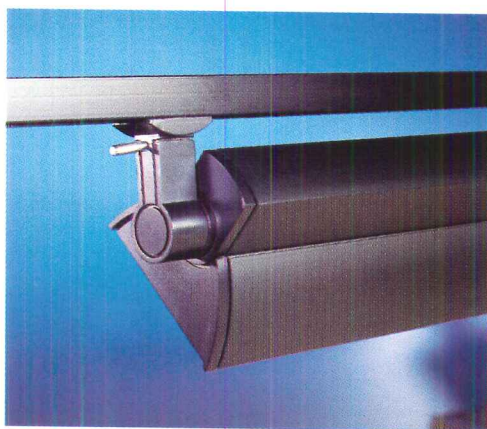
Lots of new choices

The major lamp manufacturers and a variety of importers offer self-ballasted CFLs in shapes and sizes that are very close to those of standard incandescent A-lamps. Their color quality is quite acceptable for most general lighting needs. Where a tighter beam is required, screw-in adapters by ProLite, Osram Sylvania, and others can be used to install CFLs in downlights. These units have ballasts, reflectors, lenses and, in some cases, pin-based sockets. The new reflector and lens are designed to focus the output of the multiple tubes of a CFL and thus can maintain or even increase the fixture's efficiency. Often these devices can be permanently installed to avoid "snap back," which occurs when fixtures retrofitted with CFLs are later relamped with incandescents.

Even high-efficiency track lighting is becoming more common. While not designed to provide a very tight beam—MR-lamps are still best for precise control—the track heads can be easily adjusted, and some CFL

units fit existing track. Where high light levels are needed, ceramic-based metal halides, which have excellent color rendering, are available.

But what about those chandeliers, shaded wall fixtures, and other decorative luminaires? MaxLite offers self-ballasted MiniCandle CFLs that fit into the same candelabra sockets as the flame-style incandescent lamps. But instead of a 20-watt lamp that lasts fewer than 1,000 hours, one can now install a 3-watt CFL that lasts 6,000 hours. They cut wattage while maintaining the output and look of traditionally styled fixtures, and carry a three-year warranty.



A CFL fixture by Lightolier presents a practical alternative to incandescent track lighting.

High-wattage incandescent alternatives

Lobbies, dorms, and many offices continue to be filled with halogen and high-wattage incandescent floor lamps, which often pull 300 to 500 watts. While no screw-in alternative exists for direct bulb replacement, there are now fixtures with very similar features that use either high-wattage CFLs or miniature metal-halide lamps. A fixture equipped with a 54-watt flat profile CFL provides approximately the same illumination as a 300-watt halogen, while a 68-watt ceramic metal-halide unit provides essentially the same output as a 500-watt halogen or incandescent. Neither will roast your


room or ignite your furnishings. While CFLs are instant-on, ceramic metal-halide lamps presently have a startup delay but are ideal in places where lights are continuously on.

Dimming CFLs is no problem. Several vendors offer CFLs that screw right into the same sockets, work with existing dimmers, and still provide much higher efficiency and longer life than the incandescents presently in use. And CFLs don't turn yellow when dimmed, as is common with incandescents. So far, no CFL can be dimmed below 10 percent, so a few applications may continue to need incandescents when output must be reduced further.

A moral imperative

Incandescents continue to make up a large portion of the lamps we buy. They cost little, they weigh next to nothing, and they are available at nearly every supermarket and convenience store in America. There is still a place for them in certain applications. But their inefficiency and heat output add to the conditions that cause blackouts. Continuing to use incandescent bulbs needlessly is a personal choice whose consequences may harm others. The problems wrought by inefficient energy use, whether they be economic or climatic, make it time to move the standard incandescent bulb into the museum case, right next to the kerosene lantern and whale-oil lamp. There are no longer any excuses not to. ■

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



Winstar's corporate training center educates clients and staff within a walk-through environment. An entrance tunnel (facing page) features neon along the floor to enhance the pathway.

A corporate center's architectural forms and displays shimmer in the light of yellow neon and accents

By William Weathersby, Jr.

As communications technologies evolve at a broadband and digitally driven pace, the need to communicate rapid changes to both staff and clients expands. The multimedia design firm Graham Hanson Design—which collaborated on the astronomy displays at Polshek Partnership's stargazing Rose Center—has unveiled a 4,000-square-foot technology presentation and demonstration environment for the New York headquarters of Winstar, a broadband services company that sought to strengthen its in-house training capabilities. Integrated lighting, vibrant display monitors, and a blaze of multimedia signage and graphics are orchestrated to support the corporate image and brand while aiding the education of personnel and service users. The lighting designer for the Winstar e.center was Syska & Hennessy Lighting Design Group. Mancini-Duffy was the architect of record.

"The primary objective was to design an environment that could accommodate multiple programs tailored to Winstar's intersecting

RECORD contributing editor William Weathersby, Jr. is a writer based in Westport, Conn. He frequently writes about lighting and architecture.

target audiences—customers, strategic partners, members of the financial and real-estate communities, the media, and employees," says design principal Graham Hanson. "The client wanted an interactive and flexible environment that would make training sessions an engaging experience.

"Winstar provides services rather than manufacturing a tangible, easily displayed product," Hanson continues. "It's sometimes difficult for new users to wrap their minds around technical concepts such as Internet connections, high-speed data transmission, and Web-hosting operations. The e.center speeds the learning curve."

Lighting plays a lead role in unifying the look of the varied displays while also providing circulation cues in the walk-through

Project: *Winstar e.center,*
New York City

Principal designer: *Graham Hanson*
Design—Graham Hanson, principal;
Yuji Yamakazi, Chris Dimaggio

Project management: *Kendra*

Carlson

Architect of record: *Mancini-Duffy*

Lighting designer: *Syska &*
Hennessy Lighting Design Group

Fabrication and audiovisual
integration: *Rathe Productions*





Painted acrylic rods hung horizontally form a screen behind video monitors. Low-voltage tracks light the space.

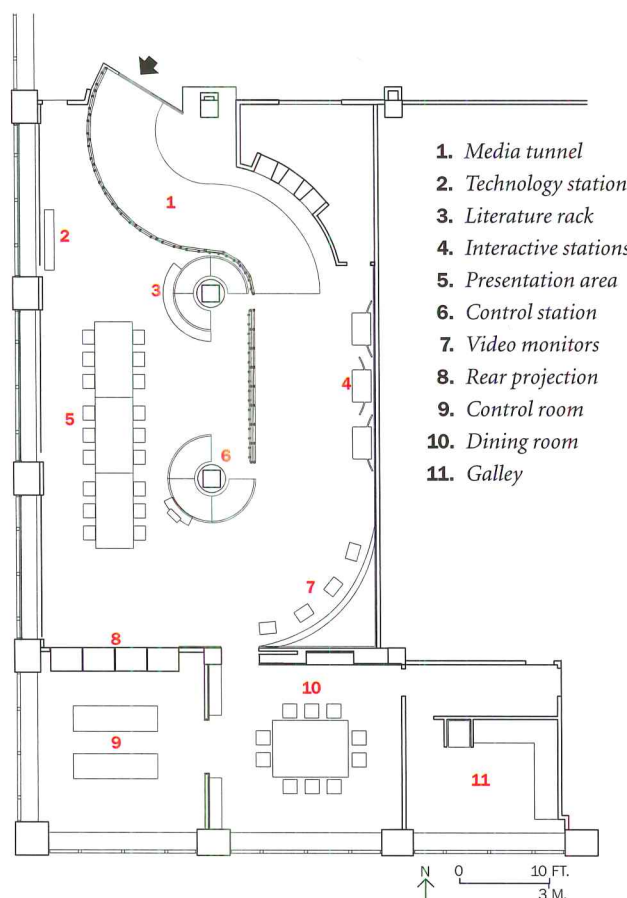
presentation. (Winstar wanted to avoid the typical trapped-in-a-training-room instructional mode, so participants progress to a series of media stations, much like one would in a museum or entertainment attraction.) Architectural forms and video monitors shimmer in the light of yellow neon and low-voltage accent and spotlights.

Though Winstar's corporate offices take up more than four floors of the Third Avenue tower, it wanted the training center to have a distinctly different look. "The training center works as a three-dimensional extension of the brand image," says principal lighting designer Bill Kuchler. More than 50 feet of 12-mm neon was specified in a custom yellow hue to

THE TRAINING CENTER CONVEYS DATA WHILE AVOIDING A STATIC LECTURE MODE. LIGHTING ENGAGES PARTICIPANTS.

match Winstar's corporate signature. Interior finishes were limited to a palette of black and silver, allowing the lighting and the media to create a sense of drama.

Visitors enter the Winstar training center through a curved tunnel whose exposed structure is fitted with powder-coated perforated-metal panels and backlit image boxes. Two LED matrix panels can flash trailing messages customized for each training session's participants. The silver vinyl tile serves as a foil for the run of yellow neon at floor level. Other ribbons of neon crown the columns and display stations, the central architectural forms. Low-voltage track fixtures accent walls and cast pools of light along the pathway. The fixtures are fitted with louvers to achieve a narrow distribution of light.



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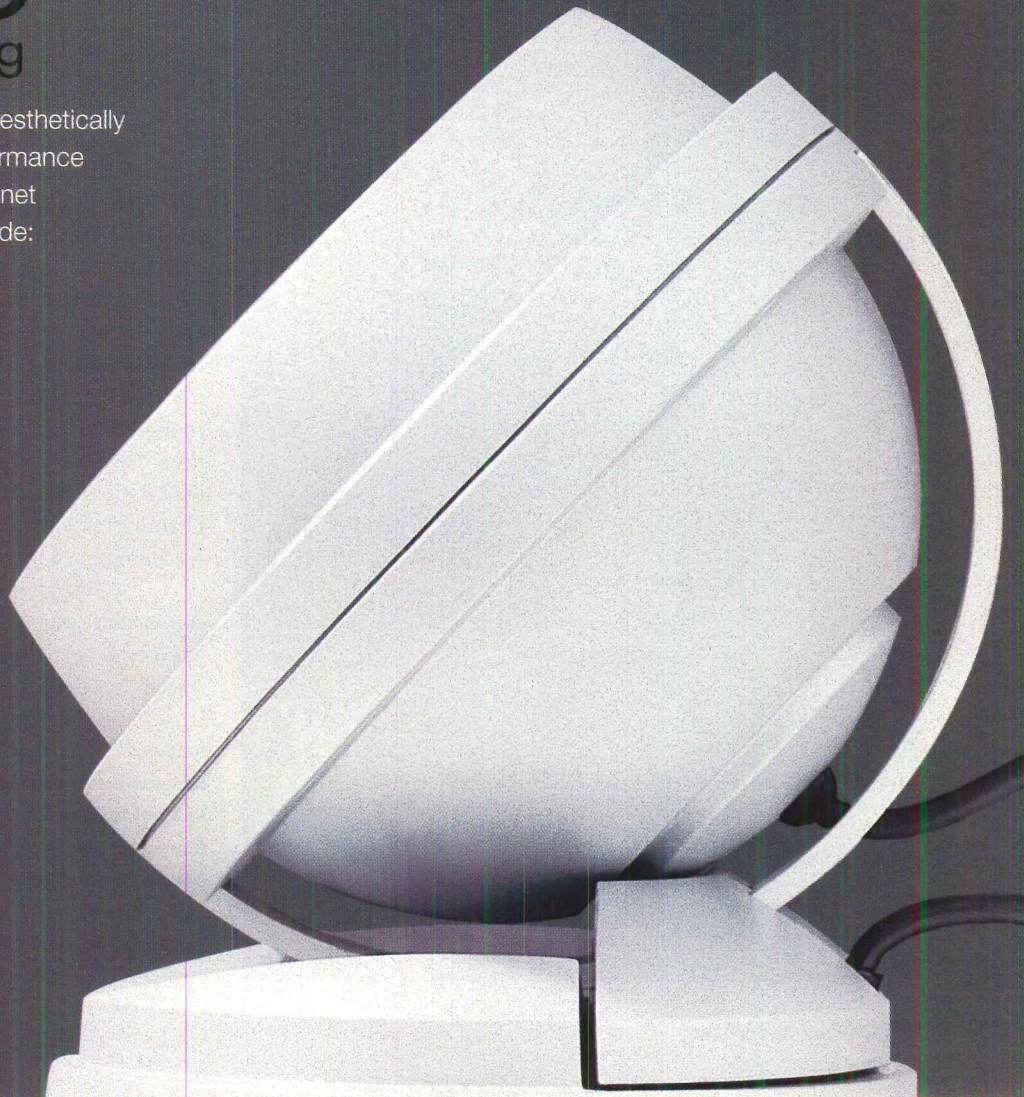
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CIRCLE 58 ON INQUIRY CARD





A meeting room accommodates teleconferencing with an even wash of illumination from compact fluorescents. Lighting cues are directed at a control panel (inset).



“The video monitors and the curving metal walls and columns give a strong visual look to the space, so we didn’t want the lighting to compete for attention,” Kuchler says. “The spots and neon provide ambient and directional light but were not intended as a light show.”

Deeper within the training facility, wall dividers were created with horizontal runs of ¼-inch-diameter acrylic rods set in front of black fabric acoustic panels. Plasma screens and rear-projection displays take center stage. Lighting levels are programmed by an on-site operator to change along the pathway, visually directing participants to the next station. Cove-mounted indirect fixtures provide additional ambient illumination. The placement of ceiling-mounted fixtures required careful planning to work around the ceiling plane’s exposed ductwork and mechanical systems.

Outfitting the conference room, which is often used for teleconference presentations, compact fluorescent luminaires evenly illuminate participants without creating glare. A suspended direct fluorescent luminaire lights the tabletop. ■

Sources

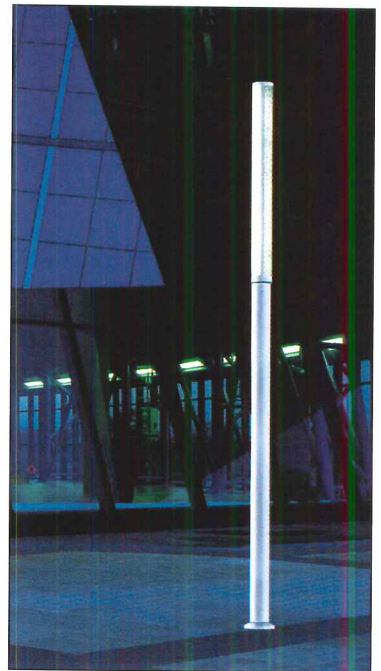
Low-voltage tracks: *Lightolier*
Suspended fluorescents: *Zumtobel*
Compact fluorescents: *Winona*
Cove-mounted indirect fixtures: *Linear Lighting*
Recessed low-voltage fixtures: *Lightolier*

Neon: *Technolux, Rathe Productions*
Lighting controls: *Lutron*

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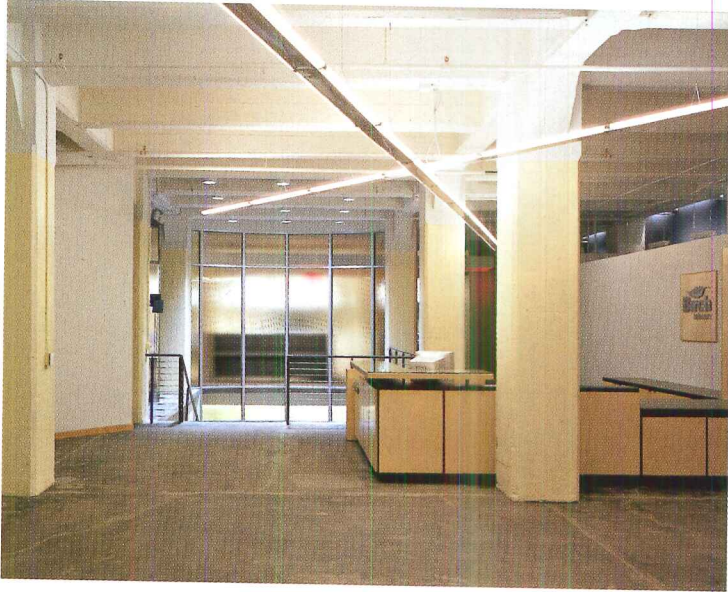
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In the reception area (opposite, left), a cross pattern of suspended fluorescent strips sets the stage for the industrial look of the office, located in a former warehouse.

Kansas City designer Derek Porter illuminates two new offices with an array of lighting looks



by **Nayana Currimbhoy**

At Birch Telecom, off-the-shelf fluorescents make for an energy-efficient office

When Derek Porter founded his lighting design firm six years ago, he rented space in the Crossroads Arts District in Kansas City, Mo., a neighborhood where artists and designers were converting abandoned buildings into offices, studios, and galleries. Near the city's Union Station, which was recently restored and adapted as a science center, the area's warehouses now enjoy second lives as offices and condominiums, enhanced by an outcropping of restaurants, hotels, and nightclubs. An active participant in the reshaping of the neighborhood, Porter has built a thriving practice that has been closely linked to the rebirth of this urban core.

Another company that elected to locate its main offices in a Crossroads warehouse is Birch Telecom, a fairly new telephone carrier. The company has created an aggressive image for itself—in one advertisement it depicts itself as a dog, and a major competitor as a fire hydrant. As an upstart, Birch Telecom wanted to create a corporate space that would retain the industrial roots of the concrete warehouse, while burnishing a renegade reputation as a member of the “pioneering” district. A conservative budget and energy efficiency were also major concerns.

Designed by Wiedeman Architects with lighting by Derek Porter Studio, the office features low-cost, off-the-shelf lighting equipment. In the reception area, a cross pattern of suspended fluorescent strips creates what Porter calls an “offbeat chandelier” for the entrance. Besides setting the stage for the industrial sensibility of the space, the chandelier is

Nayana Currimbhoy is a New York-based writer and editor who specializes in architecture and lighting. She is a regular contributor to RECORD LIGHTING.



also a subtle reference to the Crossroads community. Metal-halide lamps recessed into the ceiling above the stairwell create a glowing column of light rising up through the space.

The 60,000-square-foot office features an undulating, translucent partition wall, which separates the circulation from the office space. Forty-watt biax fluorescent wall washers, mounted on the office side of a corrugated plastic wall, create patterns of light as visitors or workers pass through the corridor. Within the hallway, illumination has been kept at low levels, without downlights, so that the backlit feature wall becomes a sculptural element as one progresses through the space.

In the open office area, single-lamp T8 fixtures have been mounted above the furniture only where task light is needed, dramatically reducing the overall cost of fitting out the space. The direct 34-watt fluorescent strips provide uniform task lighting of 45 footcandles, falling off to 20 footcandles in the aisles, so that no additional task lighting is required. This feature helps to bring the average energy consumption of the office to an admirable .5 watts per square foot.

Project: Birch Telecom, Kansas City

Architect: Wiedeman Architects

Lighting designer: Derek Porter

Studio—Derek Porter, Katrina All

Electrical engineer: Gibbens Drake

Scott Engineering

Electrical contractor: Mark One

Electric

General contractor: J.E. Dunn

Construction

Sources

Lobby fluorescents: Williams

Lobby downlights: Infinity

Pendant-mounted and upright

fluorescents: Zumtobel

Compact fluorescent wall washers:

Lightolier, Windirect

Conference room downlights:

Shaper

Fluorescent lamps: Osram Sylvania

A low-voltage rail system snakes through the open loft office of River City Studio

River City Studio is the kind of place where employees bring their pets to work. A graphic- and Web-design firm with a roster of young and energetic employees, the company fosters creativity by providing a flexible and unconventional workplace environment. The office, a 3,500-square-foot loft space that was originally a box factory, is located in an 1880 building in downtown Kansas City. The clients have retained the original wooden floors, ceilings, and columns. The management's idea of a renovation was to allow the staff to individually order their own furniture to outfit their personal cubicles.

"The place was looking better, but I kept staring at the same old fluorescents and thinking, we should be able to do better than this," says company principal Deb Turpin, who moved to River City in 1985, when the now-fashionable River Market area was a cluster of mostly abandoned buildings. She came across lighting designer Derek Porter when she judged a Kansas City Chamber of Commerce small-business competition in which he was an entrant. "He was very thoughtful; he understood that for a small business like ours, the budget is very limited," says Turpin. "His design has made a huge difference to our office."

"I was told that the design had to be flexible, playful, and warm," says Porter. "But integrating the lighting with the exposed ceiling was a challenge." His unconventional solution was to create a monorail that wraps around the space in an organic curve. All fixtures are suspended from the monorail. Each cubicle has been assigned two 50-watt MR16 fixtures, which can be placed and

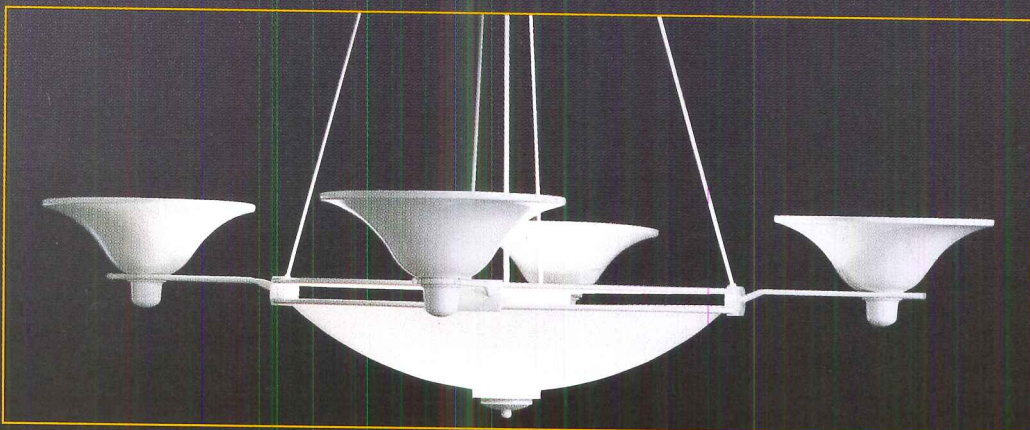


In the reception area (above and left), the neutral-colored walls are brightened by light from halogen floods, while a playful cluster of glass pendants emphasizes the 14-foot ceiling plane.

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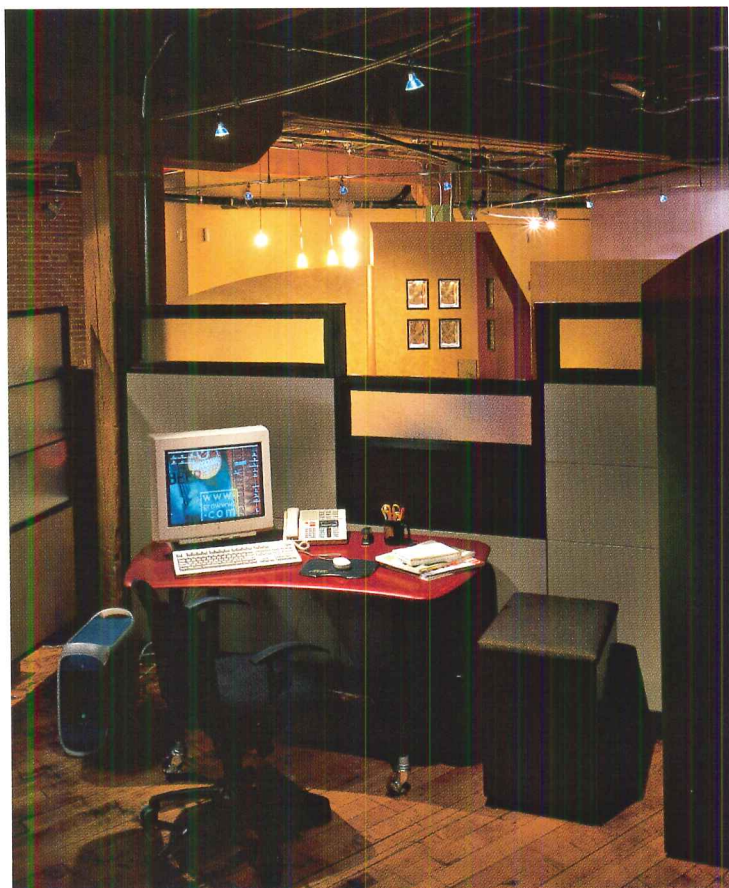
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CIRCLE 59 ON INQUIRY CARD



Two MR16 halogen fixtures were assigned above each cubicle (above and left). They can be adjusted

according to each worker's tastes, to provide task lighting while avoiding glare on computer screens.

focused according to the individualized floor plan. "From the textbook point of view, this was probably the worst solution. But for this client, it worked," says Porter. The meandering chrome rail serves as a counterpoint to the building's turn-of-the-century timber construction, while the halogen lamps provide warm pockets of light and give the space a residential ambiance.

In the reception area, halogen flood fixtures are set as wall washers, while a playful cluster of pendant-mounted fixtures—selected by the members of the River City Studio staff—creates a dramatic entryway that emphasizes the 14-foot ceiling plane. "People come in and say, 'What a beautiful space.' The lighting gets a lot of credit for that," Turpin says. "It ties the space together." ■

Project: *River City Studio, Kansas City*

Lighting designer: *Derek Porter Studio—Derek Porter, principal; Andy Matlock*

Electrical contractor: *Fredrick Electric*

General contractor: *River City Studio*

Sources

Low-voltage pendants: *Eureka*

Low-voltage monorail system: *Tech Lighting*

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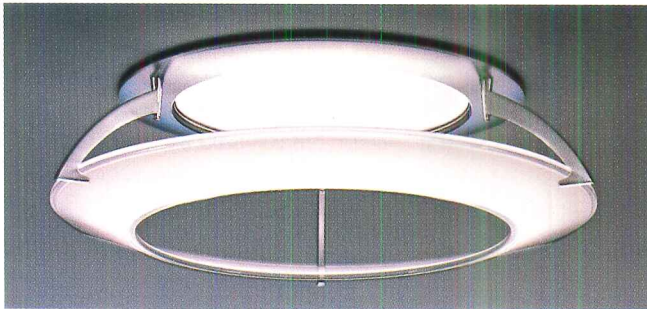
Lighting Briefs

The lighting products shown here were introduced at an array of trade shows around the country this year, including LightFair International in Las Vegas, ICFF in New York, and NeoCon in Chicago. Rita F. Catinella



▲ Holographic technology

At this year's LightFair, Ledalite won both Best New Product of the Year and Energy Product of the Year, for MesoOptics (right), a new form of optical-control materials produced using holographic techniques; and Ergolight Discus (left), a lighting and energy-management system that features personal dimming controls, onboard occupancy and daylight sensors, and system-wide energy management. 604/888-6811. Ledalite Architectural Products, Langley, British Columbia. **CIRCLE 200**

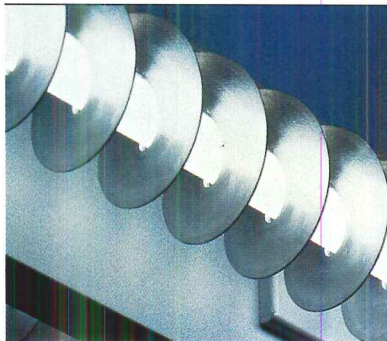


◀ Well distributed

The AH System downlight, designed by Alfred Homann, features an assortment of below-ceiling components called Light Distribution Parts (LDP) that are integral to the system's performance. The lighting effect depends primarily on the choice of either a polished or matte reflector. The AH System 360 with a matte finish and anodized glass ring is shown here. 954/349-2525. Louis Poulsen Lighting Inc., Ft. Lauderdale, Fla. **CIRCLE 202**

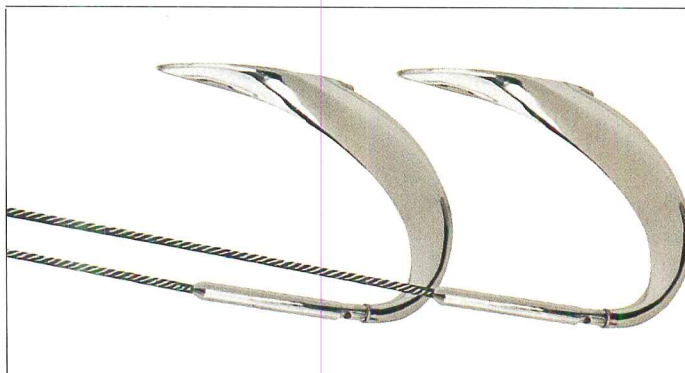
▼ Slice of light

Available in five colors, Stripes sconces are constructed from interlocking frames of laser-cut aluminum or anodized bronze finishes and a choice of fluorescent or incandescent lamplighting. Placed behind the hand-slumped sheet of water glass is a diffusing material that provides even illumination. 415/778-4300. Boyd Lighting, San Francisco. **CIRCLE 203**



◀ Overseas style

Lightolier Spectral includes European-styled wall and ceiling pendants; wall brackets; and optic, fluted, flat, adjustable, and round T5 forms utilizing a variety of compact fluorescent, metal-halide, and halogen light sources. 800/215-1068. Lightolier, Fall River, Mass. **CIRCLE 204**

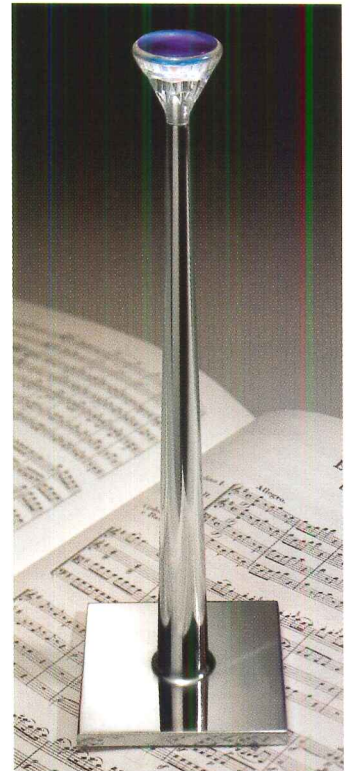


◀ Off the hook

Tech Lighting introduces the Wave Turnbuckle, a new look for its Kable Lite system. The system features slim parallel cables that virtually disappear, creating the illusion of lights floating in space. The new Wave Turnbuckle anchors the system at both ends, adding a sculptural look. It is available in satin nickel and in chrome. 847/410-4400. Tech Lighting, Skokie, Ill. **CIRCLE 205**

▼ Conversation piece

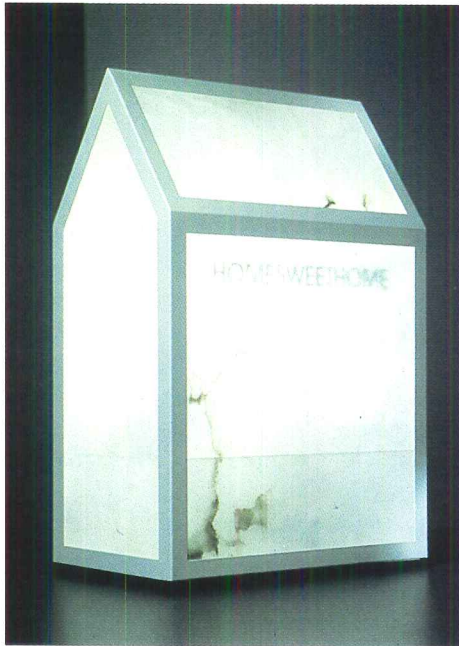
Introduced at LightFair, Star•Led runs on eight white-light micro LEDs that rely solely on the energy supplied by three rechargeable NiMH or alkaline batteries. Designed by Alberto Meda and Paolo Rizzatto, the mobile lamp can be used as a centerpiece for a table in a restaurant, in lieu of a candle or flower arrangement. Star•Led is 10½ inches high, with an aluminum body and a transparent, polycarbonate head. 212/989-6265. Luceplan USA, Inc., New York City. **CIRCLE 201**



Lighting Briefs

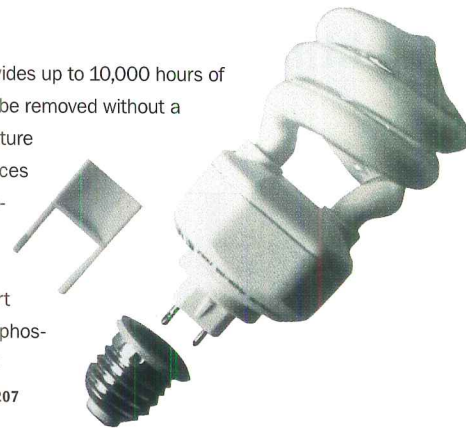
► **Light art**

The Whitelight Collection is a series of original light sculptures created by fine artists at the behest of Targetti Sankey. In the collection, the artists used man-made light as an instrument of three-dimensional sculptural creations. These light sculptures explore the relationship between light, form, and color. The artists worked within the same limitations: all of the light sculptures were to be "absolute white" and in a 120-by-120-centimeter size. The collection is a work in progress: the first four sculptures were created by Fabrizio Corneli, Vittorio Messina ("Home Sweet Home" shown), Donatella Mei, and Franco Ionda. 714/957-6101. Targetti N.A., Santa Ana, Calif. **CIRCLE 206**



► **Anti-theft device**

The Spirallock Anti-Theft light provides up to 10,000 hours of energy-efficient light and cannot be removed without a special key. This added safety feature makes it a good fit in public spaces such as hotels, restaurants, hospitals, and schools. Manufactured in Germany, Spirallock contains state-of-the-art German glass and high-quality triphosphor. 973/256-3330. MaxLite SK America Inc., Totowa, N.J. **CIRCLE 207**

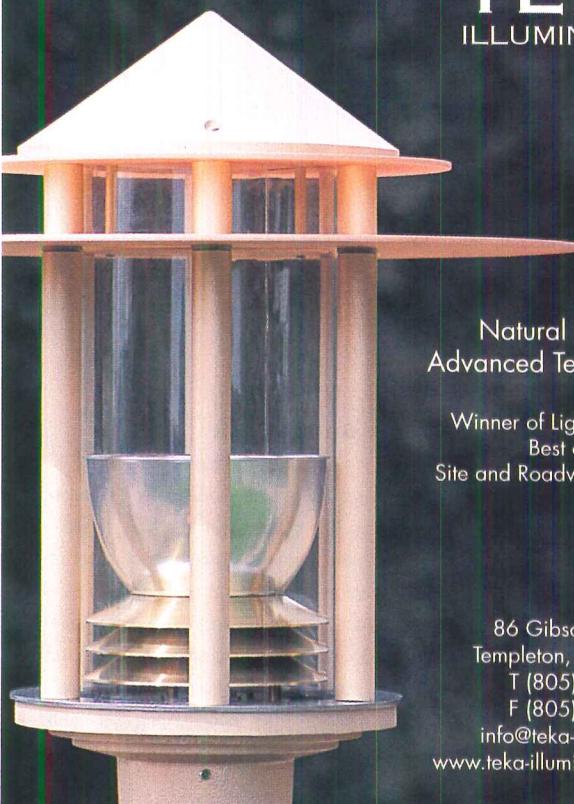


◄ **Aalto in America**

Baldinger has become the first North American distributor of Alvar Aalto's lighting designs. Baldinger debuted the products as part of its new Finlandia Collection at NeoCon. Slight modifications made to the designs enable them to comply with North American electrical codes and standards. Baldinger is importing each lamp exclusively in the materials specified in the original design. 718/204-5700. Baldinger Architectural Lighting Inc., Astoria, N.Y. **CIRCLE 208**



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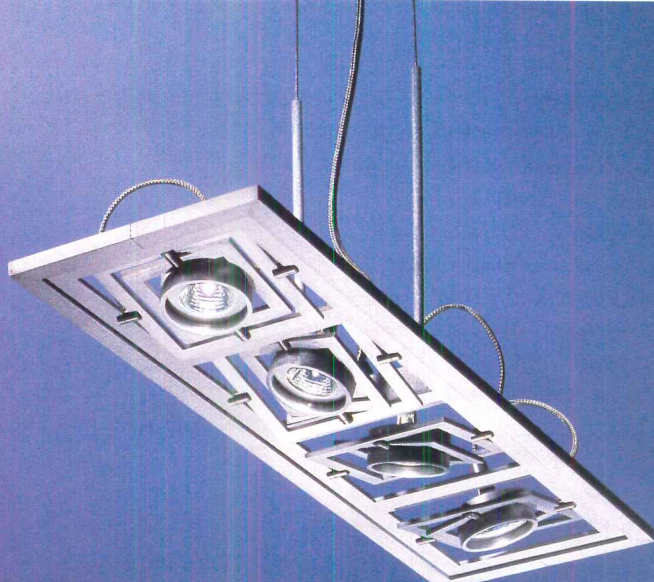
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Lighting Briefs



▲ Snappy lamp

At the International Contemporary Furniture Fair (ICFF), held in May in New York City, lighting designer Christopher Poehlmann introduced the 2D/3D Lamp Series. Designed to pack and ship flat, the white and clear polycarbonate shades of the lamp simply snap into the linear metal frame to create the 2D/3D Pendant (shown). Also available is the more minimal 2D/3D Lantern Pendant, which features just a pair of white diffusers. 866/597-4800. Christopher Poehlmann Studio Inc., Naples, Fla. **CIRCLE 209**



◀ Entering the LED

Osram Sylvania's new LED systems offer advantages over conventional lamps because of their small dimensions, shock resistance, high color efficiency, long life (up to 100,000 hours), absence of IR/UV radiation, and palette of colors, including white. 978/777-1900. Osram Sylvania, Danvers, Mass. **CIRCLE 210**

▶ Intelligible lighting

The Mumbo task light offers a 35-watt halogen lamp with a 2,000-hour rated life. The companion light, Jumbo (right), features a 13-watt compact florescent lamp and an efficient optical design that provides 35 to



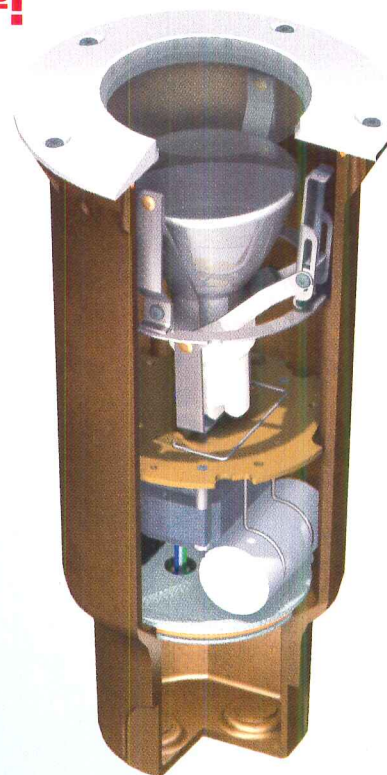
50 percent greater task illumination. Three curved openings in the top surface of the head reveal a color spectrum of diffracted light. Both are available in single- or double-arm configurations, and mountings include an edge clamp, panel bracket, and freestanding base. 800/526-5658. Jolt Lighting Inc., Schaumburg, Ill. **CIRCLE 211**

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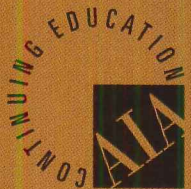
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New Products

Whether specified for a residential poolside, a public park, or the local mall, site furnishings need to withstand the stresses of weather and high traffic while playing a major role in the overall design of the project. Although seen as products of leisure, lounge chairs, planters, receptacles, and benches have serious work to do. *Rita F. Catinella*

Poolside furnishings from Kipp Stewart

Bradford Stewart Furniture has introduced a new collection of outdoor furniture designed by Kipp Stewart. The collection features aluminum frames, powder-coated in either bronze or black, and cushions that can be fabricated in any outdoor fabric. The complete collection includes a poolside wide-arm dining chair, lounge chair, dining table, dining chair, sofa, coffee table, ottoman, chaise, side table, bench, and bar stool.

The circular poolside dining table comes with a 48- or 54-inch-diameter, while the coffee table has a rectangular shape. The poolside chaise offers an adjustable



back support, and the bar stool comes with or without a cushion in two heights: 29-inch bar height or 25-inch counter height. 510/835-1365. Bradford Stewart Furniture, Oakland, Calif. **CIRCLE 212**

Reintroduced seating and table collections bring sixties style back outdoors

Richard Schultz designed the original 1966 Collection 35 years ago at the request of Florence Knoll, who wanted well-designed outdoor furnishings to withstand the corro-

sive salt air at her home in Florida. The collection features a frame of cast and extruded aluminum, and woven vinyl-coated polyester mesh upholstery. Richard Schultz Design

has reintroduced the 1966 Collection for indoor and outdoor use with a standard weatherable silver frame and a metallic silver mesh. A standard warm brown frame and mesh will be introduced this summer.

Out of production for 25 years, the Petal Tables, which Schultz designed for Knoll in 1960, complement the company's Bertoia chairs. The table can be used both inside and out with a variety of chairs, including those in the 1966 collection. If left outdoors and untreated, the tops will weather to a silvery gray finish. The table's top is made of vertical

grain mahogany, with sand-cast aluminum "top spider" hardware, and a base of cast iron.

Other offerings from Richard Schultz Design include the Cafe Collection, available in four new standard colors: spring green, daffodil yellow, sky blue, and terra-cotta. The collection includes the Cafe 2000, Confetti, and Topiary patterns. Designed to mimic the qualities of dappled sunlight filtering through shrubbery, Topiary's form provides strength with little weight, and it stacks easily. The chairs are available with or without arms and can be used indoors or out. The table is available with a textured aluminum top that has scalloped edges. Custom colors are available for all product lines. 215/679-2222. Richard Schultz, Palm, Pa. **CIRCLE 213**



The 1966 collection with metallic silver mesh (left); reintroduced Petal tables (right).

New Products



▲ Whatever the weather

The Westport Island chairs and settee feature Weatherend's signature slatted back detail and curved crest rail design in a more contemporary style. Available in teak or mahogany, the Westport Island collection is constructed using full mortise-and-tenon joinery bonded with a marine-grade epoxy for strength and durability. Oversized cushions can be made in the customer's own material. A variety of color finishes are also available. 800/456-6483. Weatherend Estate Furniture, Rockland, Maine. **CIRCLE 214**

► Wright ornament

The Frank Lloyd Wright Foundation has authorized Seattle-based Nichols Bros. Stoneworks to reproduce the Oak Park Studio Vase as part of the foundation's licensing program. The vase was originally executed in 1898 for Wright's own architectural studio that adjoined his residence in Oak Park and has never before been available to the public. 800/483-5720. Nichols Bros. Stoneworks Ltd., Snohomish, Wash. **CIRCLE 217**



◀ Sleek teak

The Warwick armchair adjusts to five positions—from upright to laid-back. Gently angled teak slats glide into place on solid-brass hardware. Armchairs may be paired with a variety of slatted teak tables or used as occasional chairs around a pool or patio. In the dining position, each measures 40½ inches high, 19 inches wide, and 18 inches deep. 800/776-3336. Smith & Hawken, Trade Sales Dept., Novato, Calif. **CIRCLE 219**

► Well-heeled planter

The McKinnon and Harris Palm Box is the company's first foray into garden accessories. Originally designed for Louis XIV's collection of pomegranate, lemon, and orange trees at Versailles, Palm Boxes have been in continual use ever since. The planter is handcrafted in wrought aluminum and is fitted with a side access door for easy transplanting. Featuring hand-routed beaded panels, the high-end box weighs 100 pounds. 804/358-2385. McKinnon and Harris, Richmond, Va. **CIRCLE 215**

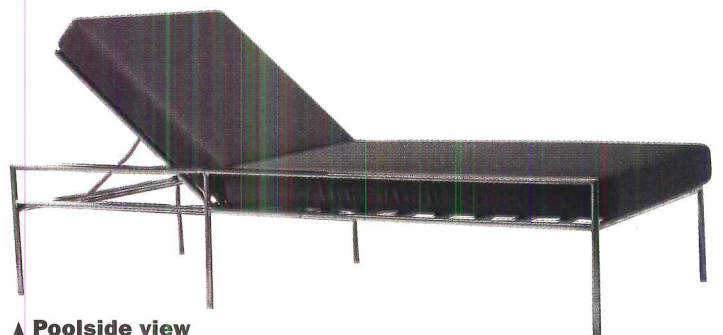


▲ Foster furnishing

The A900 series, designed by Norman Foster with Thonet, is for indoor and outdoor use. Anodized aluminum frames are fitted with polypropylene seats and backs available in translucent white or anthracite gray. The complete A900 Series includes a glass-topped table, as well as wood, leather, and upholstery seating surfaces for armchairs, lounge chairs, and benches. 877/929-0011. Forms+Surfaces, Carpinteria, Calif. **CIRCLE 218**

▼ Splashy design

Heltzer offers an array of site furnishings, including benches and planters, that combine fine metals, textiles, stone, and wood, finished to enhance their natural character. The Joe Bird Bath (below) is made of a stainless-steel frame with a silky matte finish, a natural cast-concrete base, and a hand-formed glass basin. 877/561-5612. Heltzer, Inc., Chicago. **CIRCLE 216**

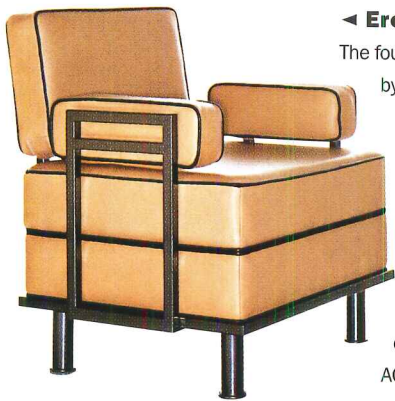


▲ Poolside view

The Vu collection features ½-inch round stainless-steel tubing, soft waterproof foam, and wedge-shaped cushions tailored with double-stitched seams; the components are joinery-welded and polished for an invisible transition from one element to the next. The collection was created for contemporary contract and hospitality projects. 626/443-8971. Brown Jordan, El Monte, Calif. **CIRCLE 220**

Product Briefs

For three days in June, Chicago again became design-world central when it hosted NeoCon 2001. Below are a few stars of the show. *Rita F. Catinella*



◀ Erector seat

The foundation of the metal CH-I chair, designed by Suzanne Lovell, is an ottoman unit, to which a backing unit, left facing arm, and right facing arm can be attached. The components feature a metal plate, which fastens into a systematic matrix located on the base of the ottoman to enable easy reconfiguration. Chair arms are reversible, and three table-unit options are available. 336/434-5011.

AGI, High Point, N.C. **CIRCLE 221**

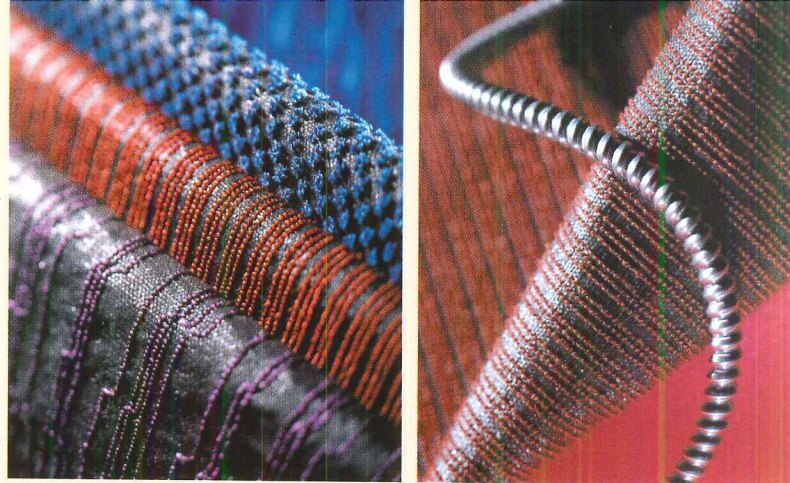
▶ New kid on the block

NeoCon newcomer izzydesign won an Editor's Choice award for the Clara collection of work furniture. It's no surprise—izzydesign's award-winning team brings years of experience, working for companies such as Haworth, Knoll, and Herman Miller. Clara includes free-standing tables with molded urethane surfaces, storage options, accessories, and power and privacy components. 616/458-7513. izzydesign, Grand Rapids, Mich. **CIRCLE 223**



▼ Couth booth

Inspired by the dining-booth experience, Metro offers a new product and category: the Biz "work booth." Biz forms a semi-private setting for groups with temporary tasks that require projects to be spread out, offering an alternative to the confinement of workstations. Corner and straight sections are available with or without upholstered back screens to create a variety of booth-based applications. Biz will be available for purchase in October. 650/697-7900. Metropolitan Furniture Company, Burlingame, Calif. **CIRCLE 224**



Product of the Month Metafloor

MetaFloor, a hybrid carpet and hard surface flooring that offers the durability to withstand the rigors of heavily-wheeled traffic and the slip-resistance and acoustic properties of carpeting, took home this year's Best of NeoCon award. Metafloor's first offering is the Collaborative Voice Collection of four 12-foot products designed by a team including Shashi Caan with SOM, New York; Lucy Aiken-Johnson with TVS Interiors, Atlanta; David Loyola, with Gensler, Santa Monica; and Jaime Velez, with SOM, Chicago. MetaFloor is produced using 50 percent less nylon than typical carpet (reducing the use of oil and energy), and features a secondary backing system of 50 percent recycled content. 800/523-5647. Lees, Greensboro, N.C. **CIRCLE 222**



▼ Have a lean

Lean Too provides support for the torso and upper body while an individual's feet are planted firmly on the ground. This alternative-posture product takes the weight and strain off of the lower back, legs, and feet of people required to stand while working. Fashioned after a traditional English walking stick, Lean Too is available in two adjustable sizes. 888/STEELCASE. Steelcase Inc., Grand Rapids, Mich. **CIRCLE 226**

▲ Nothing but net

The seat and back of the Net Series by E00S is a single tube of black, woven-polyester mesh pulled over a tubular steel frame. The group includes a side chair and a lounge chair (with or without tablet arms and casters) as well as a fully upholstered version. The steel tube frame is offered in the full range of Keilhauer's powder-coated palette and a new nickel-plated finish. 800/724-5665. Keilhauer, Toronto, Canada. **CIRCLE 225**



Product Briefs

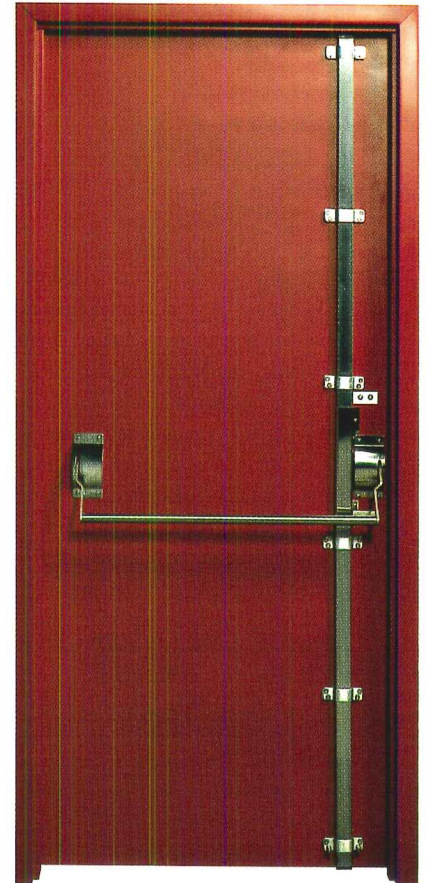


▲ Don't tell the window-washer union

Pilkington's new glass offering allows residential and commercial windows and skylights to literally clean themselves. Pilkington Activ self-cleaning glass uses the sun's UV rays to gradually and continuously break down organic dirt. At the same time, it reduces the surface tension of the water, causing it to sheet down the surface and wash away. The windows above have been sprayed with water; the left is Activ glass, the right is not. 866/88 ACTIV. Pilkington N.A., Toledo, Ohio. **CIRCLE 232**

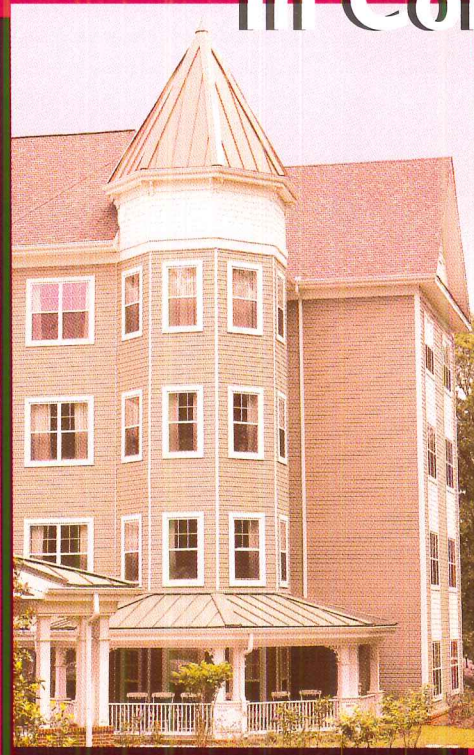
► Severe weather door system

Ceco has introduced the first severe weather door system to meet Federal Emergency Management Agency (FEMA) guidelines. The StormPro 361 door system, designed to withstand severe weather conditions, including tornadic force winds, was developed by Ceco for commercial, industrial, and institutional buildings. The system is on the market after extensive testing at the Texas Tech University Wind Engineering Research Center. The 14-gauge steel door is three-by-seven-feet in size and 1¾ inches thick, with a three-way locking device. It is hinged to a 12-gauge steel door frame that is 5¾ inches thick. 888/CECO-DOOR. Ceco Door Products, Brentwood, Tenn. **CIRCLE 233**



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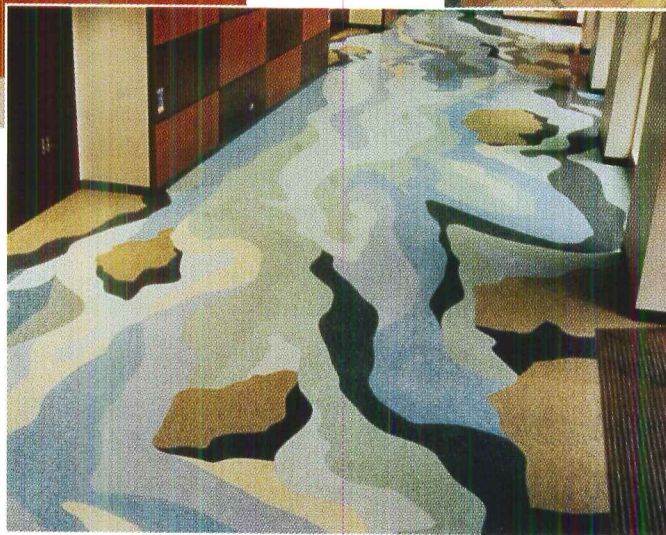
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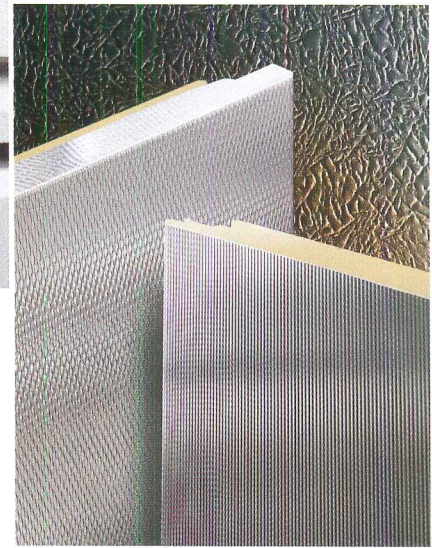
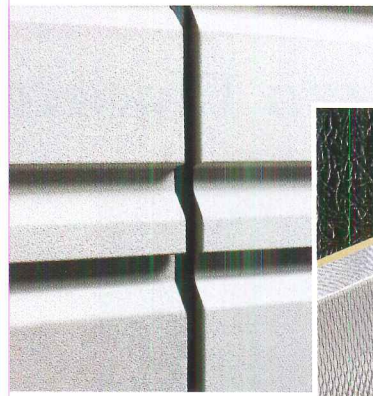


CIRCLE 69 ON INQUIRY CARD

Product Briefs

▼ Catch that flight

A series of moving walkways, elevators, and escalators has been installed at the new 1.4-billion-dollar Terminal 4 at John F. Kennedy International Airport by Schindler Elevator Corporation. Schindler has installed six moving walkways, 16 elevators, and 12 escalators to move passengers swiftly through the terminal's 1.5-million-square-foot layout. The JFK Terminal 4 project marks the first time that Schindler's new 9500 moving walks have been installed in the U.S. Features include ribbed aluminum floor covers that are soundproofed, glass balustrades, and opaque panels available in various finishes. 973/397-6500. Schindler, Morristown, N.J. **CIRCLE 234**



► Cladding options

The Duracast finish system is a shop-applied, aggregate-and-silica formula that offers the advantages of an insulated metal panel system with the look and feel of precast concrete.

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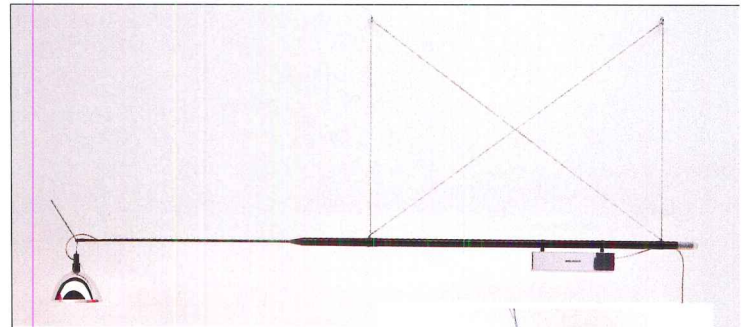
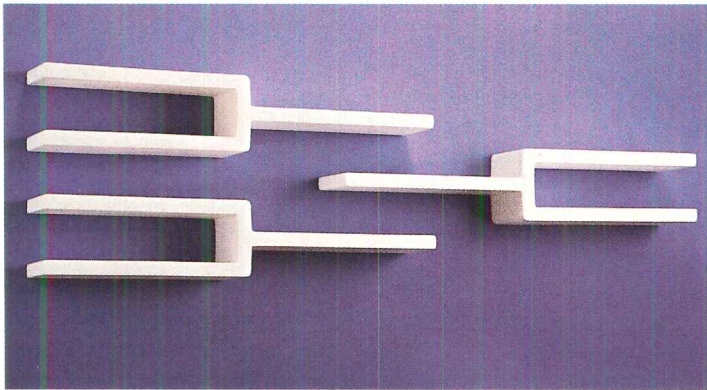


Product Briefs

Over 170,000 people attended this year's International Milan Furniture Fair. Next year's fair (April 10-15) will include kitchen and office furniture exhibitions. *Josephine Minutillo*

▼ Liv'it up

Liv'it started two years ago as part of the Fiam Group. In contrast to the elegant curved-glass furniture of its mother company, Liv'it prides itself on being unpredictable. Its designers, including Christopher Pillet and Fiam founder Vittorio Livi, create pieces that are whimsical and multi-faceted, using a combination of materials and the latest technology. Net, by Jean Marie Massaud, is an injection-molded shelf (8 $\frac{3}{16}$ inches high, 45 $\frac{1}{4}$ inches wide, 8 $\frac{3}{16}$ inches deep) whose pitchfork shape can be variously arranged to create a series of playful compositions. Net is available in light grey, dark grey, blue, and orange. 800/345-0476. Forma & Design Inc., Norwalk, Conn. **CIRCLE 227**



▲ Maurer marvels

The Max Mover, introduced last year, will be available in Fall/Winter 2001. It is a halogen fixture with a telescoping arm that rotates 180 degrees and can be wall- or ceiling-mounted. The Yoohoodoo is a one-of-a-kind chandelier containing LED panels. Though not available for distribution, a limited edition of E.L.E.D.E.E table lamps were manufactured for distribution. 212/965-8817. Ingo Maurer LLC, New York City. **CIRCLE 228**



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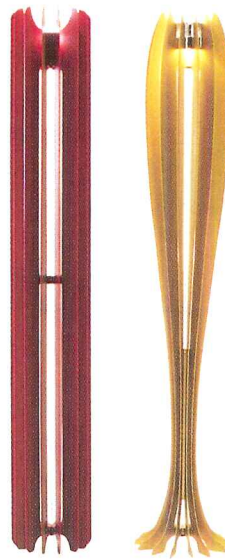
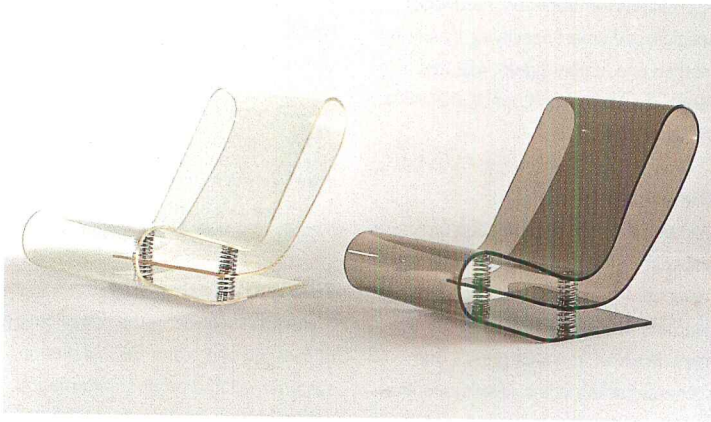
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Product Briefs

▼ Singular chaise

Kartell transformed its exhibition space this year into a joyous Italian garden. Among the plants and hedges was a new chaise lounge, LCP, by Martin Van Severen. This piece represents the first in what is expected to be a series of collaborations with Kartell and the Belgian designer. LCP is a chaise lounge produced in a single polycarbonate mould, which folds over on itself. The soft, elastic design is completely transparent and comes in five light colors: crystal, blue, brown, green, orange, and grey. It will be available worldwide in December. 212/625-1494. Kartell U.S.A., New York City. **CIRCLE 229**

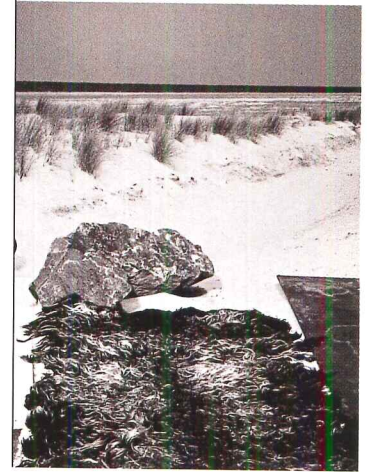


▲ Haute halogens

Rha and Thor, two floor lamps for Foscarini by designers Luca Nichetto and Giampietro Gai, were introduced at the Fair's Euroluce exhibit. The halogen lamps, equipped with dimmers, consist of a series of radially arranged aluminum blades, either straight (Thor) or curvaceous (Rha). 203/407-8000. I.L. America Inc., Hamden, Conn. **CIRCLE 230**

▼ Felt furnishings

Among the most notable designers exhibiting work outside the fairgrounds was Dutch designer Claudy Jongstra. Though her background is in fashion, she uses her felt fabrics to create curtains, carpets, cushions, and upholstery. She has collaborated with such architects as Will Bruder and Steven Holl in creating wall hangings for interiors. Her fashions are available at The Apartment in New York City. 31-20-42-84-230. Amsterdam. **CIRCLE 231**



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SPECIFYING FOR PERFORMANCE: UNDERSTANDING KEY SPECIFICATION CRITERIA FOR WALLS, CEILINGS AND FLOORS

Sponsored by USG Corporation

Answers to Continuing Education Questions from Page 145

1. Key specification criteria for walls, ceilings and floors include fire-resistance, structural integrity, sound control and abuse resistance. Fire resistance and structural integrity ensure key life-safety performance. Sound control is not covered by most building codes, but is an important factor to ensure customer satisfaction. Abuse resistance offers substantial construction life-cycle benefits. ASTM is currently reviewing test methods to measure abuse resistance. By incorporating these and other code criteria early in the design process, architects are able to work more efficiently with code officials. Successful architects also develop an understanding of the key attributes that determine what materials and systems deliver the best results for project requirements.
2. ASTM establishes testing procedures to define the minimum performance criteria needed to meet code requirements. ASTM does not, however, actually conduct tests or verify that any specific product or system meets the standards it establishes. That work is accomplished by UL and other independent verification companies. ASTM standards and UL testing protocols provide specifiers with assurances that the products and systems they select will meet the criteria of major code bodies, such as BOCA (The Building Officials and Code Administrators International), ICBO (The International Conference of Building Officials), SBBICI (The Southern Building Code Conference International) and ICC (The International Code Council).
3. Manufacturers frequently use modified ASTM testing protocols as they introduce new products and systems. The modified tests are developed to create performance standards where none currently exist or when existing ASTM test protocols do not fully apply to the unique features or attributes of an existing product or system. Modified tests do provide valuable performance information, but they can also make it more difficult to compare products and systems. Two manufacturers offering similar products may publish two very different modified test results that demonstrate two very different product performance capabilities. So, don't assume you're making "apples-to-apples" comparisons when reviewing modified ASTM tests.
4. ASTM E119 measures heat transfer and structural integrity of assemblies. The goal of the heat transfer test is to determine at what temperature the surface or adjacent materials on the side of the assembly not exposed to the heat source combust. The structural integrity of the system is measured using a "hose stream" test. This test evaluates how well an assembly stands up to impact from falling debris. (e.g. a floor truss).
5. Flanking sound refers to sound leakage. Elements that lead to flanking include improperly sealed floor and ceiling junctions, connecting ductwork, poor duct seals and electrical outlets. Other important sound control measurements include Sound Transmission Class (STC), Ceiling Attenuation Class (CAC), Noise Reduction Coefficient (NRC) and Articulation Index (AI). STS measures how much sound will be reduced when traveling through a partition. CAC measures how much sound energy will be dissipated when it is transmitted through the ceiling of one room into an adjacent room through a shared plenum. NRC measures sound absorption of a specific material. AI measures the degree of privacy between two locations. It is an adaptable measurement that can be used in open or closed office spaces, and accommodates any speech or background noise level.

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CIRCLE 73 ON INQUIRY CARD

Product Literature

Hardwood hints

The Hardwood Council offers specifying tips to help building professionals produce projects with North American hardwoods. The council's *Book Behind the Look* is a full-color, 28-page booklet on how to select hardwoods. Topics include: Ways to design a custom-look crown molding on a tight budget; creative applications for lower-cost hardwood species; and smart specifying by sawing method and lumber grade. 412/281-4980. The Hardwood Council, Oakmont, Pa. **CIRCLE 236**

Dimmer brochure

Leviton's new Mural Collection brochure showcases the company's line of residential-grade Decora-style Mural dimmers. The new line of all-digital dimmers includes standard, preset, and scene-capable models, ideal for controlling fluorescent, incandescent, and low-voltage lighting loads in any home. The brochure provides feature and benefit information for all models, shows various application settings, and includes typical wiring diagrams. 800/323-8920. Leviton Manufacturing Co., Inc., Little Neck, N.Y. **CIRCLE 237**

NEW SITES FOR CYBERSURFING

Virtual showroom for Italian design featuring products from Artemide, B&B,



Flou, and Kartell www.design-italia.it

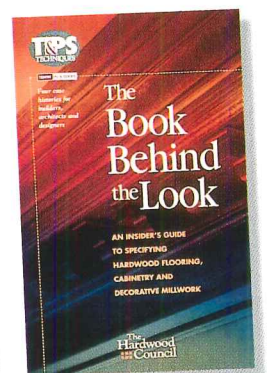
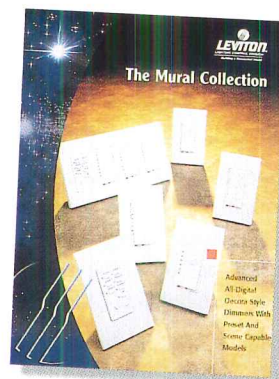
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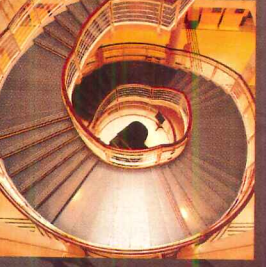
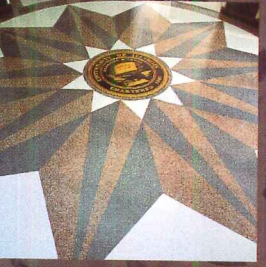
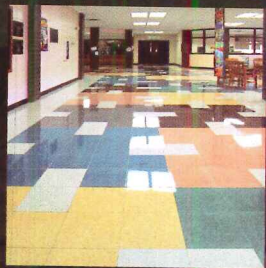
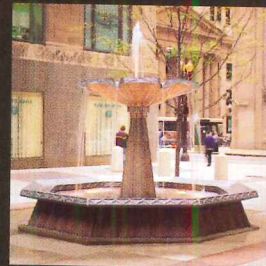
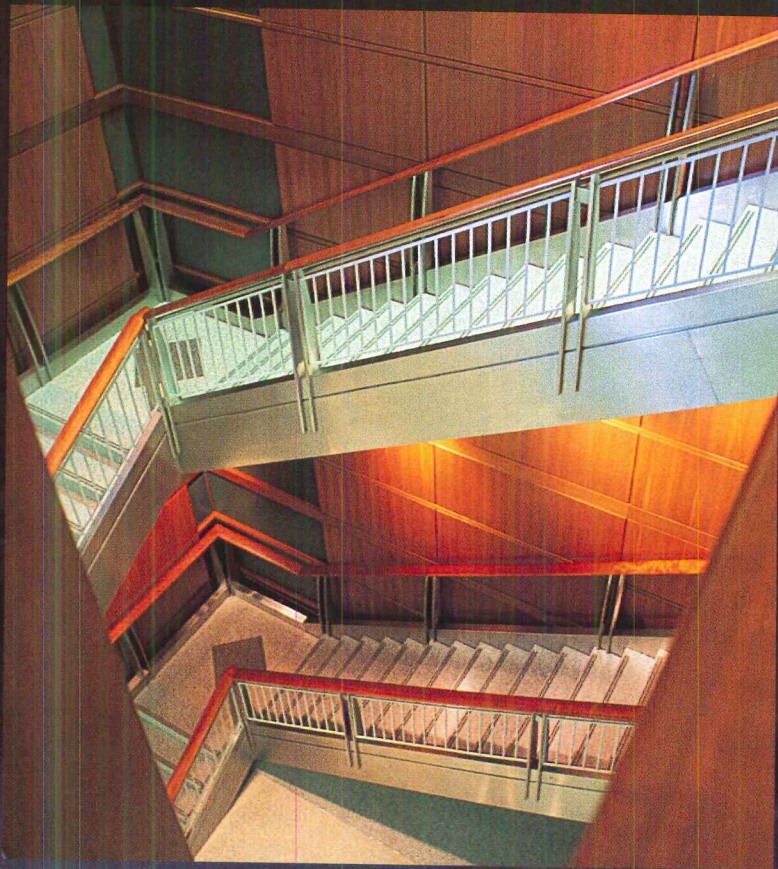
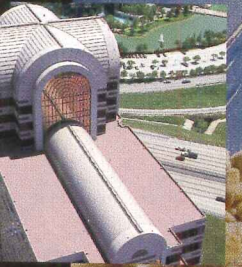
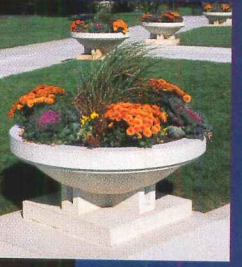
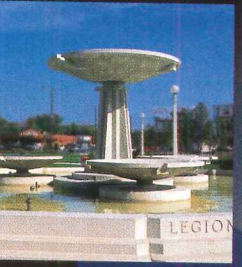
Tile installation aid

Architects involved in the specification of ceramic and stone tile installation systems will find product information, color-selection tools, a training program, and more from TEC Specialty Products. Developed with the assistance of industry experts, TEC's Architectural Programs include the *Section 9 Tile Installation Catalog* and AccuColor grout and caulk color-selection tools. 800/323-7404. TEC Specialty Products Inc., Palatine, Ill. **CIRCLE 238**



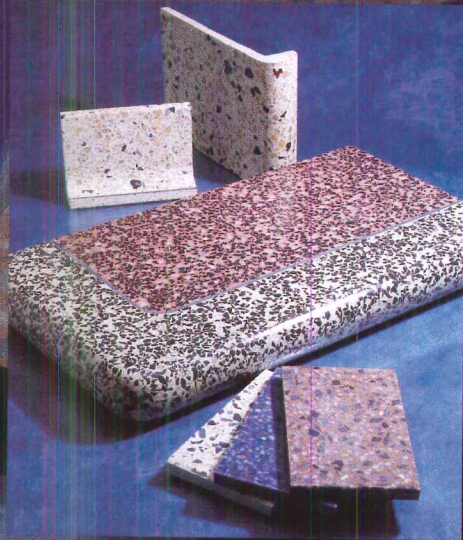
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CIRCLE 74 ON INQUIRY CARD

Product Literature

Outdoor lighting

Bern Series luminaires from Holophane are featured in new literature from the company. The fixtures consist of a bell-shaped reflector and a choice of nine prismatic glass reflectors. The luminaires are offered with Holophane's complete line of GlasWerks Series decorative posts, arms, and brackets. 740/349-4191. Holophane, Newark, Ohio.

CIRCLE 239

Skyline brochure

Wausau Window and Wall Systems offers "Wausau's Windows on Gotham" a free informational and illustrative brochure on its many contributions to the New York skyline. Wausau has engineered window and wall systems for a variety of buildings, including New York's Cornell University Medical College, St. Regis Sheraton, and the Trump Building at 40 Wall Street. 877/678-2983. Wausau Window and Wall Systems, Wausau, Wis.

CIRCLE 240

Great bridges of the decade

New literature from the Concrete Reinforcing Steel Institute honors five great concrete bridges built between 1990 and 2000. The 12-page brochure

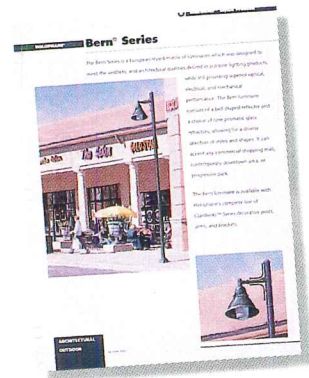
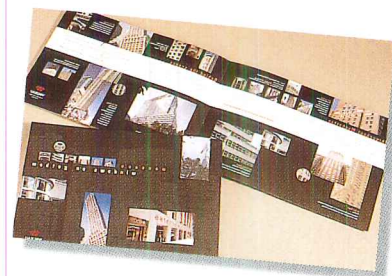
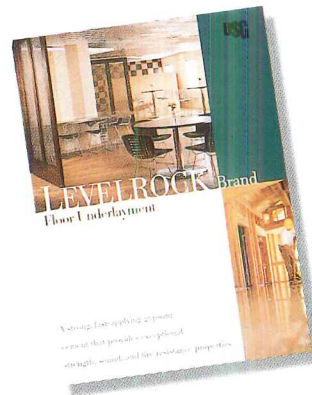
tells the stories of bridges constructed in the last decade that represent the design and construction industry's most technically advanced and innovative concrete achievements. 847/517-1200. CRSI, Schaumburg, Ill. **CIRCLE 241**

Floor underlayment

An eight-page brochure from USG provides detailed information on the features, benefits, and performance of the company's new LevelRock Brand Floor Underlayments. The brochure overviews the performance characteristics of the four LevelRock options currently available. 800/487-4431. USG Corporation, Chicago. **CIRCLE 242**

Property maintenance code

The 2000 *International Property Maintenance Code Commentary* addresses maintenance requirements for the interior and exterior of structures, and space requirements for determining maximum occupancy. The IPMC also contains requirements for heating and plumbing in existing workplaces, hotels, and residences, as well as minimum light and ventilation criteria. 800/214-4321, x371. BOCA, Country Club Hills, Ill. **CIRCLE 243**



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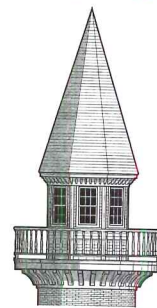
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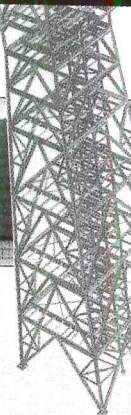
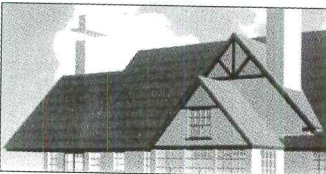
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Tradition, technology + teamwork this foundry's formula for success

Interviewed by Charles Linn, AIA

How does a small foundry located in Topeka compete for—and successfully complete—projects such as a 3½-ton bronze door for a villa on the Red Sea in Saudi Arabia [JUNE 2001, page 187] or the re-creation of exterior cast-iron trim on a long-lost cast stair for the Reliance Building, Chicago's first steel-framed skyscraper? Tim Degginger of Deggingers' Foundry, a fourth-generation business, says the ability of his firm to do innovative work depends on a team of associates who use modern methods of design, engineering, and construction while still drawing upon the traditions of tinsmithing, welding, pattern making, and casting.

Q: *You've done some amazing projects. Were any of you (Tim Degginger, Janet Zoble, and Mike Davis, left to right in photo) trained in foundry work?*

Timothy Degginger: I grew up in the business, but my degree is in chemistry. Janet does most of the designs and creates the CAD/CAM drawings. She has a degree in design from the University of Cincinnati, where she studied drawing, sculpture, and engineering and materials. Mike is our estimator. He was an accounting major and had about 15 years of experience working for an ornamental sheet-metal contractor before he joined us. We really work as a team.

Mike, how do you make estimates? Unit-price guides for labor and materials don't exist for this kind of work, do they?

Mike Davis: Some people would call my estimates "voodoo costing," but I am a very hands-on person. Janet works out the designs, with Tim helping on the foundry techniques, and as they're developing a concept, I work on estimates. I watch the guys work on the shop floor, see how long it takes them to do things, ask a lot of questions. I often build things in my mind, take them apart, and rebuild them to see if we've figured out the best way to do it. Our solutions are often very different from what the architects' originally propose.

Is working within the traditional means of metal crafting rather restrictive?

Janet Zoble: Well, we don't do that. We actually use almost any technology that will give us an appropriate visual effect. For example, we do patterning in a number of ways. Some is hand-sculpted; some is CAD/CAM cut; some crafted by master carpenters. We pour molds of rubber or plastic. We'll use any material we can get our hands on to create or re-create designs. For the stair at the Reliance Building, for example, we pulled molds off of balusters, newel posts, and stair brackets. Because changes were made over the years, the patterns were re-proportioned by computer before castings were made from them.

TD: But traditional technology is the underlying basis for what we do. We share a common knowledge base and, using the synergy of our team of people, we have much better control over the process of creating things.

How has Deggingers' Foundry changed over the years?

TD: Our business used to be much more industrially oriented. We used to turn out thousands of identical castings. When it was my turn to run it, I decided I wanted to make things that would be one of a kind—that people would remember. And we're a team that makes that ideal a reality. ■

Photograph by Charles Linn, AIA

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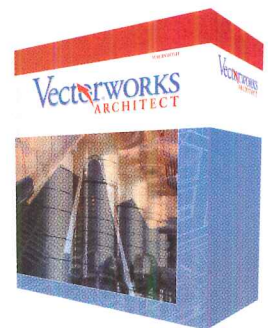
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