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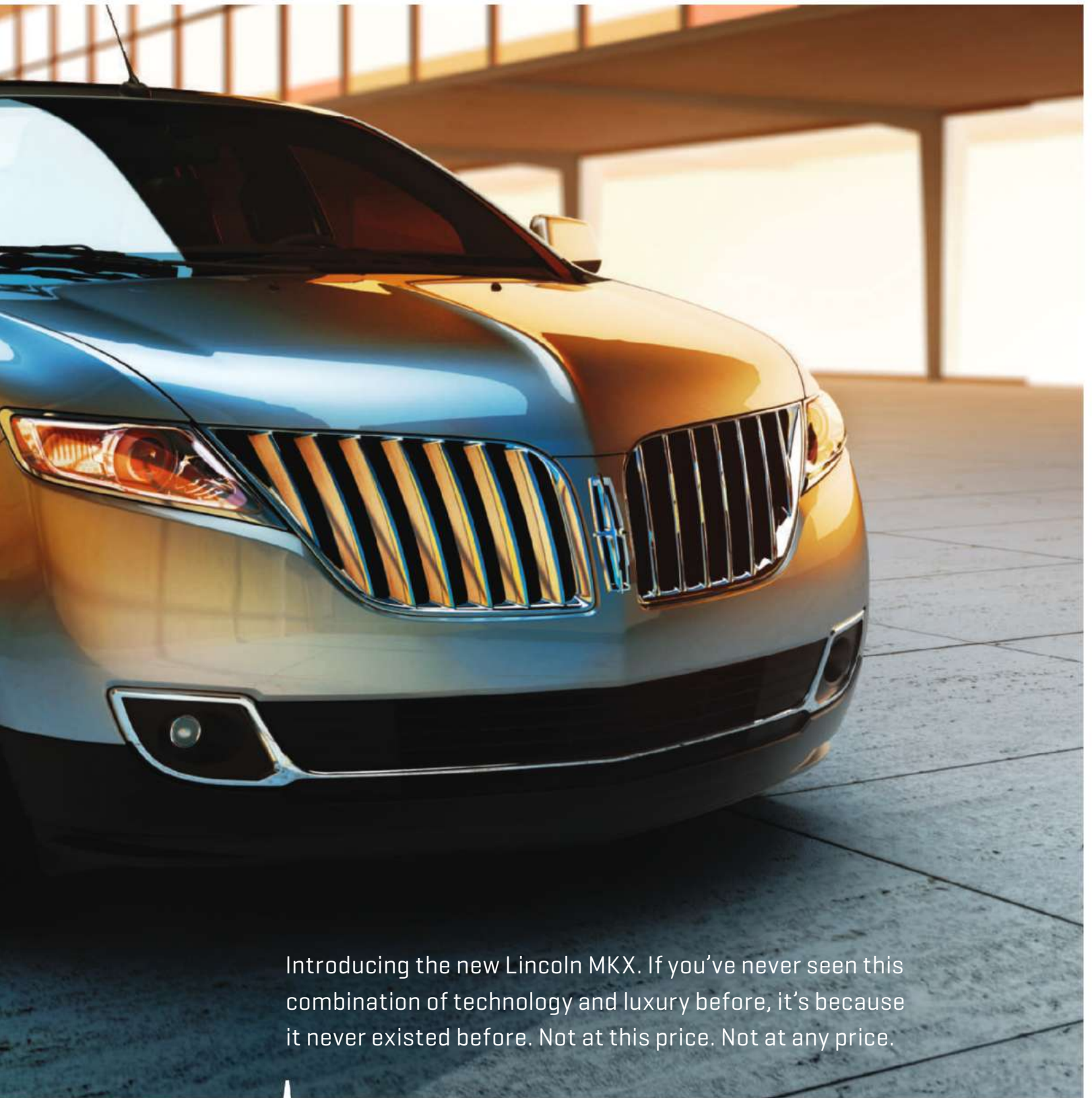


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ARCHITECTURAL RECORD: (ISSN 0003-858X) October 2010. Vol. 198, No. 10. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. 10020. **FOUNDER:** James H. McGraw (1860-1948). Periodicals postage paid at New York, N.Y. and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 40012501. Return undeliverable Canadian addresses to: DHL Global Mail, 355 Admiral Blvd-Unit 4, Mississauga, ON L5T 2N1. Email: arhcustserv@cdsfulfillment.com. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **POSTMASTER:** Please send address changes to ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 5732, Harlan, IA 51593. **SUBSCRIPTION:** Rates are as follows: U.S. and Possessions \$70.30; Canada and Mexico \$79 (payment in U.S. currency, GST included); outside North America \$199 (air freight delivery). Single copy price \$9.95; for foreign \$11. Subscriber Services: 877/876-8093 (U.S. only); 515/237-3681 (outside the U.S.); fax: 712/755-7423. **SUBMISSIONS:** Every effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage. **SUBSCRIPTION LIST USAGE:** Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to architectural record, Mailing List Manager, P.O. Box 555, Hightstown, N.J. 08520. **OFFICERS OF THE MCGRAW-HILL COMPANIES, INC:** Harold W. McGraw III, Chairman, *President and Chief Executive Officer*; Kenneth M. Vittor, *Executive Vice President and General Counsel*; Robert J. Bahash, *Executive Vice President and Chief Financial Officer*; Elizabeth O'Melia, *Senior Vice President, Treasury Operations*. **COPYRIGHT AND REPRINTING:** Title ® reg. in U.S. Patent Office. Copyright © 2010 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, Mass. 01923. To photocopy any article herein for personal or internal reference use only for the base fee of \$1.80 per copy of the article plus ten cents per page, send payment to CCC, ISSN 0003-858X. Copying for other than personal use or internal reference is prohibited without prior written permission. Write or fax requests (no telephone requests) to Copyright Permission Desk, ARCHITECTURAL RECORD, Two Penn Plaza, New York, N.Y. 10121-2298; fax 212/904-4256. For reprints call 800/360-5549 X 129 or e-mail architecturalrecord@theygsgroup.com. Information has been obtained by The McGraw-Hill Companies from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, The McGraw-Hill Companies or architectural record does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions therein or for the results to be obtained from the use of such information of for any damages resulting there from.

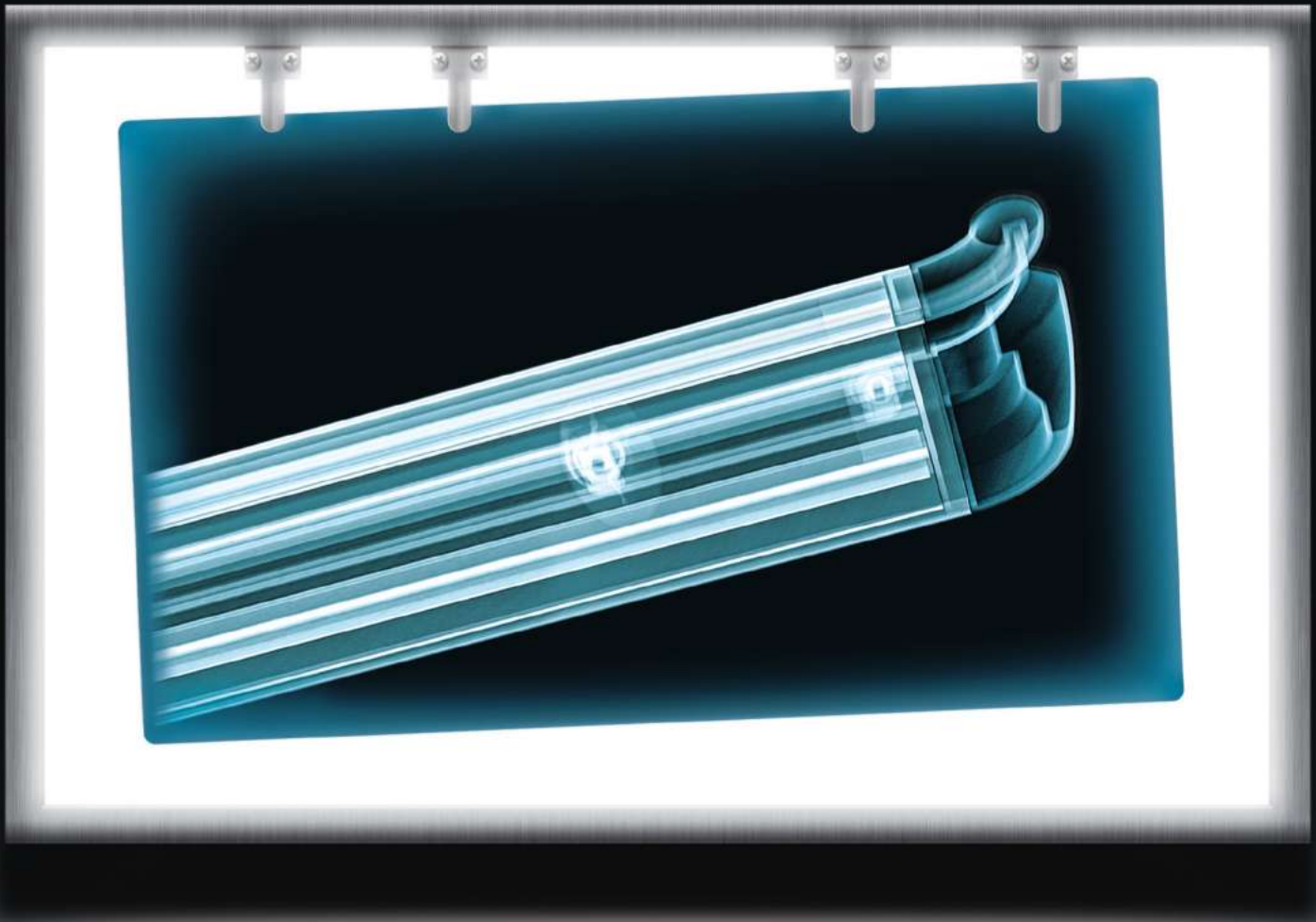
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ABOVE: Val Notre-Dame Abbey, Canada, by Atelier Pierre Thibault. Photograph © Alain Laforest.

ON THE COVER: MAXXI/National Museum of XXI Century Arts, Italy, by Zaha Hadid Architects. Photograph © Iwan Baan.

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NEW THIS MONTH

House of the Month takes us to Christoff:Finio's 800-square-foot carriage house in New York City's West Village. Our video library features Rome's MAXXI Museum and interviews with Zaha Hadid, as well as a look at how the firm For Use/Numen creates the packing-tape cocoons featured in this issue's Snapshot.



[MAXXI MUSEUM]



[HOUSE OF THE MONTH]




[PACKING-TAPE COCOONS]

PLUS

BUILDING TYPES STUDY
Browse an expanded version of this month's overview of new health-care projects.

FEATURED HOUSES
In this new column, we present a group of recently completed projects that exemplify a housing type. This month, we profile projects that feature innovative uses of concrete.

VIDEO: FRANK GEHRY'S BEEKMAN TOWER
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Our Web site allows readers to share images of their design work – as well as their photography, their drawings, and their opinions. Below are some of the best contributions to the site from the previous month.



Reader Photo: Banyan Drive Tree House | Rockefeller Partners Architects | Los Angeles, California | Submitted by "al."

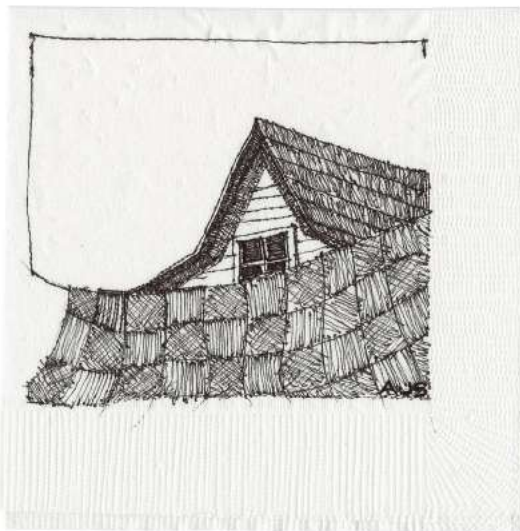
[COMMENTS]

An anonymous commentator lauds Autodesk's decision to reincarnate AutoCAD for Macintosh, announced in our story "Back by Popular Demand: AutoCAD for the Mac," but pushes the software giant to go further.

"Many thanks to Autodesk for venturing back into the light. Doing so with their core product certainly shows a deep commitment. And AutoCAD WS will be really cool on my iPhone. Now with all the compliments aside ... Give us Revit, please!"

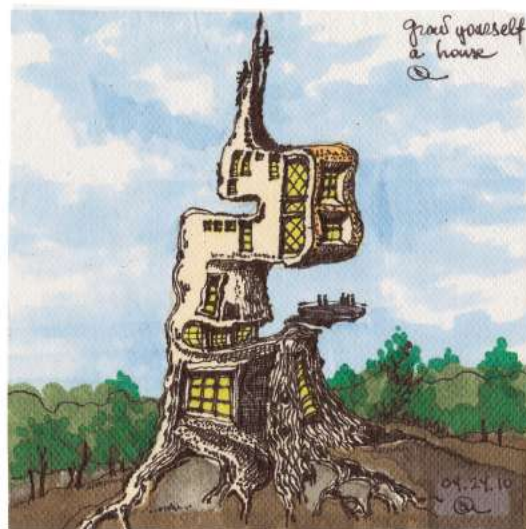
Cocktail Napkin Sketch Contest

In its August issue, ARCHITECTURAL RECORD published the winning entry and six runners-up in its first Cocktail Napkin Sketch Contest, sponsored by Centria. The jury, composed of RECORD editors, then supplemented these entries with nine more submissions for the Web presentation. Since then, the response, both in print and online, has convinced RECORD to publish two more entries from the Web-only group in this issue. (Unfortunately, space limitations prevent us from showing all nine.) The two we have selected include a quixotic submission in the "Off-Beat Entries" category (bottom), and an elegant sketch from "Entries of Merit" (top).



For a look at the gamut of print and Web finalists, including the winning cocktail napkin sketch by Truc Dang Manh Nguyen, please go to http://archrecord.construction.com/features/cocktail_napkin_sketch_contest/default.asp.

A.J. Staub, AIA | Consultant | Tupelo, Mississippi.



Aleksandr Sheykhet | Studio Obermeier-Sheykhet Architecture | Denver, Colorado.

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Coming to Life

With its infrastructure nearly complete, Ground Zero is rising.

BY ROBERT IVY, FAIA

AFTER NINE YEARS, GROUND ZERO is coming to life. If, in the intervening years, we have repressed our memories and ignored actual progress on the benighted 16-acres in Lower Manhattan, we can refamiliarize ourselves with its transformation, for the seemingly impossible is happening.

Of course, they said it couldn't be done. Conventional wisdom, tongue-waggers, critics of all stripes, and political naysayers have been prognosticating that we would never see the completion of the structures intended for the former World Trade Center site during this decade. So much worked against completion, not least the current economy, with its glut of office space in Manhattan. Yet all, including pundits at ARCHITECTURAL RECORD, failed to take New York grit into full account.

The recent solemnities surrounding September 11 brought Arlington, Virginia, and Shanksville, Pennsylvania, but especially Lower Manhattan into focus once again. The media attention reminded us that, not only did this nation and the world suffer grievous harm in the destruction of the lives lost at the World Trade Center, but that the 10th anniversary looms around the corner, with planning and architecture at the forefront of the healing process. We are literally stitching ourselves back together and dreaming again.

Many have lost their bearings since the heady days that Daniel Libeskind took center stage – a period during which everyone seemed to be familiar with the plans and the principal players involved. Today, the overall scheme reflects the chastening and clarity that come from a near-decade of political and social debate as well as the realities of more realistic budgets.

Where are they today? Frank Gehry has completely exited the scene, no longer engaged in an arts center. Libeskind's overall scheme, animated as it was by a powerful narrative, seems overwhelmed, if not totally lost in the proceedings. Calatrava's PATH station (now called the Transportation Hub) continues; the Fulton Street Transit Center (Grimshaw Architects and Arup, in collaboration with James Carpenter) has been simplified from the more ambitious original proposals. Snøhetta's cultural complex has morphed into a different purpose. Michael Arad's vision for the Memorial Pools remains, if his overall role has changed.

One World Trade Center, owned by the Port Authority of New York and New Jersey, seems to be rushing upward. At 38 stories as of this writing, the structure should reach as high as 90 stories by September of 2011. Designed by Skidmore, Owings & Merrill, the 1,776-foot-high tower (counting its spire) will overtop all other buildings in the United States. The megastructure is moving quickly: To miss a week of construction risks missing change and a few floors. A roster of potential tenants has been issued, including, surprisingly, Condé Nast, the publishing company, as well as governmental agencies such as the U.S. General Services Administration and New York State.

Highly visible, and receiving significant attention, has been the \$530 million Memorial Plaza at the center of the site. On receiving the final commis-

sion, the memorial's architect, Arad, was united with the landscape architect, Peter Walker. (Remember the title, *Reflecting Absence?*) In Walker's plaza scheme, 416 oak trees will ultimately surround the 8-acre plaza surrounding the memorial. Arad's concept, replacing the footprints of the twin towers with massive twin waterfalls (touted as the country's largest engineered waterfalls, with more than 400,000 gallons in circulation), remains. After sometimes-contentious discussion with stakeholders, the memorial will serve as a poetic focal point for the emotions and memories that still hover in this place.

As Libeskind proposed, sections of the slurry wall will remain, visible to public examination. The locus has shifted to the subterranean National September 11 Memorial and Museum designed by Davis Brody Bond Aedas, however. This repository of artifacts from the site, including massive steel members, is complemented by Snøhetta's aboveground entry pavilion, a refreshing polyhedron that likewise already houses the 70-foot-tall, trident-shaped columns that undergirded the original World Trade Center Towers.

The surprising constant on-site has been the presence of the developer, Larry Silverstein, whose tenacity is resulting in multiple structures, when some thought he might not ride out the economic and popular waves. His 7 World Trade Center, an elegant sheath with stunning views of Lower Manhattan, was the first major structure to be completed on the property. Silverstein's additional offerings include three buildings: Tower 4, designed by Fumihiko Maki, which is already under construction and may reach a height exceeding 45 stories by next fall; and Towers 2 and 3, by London architects Foster + Partners and Rogers Stirk Harbour + Partners, respectively.

New York's mayor Michael Bloomberg has matched Silverstein's tenacity. When the Memorial faced a lackluster fund-raising effort, Bloomberg took the reins as chairman of the National September 11 Memorial and Museum, and the foundation's fortunes began to rise like the towers. He has subsequently announced that the plaza will be complete for the 10th anniversary, on September 11, 2011.

Will the Sturm und Drang, the passions unleashed, the vagaries of the design and construction process cohere? What of the urbanistic implications or the design qualities of the actual structures? ARCHITECTURAL RECORD will continue to follow the progress on the World Trade Center site, as we have for the past decade, and serve as a focal point for opinions and news on this rapidly developing quadrant of the nation's conscience. Stick with us.



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Thinking big

I very much enjoyed Robert Ivy's editorial in the August issue about mega building and the Shanghai Expo [page 19]. It was one of his best: thoughtful, well-put, and focused on an important subject that needs attention. The disconnect between differing cultures' global views of mega building and social responsibility is an interesting topic, to say the least. Thanks.

Paul Morra
Mississauga, Ontario, Canada

Looney times

The CityCenter buildings in the photographs on page 101 of the August 2010 issue look so cartoonish that I would not have been surprised to see Yosemite Sam peeking around a corner of Murphy/Jahn's tilting towers or the Roadrunner streaking past Daniel Libeskind's Crystals. Ah ... Las Vegas, where reality both ends and begins, and where you get what you deserve.

Yip Yagoda
Peoria, Ill.

The harder they fall

Is the economy really so bad that architecture as a profession has resorted to turning tricks, or is it just ARCHITECTURAL RECORD? Ours used to be the second oldest profession, but the August issue indicates we may have joined the oldest. Profiling the colossal misguided use of resources and the proliferation of bad design under the innocuous heading of "Sand Castles" represents the pinnacle of RECORD's downhill slide. In the intro to "Desert Mirage: From Las Vegas to Dubai" [page 62], the editors ask for a more "considered debate"; here it is:

- Just because we can doesn't mean we should – regardless of timing.
- The "energy concern looming like a dust storm on the horizon" is here now and must be addressed now.
- Libeskind's Crystals project is flamboyance and kitsch, and is not urbanism and architecture. Apply what you know about the principles of architectural design, or do we need a refresher course in those, too?
- Excusing ourselves with "we can only ensure that [such behemoths] are proud and soaring things, not

Frankenstein-esque, XXL-size monstrosities" is defeatist and ironic.

Please pass onto the AIA that continuing education requirements in sustainability and good design should not be required if this is what our governing organization upholds as architecture worthy of study.

Elisa Pittner, AIA
Portland, Ore.

Between bookends

Regarding the August book review column, "Architects Write About Architecture": Robert A.M. Stern's *Architecture on the Edge of Postmodernism: Collected Essays 1964-1988* and Denise Scott Brown's *Having Words* continue the long-standing dominance of eastern- and transatlantic-establishment thought in our American architectural press. It needs to be said that there are other architects across all of North America beyond the eastern seaboard who have recently or are now writing about architecture, following in the great footsteps of Sullivan and Wright. I'm thinking of Jack Hartray, FAIA, in Chicago; Jim Gresham, FAIA, in Tucson; and (modestly) my own new book, *Archipelago-Critiques of Contemporary Architecture and Education*, University of Illinois Press. There are undoubtedly others that fall into this group. It must also be said that the works of architects in the vast midcontinent area have suffered a lack of exposure to the same degree that their authorship efforts have.

A. Richard Williams, FAIA
Tucson, Ariz.

Corrections

Beijing's National Aquatics Center reopened in early August, not September, as a News Brief in the September issue [page 42] suggested. The first name of Thomas S. Hines, a UCLA professor, was spelled incorrectly in a September News story [page 40] about a Daniel Burnham film.

Send letters to rivy@mcgraw-hill.com.



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[UPDATE]

Recovery? What Recovery?

While the country's economic future is looking a bit brighter, architects are still enduring the pains of a prolonged recession.

THE OVERALL ECONOMY may be experiencing the stirrings of a recovery, but the design industry is still reeling from the effects of a punishing and enduring downturn. Layoffs and closures continue to wrack the profession, while firms scramble for work and struggle to get paid, according to a sampling of architects around the country.

Although there have been signs of stabilization in recent months, including a slight uptick in the billings index, even employed designers worry about long-term prospects. "I'm still pretty bearish on private development in the U.S. for a while," says architect Scott Sarver, chief executive of Chicago's De Stefano + Partners, which has closed its Los Angeles office and shrunk from 150 to 75 employees in the past two years. In part because the firm is getting paid late, it's been forced to cut salaries and reduce its work week to 32 hours. De Stefano is now trying to save money by renegotiating its office lease, since it no longer needs 35,000 square feet, says Sarver.

But some firms have fared worse. In July, Lucien Lagrange, a condo-focused Chicago firm, filed for bankruptcy protection with up to \$10 million in debts, according to reports. Meanwhile, recent firm closures include Cubellis in Boston, Yamasaki Associates in Detroit, Powell/Kleinschmidt in Chicago, Rink Design Partnership in Jacksonville, Florida, and Grad Associates in Newark, New Jersey, which was shuttered in February after 104 years.

Freshly out-of-work architects are contributing to still-high unemployment numbers. In the second quarter, the unemployment rate in the architecture and engineering sectors (the government doesn't track architects alone) stood at 5.9 percent, according to the U.S. Bureau of Labor Statistics. While that is an improvement over the first quarter's 7.2 percent figure – and is much better than the nation's overall jobless rate of 9.6 percent – it still is high for an occupation whose unemployment rate is typically under 4 percent, says Abraham Mosisa, a bureau economist. "We're not breaking out the Champagne just yet," he says.

Plus, the bureau's numbers typically skew heavily toward engineers, who were possibly in hiring mode on account of federal stimulus funds, other economists say. While the unemployment figures might not indicate it, many architects are still facing a profound lack of work, they add.

Other forward-looking indicators are similarly troubling. Surveying assignments, which are a precursor to commercial development, are flat, analysts say. In Massachusetts, until 2008, for example, surveyors usually had enough work to keep them busy for four months, says Abby Goodman, executive director of the Massachusetts Association of Land Surveyors and Civil Engineers. Now, the backlog is nil, she says.

Also, the Architecture Billings Index (ABI), compiled by the AIA, came in at 48.2 in August. Though that beats July's 47.9 and June's 46, the index has not cleared 50 since January 2008, and anything less than 50 suggests a contracting industry. "Since last year, things have gotten worse



Left: . Iquamet, quametuer iusto et
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Construction of the 68-story Fontainebleau Las Vegas was halted due to financial problems.

5.9%

SECOND-QUARTER
UNEMPLOYMENT RATE
IN ARCHITECTURE &
ENGINEERING

Although there
have been signs
of stabilization in
recent months,
even employed
designers worry
about long-term
prospects.

48.2

AIA'S
AUGUST 2010
ARCHITECTURAL
BILLINGS INDEX

by whatever measure you use," says AIA chief economist Kermit Baker. He adds, however, that "things are getting worse at a much slower pace."

While unemployment is a problem, underemployment – workers whose hours have been curtailed through furloughs or shortened weeks – is of equal concern, says Rick Bell, executive director of AIA New York. There, as at other chapters around the country, just as many people are attending downturn-gear panels as a year ago, Bell says. In fact, New York's "Not Business as Usual" lunches, which began in 2008, still draw about 50 people twice a month. Similarly, the L.A. Chapter offers a popular series to introduce architects to new fields, like video games or set designing, says spokesman Will Wright. In Chicago, to accommodate a surge in people studying for licensing exams, the AIA center stays open all night twice a week, says Zurich Esposito, executive vice president.

While homes, corporate interiors, and retail projects may still be few and far between, not all is bleak. Oil and gas facilities are strong, according to architects in Oklahoma, where the energy industry is dominant. School projects in New Orleans that are tied to the reconstruction after Hurricanes Katrina and Rita are plentiful, architects say.

Hospitals also are reliable, says Hal Sibley, AIA, a principal at L.A.-based HMC Architects, which is designing medical facilities in California and China. But the firm, which laid off 20 percent of its workforce from 2008 to 2009, or 100 of 500 people, is not entirely insulated. Because HMC's hospital projects will wind down in the next few months, Sibley says, "2011 will be a little scary for us." *C.J. Hughes*

[IN PROGRESS]

U.N. Headquarters Gets \$1.8 Billion Face-lift

AFTER YEARS of intense preparation, the United Nations headquarters in New York City is undergoing its first major refurbishment since the 17-acre complex was erected along the East River shortly after World War Two.

The sweeping renovation won't come cheap, at \$1.87 billion, with the cost to be split among all 192 member nations. But when it is completed, in 2015, the five-structure complex, whose original 11-member design team included Le Corbusier, Oscar Niemeyer, and Wallace K. Harrison, may look more Modernist than it has for decades. The well-known Secretariat Building, designed by Corbu and Niemeyer, will look especially different. "The building was a prince; it turned into a frog, and we have to turn it back into a prince again," says architect John Gering, AIA, a managing partner with HLW International, the New York firm in charge of the lion's share of the project.

By May, the U.N.'s 5,000 staff members had relocated to a handful of nearby high-rises, whose offices have been styled to resemble the U.N. facilities. Meanwhile, the highest-level officials, includ-

ing the Secretary-General, are staying on-site in a temporary building – a three-story, 230,000-square-foot structure designed by HLW.

While the Secretariat and Conference buildings, both completed in 1952, will be upgraded, the tower will receive a far more extensive makeover, primarily because of asbestos found in floor tiles and around plumbing.

Plus, the goal is to give the Secretariat's upper stories brighter, more open layouts – ceilings by windows will be raised while internal, nonstructural walls on each of the building's 40 floors will be removed. Indeed, 2,400 separate offices will dwindle to just 500, resulting in larger, more flexible spaces that can easily host impromptu meetings, says architect Michael Adlerstein, AIA, the U.N. assistant secretary who is overseeing the project.

Also, to improve energy efficiency, double-pane windows will replace the Secretariat's single-layer versions. In the process, the facade will lose its recognizable green tint, which comes from film added over the years to minimize glare, says architect Bob Heintges, FAIA, of R.A. Heintges &



Major renovations are planned for the five-structure, 17-acre complex on Manhattan's East Side.

Associates, the New York firm in charge of replacing them. Syska Hennessy Group, a New York engineering and construction firm, will revamp the building's mechanical systems.

To that end, both the Secretariat and Conference buildings will be made compliant with city codes, as they add sprinklers and wheelchair ramps, along with fire barriers inside mail chutes. Even though the U.N. isn't required to meet these codes, as it technically sits on foreign soil, Secretary-General Ban Ki-moon insisted on it, particularly as regards energy standards, Heintges says.

While the U.N. campus will be notably updated, the renovation also aims to preserve much of its Eisenhower-era look. In some respects, the project will even bring the complex closer to its original appearance. Naugahyde furniture coverings and Formica countertops will be retained, says

Adlerstein, adding that signs with period-specific Neutra typefaces that were removed decades ago will be replaced with facsimiles. In addition, much of the art donated by member nations, which lines the hallways of the Secretariat and Conference buildings, will be restored off-site and returned.

There will also be some mixing of antique and new: Ashtrays mounted on conference tables will be reconfigured for electronic devices, Adlerstein says, and similar versions by elevator banks will become vases.

"The U.N. has been very mission-oriented, and any money they got, they usually spent on food, peacekeeping, and disease," he says. "Now, they are finally getting around to fixing their house."

The project's second phase, which will focus on the slope-roofed General Assembly building (1952), doesn't start until 2013, when architecture firm Einhorn

Yaffee Prescott will oversee a renovation that restores the soaring chamber's wooden walls and adds new audio and video systems. Also a priority is repairing the roof's small dome, whose copper-seam edges often leak.

Delegates from member nations who usually meet in the General Assembly will relocate to the temporary building, where a pair of adjacent conference rooms will be combined to accommodate the entire 1,000-seat body, Gering says.

Upgrading the U.N.'s complex, which now has three times as many members as the year it opened, is a pragmatic investment, says Stephen Schlesinger, the author of *Act of Creation*, a 2003 book about the institution's birth. But it's also a symbolic gesture, he says. "It's a very optimistic thing. It's saying, 'This is the way the world will be guided and shaped over the coming decades.'" C.J. Hughes



The General Assembly building opened in 1952.

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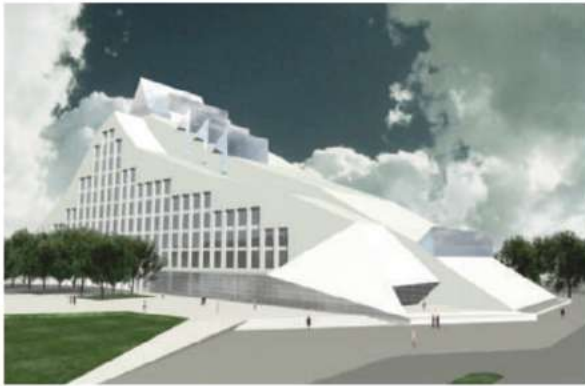


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[GUNNAR BIRKERTS]



The Latvian National Library design was conceived in 1991.

A Decades-Old Project Finally Gets Built

GUNNAR BIRKERTS, FAIA, a Latvia native now based in Massachusetts, won the commission to design the Latvian National Library in 1991 – the same year the country gained independence from the Soviet Union. But the high-profile project never got off the ground due to funding woes.

Now, nearly two decades later, construction of the library is finally under way in the capital city of Riga. Given that Latvia has been hit hard by the economic crisis, “it’s really amazing that the project is still moving forward,” Birkerts says. Equally amazing is the fact that Birkerts’s original design has been maintained. “There has been enormous change within the building,” Birkerts says, “but the shell has not changed.”

The architect conceived an asymmetrical “glass mountain” inspired by a Latvian folktale about three men scaling a glass mountain on horseback to rescue an imprisoned princess. The story, and his design, are related to Latvia’s quest for independence. “It’s a fable that absolutely everybody knows. And it was expressive of the political situation at the time, breaking away from the Soviets to strike out on our own as a nation.” Large expanses of glass on

the facades will be combined with stainless-steel walls and roofs. Inside, the 13-story library will contain six million books overlooking an atrium. Completion is slated for 2012.

The \$300 million building, designed in collaboration with local architect Modris Gelzis, is rising on the banks of the Daugava River, facing Riga’s historic center. It will anchor a new development that includes a government center, university buildings, and a concert hall. The location is part of an effort “to keep developers out of the Old Town,” says Birkerts. “We are doing this with the help of UNESCO, which has declared Old Riga a protected area.”

Birkerts turned 85 this year, and this project caps a long career commemorated in the new monograph, *Gunnar Birkerts: Metaphoric Modernist*, published by Axel Menges. After studying in Stuttgart, Birkerts worked in the offices of Eero Saarinen and Minoru Yamasaki before establishing his own practice outside of Detroit in 1962. Among his best-known works are the Federal Reserve Bank of Minneapolis (1973), the Kemper Museum of Contemporary Art in Kansas City (1994), and the Corning Museum of Glass (1980), in Corning, New York. *David Cohn*

[STEVEN HOLL]

New Library Part of Grand Plan for Hunters Point

PUBLIC LIBRARIES ACROSS the country are cutting employees and closing facilities, but one that serves the borough of Queens, New York, is taking an opposite tack: It is planning to open one of its largest branches to date, and it has hired architect Steven Holl to design it.

The city announced in July that it had chosen Holl to design the 20,000-square-foot facility, which will sit by the East River, across from the United Nations complex. The \$21 million project, which is set to be completed in 2013, will break ground next summer. A schematic design will be unveiled in November.

The Hunters Point neighborhood, where the library will be built, has undergone a major transformation since the 1990s. The former rail yards now feature a half-dozen residential high-rises, a public school, and parkland. Four new apartment towers, a second school, and more parks are planned.

The library is expected to offer shelving for 85,000 books and DVDs, as well as a performance space and offices. It also will have slightly more room for community meetings than other facilities, up from 75 seats to possibly 100, says Peter Magnani, a library director. Also on the site will be an information kiosk for Gantry Plaza State Park, located next door.

“This is a really important building for us from a public-relations perspective,” since it will be visible from high-traffic roads such as the FDR Drive and the Queensboro Bridge, Magnani says. “The message it will send is that our library is a beacon of knowledge.”

The Hunters Point library, which will be the 63rd in Queens, will serve a borough that takes reading seriously. With 23 million items loaned a year, the library system is reportedly the busiest in America. (In New York, the Queens Library operates separately from the New York Public Library, which serves Manhattan, the Bronx, and Staten Island).

Holl, who is based in New York, has designed a smattering of projects there, including the Higgins Hall Center (2005) at Brooklyn’s Pratt Institute. More recently, the firm designed the Campbell Sports Center for Columbia University, where Holl is a tenured architecture professor. The planned five-story, 48,000-square-foot complex, which will abut Baker Field where Columbia’s football team plays, is to feature offices, an auditorium, and hospitality space, though its design is a work in progress.

The Queens library would be Holl’s first public project in New York. Because funding will come from public sources, the firm’s selection was made by a city agency, the Department of Design and Construction, which picked Holl from among a short list of eight candidates who participate in its six-year-old Design and Construction Excellence program.

For Chris McVoy, senior partner at Steven Holl Architects, New York’s decision to boost library service while similar institutions make reductions speaks to a larger point: The Internet may not be as detrimental to physical texts as first thought. “A decade ago, people were predicting the death of books,” he adds, “and we have found the opposite to be the case.” *C.J. Hughes*



In Queens, an industrial area is being transformed into the Hunters Point mixed-use district.



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[RAFAEL VIÑOLY]

Work to Begin on Kennedy Institute in Boston

CONSTRUCTION IS SCHEDULED to begin this fall on a center conceived by the late Senator Edward Kennedy to teach students about the inner workings of government.

In July, the Edward M. Kennedy Institute for the United States Senate unveiled the design of its forthcoming home, to be built on the Boston waterfront alongside I.M. Pei's John F. Kennedy Presidential Library and Museum. The \$60 million building, by Rafael Viñoly Architects (RVA), is slated to be finished in 2013.

RVA won a competition to design the institute last year. Although the firm's selection was not publicly announced, Senator Kennedy was apprised of the decision before he died on August 25, 2009, from brain cancer, at the age of 77, according to an institute spokesman.

While its exact size is not yet final, the building will include 40,000 square feet of public space, says RVA architect Martin Hopp, the project's direc-

tor. A replica of Kennedy's Capitol Hill office, with his desk and framed pictures, will be featured inside, along with classrooms, galleries, and a scaled-down replica of the Senate chamber. These elements elevate the project beyond mere memorial status, says Hopp, adding, "We're excited about the civic role this building will play."

With large basic geometric forms and cast-concrete walls, the building will strongly echo the



The institute (foreground) and Pei's JFK Library.

Kennedy library, whose cylinder-and-wedge contours were created by Pei in 1979. The low-slung institute will sit at the end of an entrance path likely suspended on a bridge and lined by 25 glass posts per side, to represent the 50 U.S. states, Hopp says. Visitors will enter an atrium, which will lead to a central gallery. Cafés will occupy triangular corner sections, Hopp adds, while classrooms will ring the perimeter.

Though the simulated Senate chamber will offer modern flourishes, like desks fitted with computers, it will contain 100 seats – two for every state – like its Washington, D.C., counterpart. "If we do this correctly, you will have a Senate-like experience," says Peter Meade, president of the institute, which was founded in 2003.

Since fund-raising began in 2009, the institute has collected \$88 million, from both individuals and the government, toward a goal of \$100 million, which would cover the building's construction and operating costs, Meade says. The adjacent Kennedy library, meanwhile, is undergoing its own \$22 million expansion; construction is under way on a new 30,000-square-foot wing designed by Einhorn Yaffee Prescott. *C.J. Hughes*

[DEMOLITION ALERT]

In Aspen, Wrecking Ball May Swing on Weese Building

A LITTLE-KNOWN building in Aspen, Colorado, designed by the late Chicago architect Harry Weese – whose most celebrated work is the Washington, D.C., Metro system – is threatened with demolition. Built in 1972, the Given Institute is a small

concrete-block conference center that sits on a 2¼-acre lot in Aspen's pricey West End residential neighborhood. The Given is owned by the University of Colorado School of Medicine, which for years has used the 12,000-square-foot structure for summer

conferences and retreats. Faced with ongoing budget cuts, the school now plans to close the Given and sell the property. It is negotiating with a potential buyer, who has offered \$15 million, provided Weese's building is torn down. The city of Aspen hopes

to save the Given. "This isn't just some random, nice Modernist building that appeared here," says Amy Guthrie, Aspen's historic preservation officer. "It really is directly tied to the community's history as a cultural and intellectual center."

Aspen voters may have the chance to decide in November whether the city should spend tax dollars to buy the Given. But that could be a hard sell in the current economy, says Ziska Childs, a production designer and preservationist who started a "Help Save the Given Institute" Facebook page. "I don't think there's any chance of it passing," Childs says. She points out that because of the Given's relatively isolated location and limited use, many Aspenites don't even know it exists.

City council members have already rejected one plan that would have asked voters to allow the city to match the \$15 million offer to buy the Given. A new pro-

posal, however, could still end up on the November ballot.

The dispute over the Given comes at a time of renewed interest in Weese, who died in 1998. A recent article in *Chicago* magazine chronicled the architect's thriving career in the 1960s and '70s and his alcohol-fueled decline. And architectural historian Robert Bruegmann has written the forthcoming book, *The Architecture of Harry Weese*, the first critical study of the architect's work.

In addition to the Washington Metro, Weese, who studied under Eliel Saarinen at the Cranbrook Academy of Art, designed the Brutalist-style Arena Stage, also in D.C., and Chicago's Time-Life Building. Bruegmann calls the Given one of Weese's most important works. "It's a quirky building that shows the whimsical side of Harry," Bruegmann says. "To tear it down would be an act of cultural vandalism." *David Hill*



Designed by Harry Weese, the Given Institute (1972) is owned by the University of Colorado.



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Zaha Tapped for Iraq Project



WATCH VIDEO

Watch an interview with Zaha Hadid.

Baghdad-born Zaha Hadid has won the first commission in her native country: a new headquarters for the Central Bank of Iraq. Details are slim, but an official statement from London-based Zaha Hadid Architects says it will prepare a feasibility study and concept design for the project. It adds that the firm met with the bank's technical committee on August 14 in Istanbul, Turkey, to discuss the "success criteria and the operational functions that will be performed by the bank." The bank's current headquarters, designed by Dissing+Weitling and completed in 1985, reportedly was attacked in June by insurgents. Hadid, who won the Pritzker Prize in 2004, has not been back to Baghdad since 1980. *Laura Raskin*

The Stantec Buying Spree

The megafirm Stantec has announced that it plans to purchase the design firms Anshen + Allen and Burt Hill Architects, along with ECO:LOGIC Engineering. The acquisitions would mark the seventh, eighth, and ninth for Stantec this year. "We have the largest architecture firm in Canada, and we wanted to build something similar in the U.S.," says Jay Averill, company spokesman. Anshen + Allen has roughly 200 employees with offices in San Francisco; Columbus, Ohio; Boston, and London; Burt Hill has more than 600 employees in 13 offices, including three offices overseas. Stantec has acquired 70-plus companies since 1997; today, it has about 10,000 employees in 150 locations. *Laura Raskin*

Toyo Ito Wins Global Arts Prize

He might not have nabbed this year's Pritzker, but Toyo Ito has won another prestigious, global prize: a 2010 Praemium Imperiale. Established by the Japan Art Association in 1989, the annual awards recognize lifetime achievements in artistic disciplines not covered by Nobel Prizes. Each winner receives 15 million yen (approximately \$169,000). In addition to Ito, the 2010 laureates are Sophia Loren (theater/film); Enrico Castellani (painting); Rebecca Horn (sculpture); and Maurizio Pollini (music). *Jenna M. McKnight*



Pugh + Scarpa Split Up

Gwynne Pugh and Lawrence Scarpa, the founding partners of Pugh + Scarpa – winner of the 2010 AIA Architecture Firm Award – announced on September 12 that they have parted ways. "It has not been a nasty divorce, so to speak," says Scarpa. "We've done it amicably." Gwynne Pugh left the 22-year-old, Santa Monica-based practice to start his own enterprise, Gwynne Pugh Urban Studio. Scarpa remains at the helm with Angela Brooks, who became Pugh + Scarpa's third principal in 1999. They plan to change the firm's name to Brooks + Scarpa in 2011. *Tim McKeough*

PHOTOGRAPHY: COURTESY ZAHA HADID ARCHITECTS (LEFT); © THE SANKEI SHIMBUN (RIGHT)

WHAT IS ROOFING FOR

AutoCAD for Macs

Many Mac users were deeply disappointed in 1994, when Autodesk stopped producing AutoCAD software for Apple machines. Now, 16 years later, it's back in the game: This fall, Autodesk will release AutoCAD 2011 for Macintosh, with a suggested retail price of \$3,995. "If there are Windows users out there who want to switch to the Mac, we'll make that possible for a small fee," adds Autodesk spokesman Noah Cole. The company also will release AutoCAD WS, a mobile app that allows users to share their AutoCAD designs in the field using iPhones, iPads, and iTouches. *Charles Linn, FAIA*



Not Your Standard Sukkah

On September 19 and 20, a dozen temporary shelters were scheduled to be on view in Manhattan's Union Square in advance of the Jewish harvest festival Sukkot. The structures are the result of a juried design competition, organized by Reboot and Union Square Partnership, that sought contemporary interpretations of the sukkah – a hut that evokes the provisional shelters Jews dwelled in during their 40 years of exile. All "Sukkah City" shelters will be auctioned off to benefit Housing Works, an organization that helps the homeless. *Carl Yost*



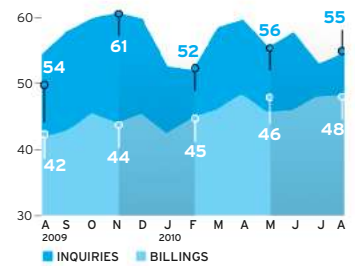
Key Leaders Quit RMJM

One of the world's largest architectural firms, Scotland-based RMJM is losing three key executives, in addition to two others the firm lost within the past 10 months. David Pringle, C.E.O./Asia and Middle East; Gordon Affleck, design director/Middle East; and Colin Moses, international principal/Europe will all leave at

the end of this year. Hugh Mullan, managing director in the Middle East, left in May, and Adrian Boot, another international principal based in Europe, left in November 2009. An RMJM spokesman says he is uncertain whether the firm will hire replacements for the departing leaders. *Tim McKeough*

Billings Rise

The Architectural Billings Index hit 48.2 in August, up slightly from prior months. Still, anything below 50 denotes a decrease in activity. "Project cancellations, regardless of when they happen in the design phase, continue to be the main roadblock to recovery," says AIA chief economist Kermit Baker. "Numerous projects have been put on hold indefinitely over the past several months, with little hope that they will be resumed." The new inquiries score was 54.6, up from July's 53.1.



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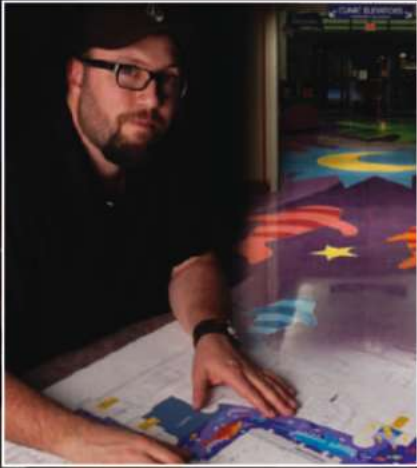
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REC Arquitectura



PRINCIPALS: Gerardo Recoder, Maria J. Jimenez, Ivan Recoder

LOCATION: Mexico City, Mexico; Madrid, Spain

FOUNDED: 2002

DESIGN STAFF: 10

KEY COMPLETED PROJECTS:

Banjercito Principal Bank, D.F., Mexico, 2004; Petatglass, Morelos, Mexico, 2007; Origami, Morelos, Mexico, 2008

KEY CURRENT PROJECTS: Art Center, Morelos, Mexico, 2010; Zacate Library, Morelos, Mexico, 2010; Dos Torres Skyscraper, D.F., Mexico, 2011

WEB SITE: recarquitectura.com

"I DON'T DRINK COFFEE, but if I did I would never sleep," says Gerardo Recoder (above right), lead designer and coprincipal of REC Arquitectura, based in Mexico City, with a satellite office in Madrid, Spain. Talking to Recoder, you wonder if he sleeps at all, despite his lack of caffeine. The work that he and his co-principals – his engineer brother Ivan and designer Maria Jimenez, who runs the Madrid outpost – have accomplished in the scant eight years REC has been in business is impressive, if not hard to imagine. Since graduating from the Autonomous Metropolitan University in Azcapotzalco, Mexico, in 2000, Recoder has started and maintained his now-10-person practice while still working for and with other firms – including TEN Arquitectos and Abraham Zabudovsky in Mexico – earning an M.Arch. from the Madrid Polytechnic University in Spain, and completing at least a dozen projects, from private residences to multifamily housing and a showroom, a bank, an office building, and a retail store. Another handful of projects is on the boards, including houses for Habitat for Humanity. "We like to run," he says, "and we don't mind carrying weight when we do. It's not easy, but it's good for us."

To Recoder and his team, running doesn't mean jumping on the bandwagon, especially when it comes to sustainability. Take photovoltaics, for example. "We have to be smart when we are designing," he says, "Things need to have the right reason behind them. When the energy used to make solar panels is more than what you can save by using them, then it doesn't make sense. We use them when it's appropriate, such as for the lights in a parking garage we did. We're always investigating and trying to do more with less."

More with less can mean experimenting with passive solar, ventilation, and green-wall techniques, like REC's Ivy office building in Cuernavaca, Mexico, exploring new uses of common materials such as a wall of "Zote" soap used



ABOVE: Designed in phases to resemble an arts "village," this 41,000-square-foot university arts complex will have new construction as well as some adaptive reuse.

RIGHT: The La Rioja project, in Calahorra, Spain, proposes a new strategy within a multifamily-housing unit, where inhabitants can trade or exchange dwelling units to suit their changing needs.



in the firm's Origami showroom, or the "palapa," or thatched wall, used in its Petatglass retail space. It can also mean reusing what was already there, as the firm is doing with the 41,000-square-foot arts complex for the Universidad Autónoma

del Estado de Mexico. The three-phase project will include adaptive reuse and result in an "arts village" with classrooms, an animation lab, cafeteria, auditorium, library, gallery, and general administration space.

While most of the aforementioned projects are in Cuernavaca, a city Recoder says is especially open to architectural innovation, it's only the surplus of Mexican projects that is keeping the firm from seeking more work worldwide. "To know where you're from, you have to get away from it. Being away from Mexico has made me understand more what's needed here in the built environment. And what's needed here is community." Recoder says he's a fan of medieval cities, where "the carpenter lived above his workshop. We always try to give the street more life."

And how big does he want to grow his firm? "It's more important for us to adjust than to grow," he says. "Remember the Concord? How did the Concord close down while Ryan Air is still in business? Better to be Ryan Air in these times than the Concord." *Ingrid Spencer*

LEFT: Culture, cultivation, and domesticity are the inspiration for this library complex for the Universidad Autónoma del Estado de México.



[NONPROFIT]

SCALEAfrica: Side project to life mission

MANY EMERGING professionals moonlight, but Erinn McGurn's side project, a nonprofit organization dedicated to building sustainable schools in Africa, became her full-time focus. For four years, McGurn spent evenings and weekends – outside her position as director of a high-end residential firm in New York City – designing and establishing a support base to fund projects that are transforming lives.

In 2005, McGurn and her husband, Guy, who is originally from Zimbabwe, traveled to Mfuwe, Zambia, for a safari. They hoped to visit a local community, and their lodge staff directed them to nearby Chititika Basic School. The primary school was underfunded and overcrowded, and the headmaster faced the challenge of educating without basics such as desks, chalkboards, and textbooks. After returning home, the McGurns sent books to ful-

fill the headmaster's single request and continued to exchange letters. Word reached them that a storm had destroyed the school's roof, and it was "no longer an abstract issue halfway around the world, but an event that impacted people we had come to know." The couple returned to Mfuwe in 2006, and shortly after, SCALEAfrica was formed. Since SCALEAfrica's work is funded entirely from private donations, each day Erinn switched gears from catering to wealthy clients,

and perfected her marketing and fund-raising skills. She prioritized a series of multiphased projects to restore the school's roof, add a new classroom block and Life Skills Workshop, and provide basic educational materials including desks. These steps are complete, and next on the horizon is improved sanitation and teacher housing. McGurn completed all design and construction documents, and she ensured that the school was affordable by incorporating sustain-

able strategies, including local labor and building materials, passive solar techniques, and natural ventilation. SCALEAfrica carefully navigated local politics while maintaining sensitivity to traditions and community feedback. "You have to be respectful and leave Western expectations out of it," McGurn insists. She worked closely with officials to secure approvals from the Ministry of Education, and the project received a blessing from the chief of the Kunda tribe. McGurn recently left the demands of high-end residential design to con-

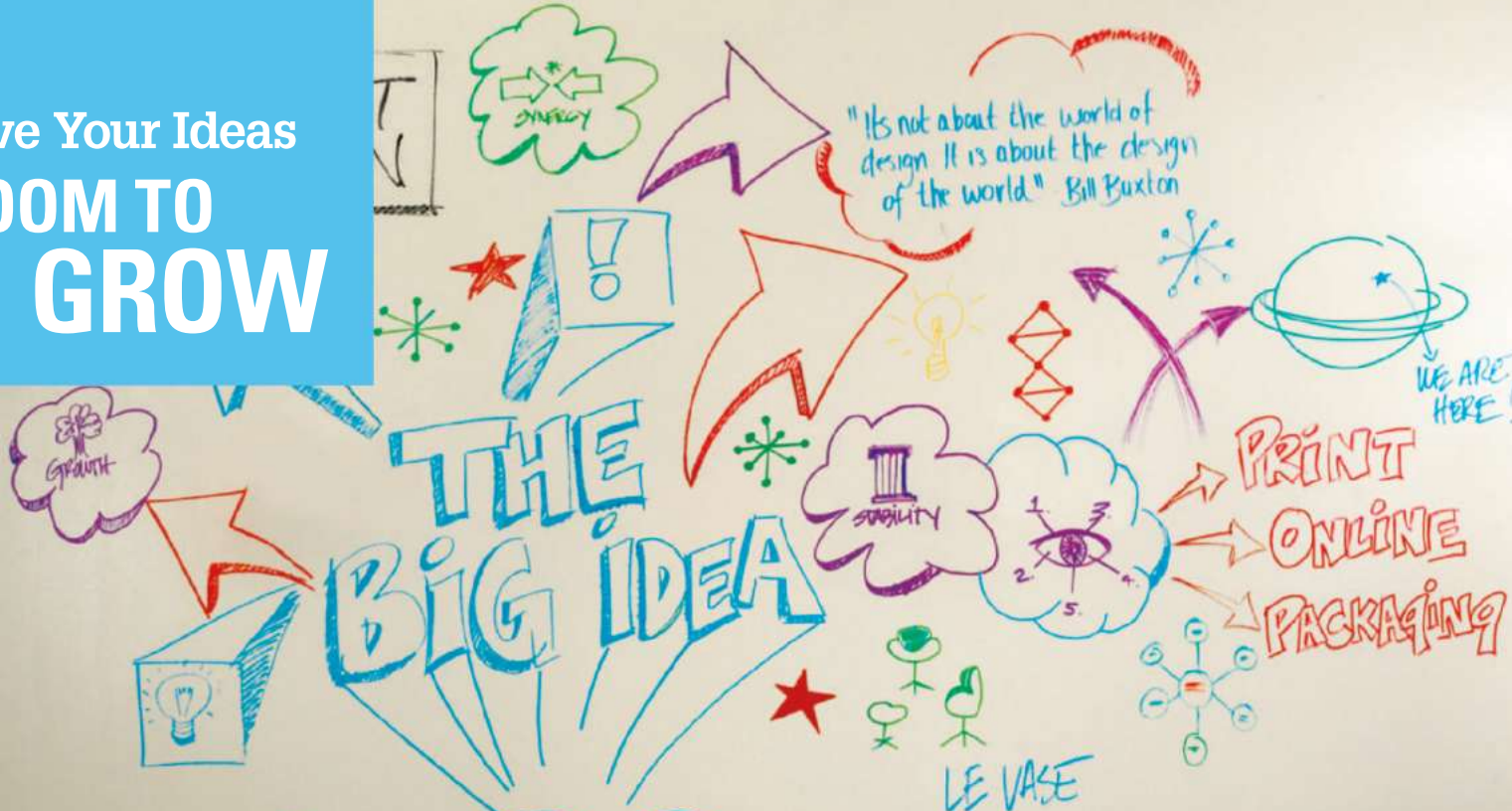
centrate on SCALEAfrica. Now a licensed architect, she also opened her own revenue-generating office, SCALEStudio, through which she completes sustainable renovation projects, and she plans to tackle similar school projects and housing in Haiti. Fittingly, the name SCALE originated from the desire to create a scalable model for sustainable design that could be successfully re-created in a variety of locations. "People feel they have to do something grand for it to matter," says McGurn, "but the gesture can be as simple as sending a dictionary or building a few extra classrooms. Through this process, I learned the lesson about how you give versus what you give, and it's really only about the how." *Murrye Bernard*



1. Erinn McGurn with students and teachers from Chititika Basic School.
2. SCALEAfrica's work included new classrooms.

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Varied Responses to Vague Theme at the Venice Biennale by Diana Lind



THE INTERNATIONAL ARCHITECTURE

exhibition produced every two years in Venice is a sprawling, humid, one-stop shopping experience. When done right, it's also exhilarating. Though the strategy of showcasing architecture's freshest ideas through national pavilions and exhibition galleries has had its drawbacks in the Architecture Biennale's 30-year history, high-quality submissions help make this year's show feel curated. The recurring threads of sustainability, adaptive reuse, and traditional building methods – while planning for an uncertain future – give the show an underlying coherence.

This year's director, Kazuyo Sejima of the Japanese firm SANAA, chose a remarkably enigmatic theme for the Biennale – *People Meet in Architecture* – which may alienate the audience and architects, but by virtue of its vagueness makes almost every project feel tangentially related to it. Is Sejima celebrating the way architecture provides the place for human exchange, or is she urging architects to refocus their energies on people, rather than architecture's competing priorities of economic development, environmental sustainability, and technological innovation?

This year's pavilions and exhibitions address these questions with varying directness. Most of the exhibitions in the voluminous, brick-walled rooms of the Arsenale take a loose interpretation. Olafur Eliasson's *Your Split Second House*, a

pitch-black room with pulsing stroboscopic lights that illuminate wildly lashing water hoses making violent noise, seems to have no agenda other than to intrigue and delight visitors. Nearby, the German climate-engineering practice Transsolar offers *Cloudscapes*, where condensed air forms clouds one can walk into by ascending curving ramps.

Other responses to Sejima's mandate encourage visitors to rethink their experience of architecture and how they see themselves within it. One playful look into this topic can be found in the Romanian Pavilion. With a population density in urban Bucharest of one person per 1,000 square feet, the Romanian team, led by Tudor Vlasceanu, created an all-white rectangle, positioned on a bias within the gallery, which represents the dimensions of this space. Small circles in the sides of the construction give visitors a view inside the box, while a door allows one visitor at a time to experience the interior. Bluntly demonstrated is the voyeuristic nature of architecture and the way in which buildings without people feel meaningless. When no one stands inside the ark, the space looks like a sterile void; with a person within it, the space is suddenly like a highbrow peep show, dramatized by the simple, brightly lit, white aesthetic.

It seemed that Sejima's firm, SANAA, hoped to elicit similar reflection on how buildings are enlivened by people and vice versa with the 13-minute film, *If Buildings Could Talk....* But

TOP: *Cloudscapes*, an Arsenale exhibition designed by Transsolar, features clouds and curving ramps.

BELOW: In the Romanian Pavilion, a team led by Tudor Vlasceanu created an all-white rectangular room with peepholes. Its size accords with the population density of urban Bucharest, which is one person per 1,000 square feet.





1



2



3

1. Rietveld Landscape, chosen by the Netherlands Architecture Institute to curate the Dutch Pavilion, created a blue-foam model of vacant government buildings in the show, *Vacant NL*.

2. On display in Bahrain's Pavilion are three fisherman's shelters in the exhibition *Reclaim*, curated by Noura Al-Sayeh and Fuad Al-Ansari.

3. John Portman's Peachtree Center is part of the U.S. Pavilion show, *Workshopping*, organized by the High Museum of Art, Atlanta, and 306090, Inc.

whereas the Romanian Pavilion achieves this goal with its understatement, the 3D treatment by celebrated director Wim Wenders feels a little overwrought, its interpretation of Sejima's theme a little too explicit. The film's voice-over explains how SANAA'S Rolex Learning Center in Lausanne, Switzerland, and the people within it are nourished by each other's presence, while accompanying footage shows close-ups of people breathing deeply, eyes closed. Buildings should be left to do the talking.

The display at the Kingdom of Bahrain's debut pavilion, which won the Golden Lion Award, is far

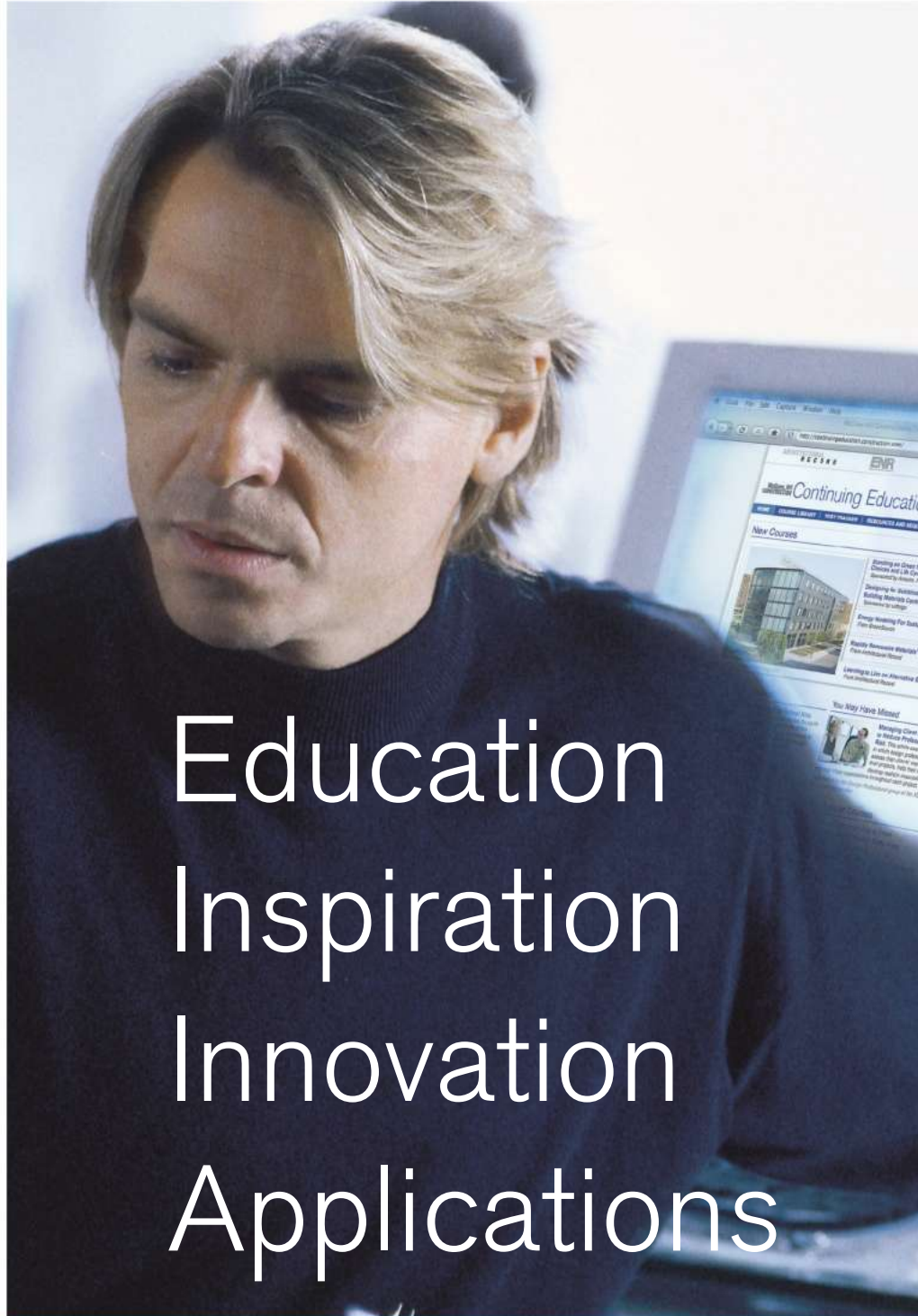
more effective at capturing the interchange between people and architecture. *Reclaim* examines the consequences of rapid urban development on a tiny country that has long lived off fishing and pearling in the sea. Installed in the space are three small wood shacks that once served as fishermen's shelters. Flat screens within the shacks show footage of fishermen lamenting their loss of connection not only to the sea but to these structures.

Numerous pavilions reassure visitors that architecture is still the best tool for ensuring a more sustainable future, primarily through

better, denser urban communities. The U.S. Pavilion, *Workshopping*, takes a modest look at architecture's problem-solving capacity. Practices such as Archeworks, which exhibits a mobile agricultural project, and cityLAB, which cleverly shows how to make Los Angeles denser by adding small houses to backyards, points out that entrepreneurialism and experimentation is critical to the sustainability not only of our cities but of the architecture profession. Michael Shapiro, director of the High Museum of Art, in Atlanta, an organizer of the U.S. Pavilion (with 306090, Inc.), chose to also bring in a display of John Portman & Associates' 40-year-long development of the Peachtree Center in Atlanta. But despite their individual merits, the seven exhibits within the pavilion do not feel conceptually linked.

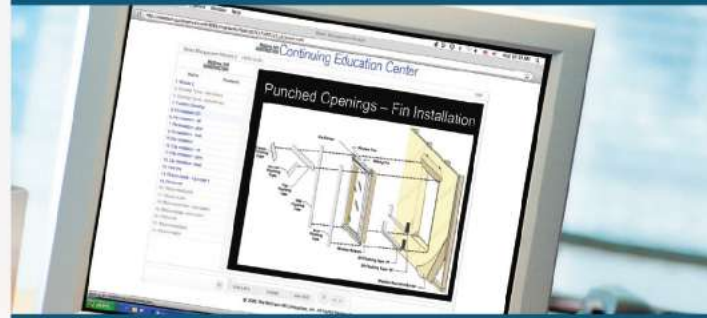
Vacant NL, the Dutch Pavilion, curated by Rietveld Landscape, includes a picturesque urban blue-foam model balanced on wires strung from the pavilion's mezzanine level. The exhibition highlights the problem of vacant public buildings in the Netherlands, noting that the Dutch Pavilion is used only three months a year. With regard to the intentions, Ole Bouman, director of the Netherlands Architecture Institute, which organized the show, writes, "A good building makes something happen beyond the building itself." That goes for the Biennales. This Biennale will undoubtedly extend its influence beyond the exhibition itself with the humble reminder that architecture is only as relevant or meaningful as the people and their activities within it. ■

Diana Lind is program director of the New Cities Foundation and an editor at Next American City.



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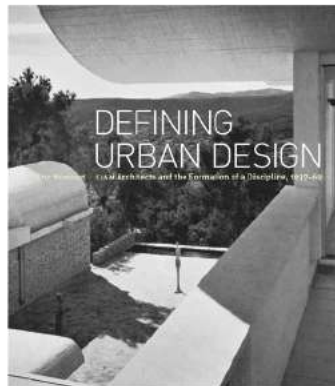
Urban Design: Then, Now, and Tomorrow

Defining Urban Design: CIAM Architects and the Formation of a Discipline, 1937–69,

by Eric Mumford. Yale University Press, 2009, 262 pages, \$55.

You'll appreciate this book if you are looking for a fact-packed narrative that traces multiple strands of 20th-century design history. If not, this could be a tedious read. Citing dates, places, projects, and programs galore, Mumford interweaves personalities, ideologies, organizations, and pedagogies spanning four decades marked by changes in every area of life. Fortunately, a 10-page chronology helps track some of the strands.

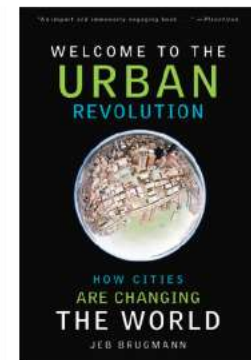
When the International Congress of Modern Architecture (CIAM) was founded in 1928, design was considered a continuum of activity, encompassing everything from furniture to architecture to entire cities. With its reformist, anti-historicist mantra, CIAM espoused innovative urban planning to remake cities per Corbusier's "La Ville



Radiusee," a centrally planned community of the now-famous towers in parks. Received wisdom in recent decades is that misguided CIAM strategies yielded dysfunctional urban development. But Mumford's thesis is that CIAM thinking diverged after the 1930s as architects better understood and appreciated city history, form, and ecology. Mumford argues that evolving CIAM concepts and theories were precursors of today's widely embraced urban design aspirations and principles.

He argues that Harvard's Graduate School of Design (GSD) was America's urban design (UD) incubator after World War II, and its dean, Josep Lluís Sert, is the book's ultimate hero. In the 1950s and '60s, Sert and the GSD organized UD studios, sponsored annual UD conferences, issued UD publications, and hosted UD guest critics from around the world. Mumford writes that in the "Harvard urban design program the ideas of mixed-use, low-rise, high-density housing, and compact planning to conserve natural resources were all strongly present by 1961."

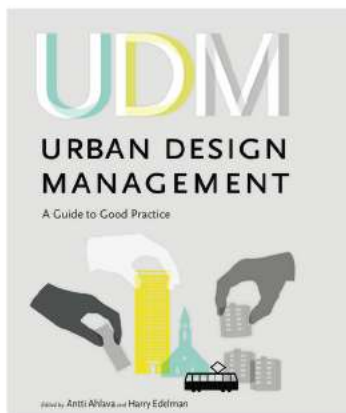
Mumford's treatment of building design as if it were urban design is sometimes inappropriate. Perhaps more important, he refrains from analyzing the complex forces – consumer taste, real estate finance, land-use policy, government regulation, public investment – that shape cities. So this book thoroughly documents the history of an important discipline but does not explain why cities ultimately look the way they do. *Roger K. Lewis*



Welcome to the Urban Revolution: How Cities are Changing the World, by Jeb Brugmann. Bloomsbury Press, 2009, 352 pages, \$27.

Something surely must be happening if the prestigious journal *Foreign Affairs* declares urban sprawl one of four dominant megatrends that will challenge the planet over the next several decades. For Jeb Brugmann, the central image of our age has become the bright necklace of electrical lights revealed in nighttime photographs of the earth taken from the cosmos. This new reality, he writes, transforms every aspect of life, replacing the city as we once knew it with a flowing global urban system. This process of urban re-creation, according to Brugmann, provokes democratic movements, encourages market-oriented economic systems, undermines the capacity of institutions designed for less-volatile times, and accentuates human vulnerabilities of all kinds.

Beginning with his own Toronto neighborhood, Brugmann scours the world for moments when communities have found opportunities for small-scale success. While his mini case studies demonstrate that "progressive" change is possible, they leave open the challenge of how to move from a community focus to one that can embrace entire cities, metropolitan regions, and urban systems. *Blair A. Ruble*



UDM: Urban Design Management: A Guide to Good Practice, edited by Antti Ahlava and Harry Edelman. Taylor & Francis, 2009, 242 pages, \$63.

This invaluable guide to best practices for urban design management gathers what might be called best thinking from architects and other professionals. All have a multidisciplinary bent and share affiliation with DECOMB, a research venture in Finland that is opening new channels in urban design between the private and public sectors. From the evidence offered here, DECOMB warrants following.

What differentiates urban design management from conventional urban planning is a streamlined communication process with a variety of verbal and graphic tools to forge common ground. For example, "dynamic diagramming," a tool created by UNStudio architects, tracks differences among team members

working with urban challenges subject to rapid change.

Antti Ahlava's chapter on marketing a project is particularly strong. He emphasizes the need for architects to "be less hermetic and more collaborative" in conveying their ideas to the public. Tommi Makynen notes that "information must 're-materialize' in a form stakeholders can deal with." Such new forms incorporate imaginary and virtual visualizations, storyboards, models, and narrative texts.

Richly illustrated with photographs and diagrams, these essays help refine critical thinking about urban development while re-creating a healthy sense of awe about urban complexity. *Norman Weinstein*



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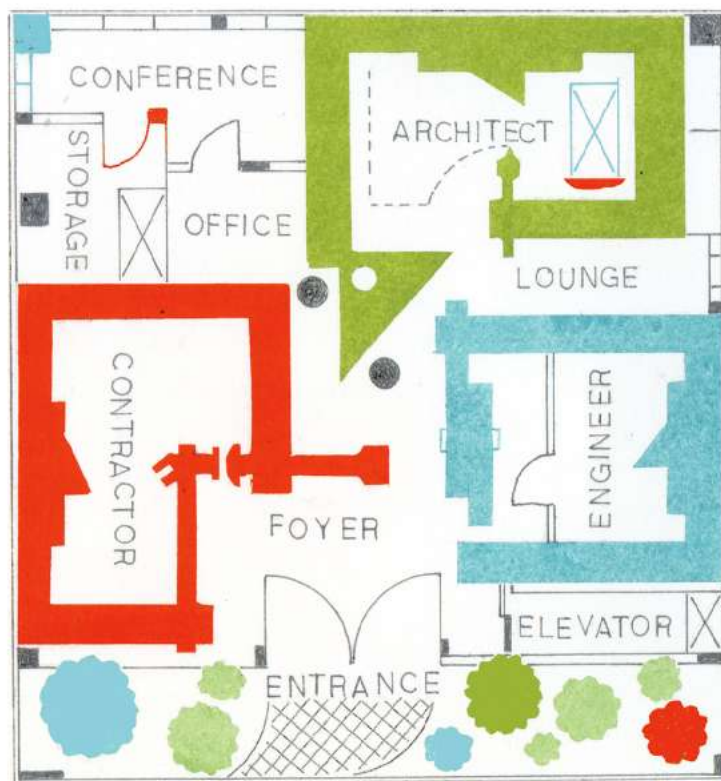
CIRCLE 53

IPD Contracts: Ready for Prime Time?

Lawyers say integrated-project-delivery documents have come a long way, but caution is still in order. [by B. J. Novitski](#)

IT MAY SEEM UNUSUAL to find lawyers agreeing with each other, but there seems to be unanimity on one important issue: Before architects embark on integrated-project-delivery (IPD) projects, they should have their contracts closely scrutinized by legal and insurance professionals. IPD proponents believe collaboration instead of competition within the design/construction team results in better, faster, less-expensive projects. But risk-averse, adversarial relationships are so habitual in the U.S. construction industry that legal structures, insurance policies, and much else needs to change to accommodate these new ideas. Recently, the AIA and ConsensusDOCS LLC have come out with model contracts to support IPD's collaborative relationships. The first of the three AIA document families (A195, B195, and A295) is dubbed "transitional": It maintains conventional relationships between owner, architect, and contractor, but supports information sharing and collaboration.

Another, C195, establishes a single-purpose entity (SPE), a limited-liability company formed by representatives of the three parties. Members of the SPE waive liability claims against one another and share risks and rewards [see "Practice Matters," *RECORD*, July 2008, page 59]. A third AIA alternative is a multiparty agreement, C191. Owner, architect, and contractor sign the same agreement but do not form an SPE. ConsensusDOCS 300 is a three-party agreement most similar to the AIA's C191. Underlying all these contracts is an assump-



tion that the team may use building information modeling (BIM) to support the collaboration; however, the use of BIM does not in itself constitute IPD.

AIA and ConsensusDOCS don't track how many of these contracts are currently in use, though the number is presumed to be very low. David Abramovitz, of the law firm Zetlin & De Chiara, warns: "There's invariably a time lag between an industry's adoption of a new technology or way of doing things and the opportunity for judges and juries dealing with disputes to see how these new technologies affect the relationships between the parties. We can say with certainty that

interpretations given to BIM use and IPD will surprise not only the lawyers but also the project participants."

One promise of IPD, however, is that the courts will play a lesser role because routine disagreements won't rise to the level of dispute. Brian M. Perlberg, executive director of ConsensusDOCS, describes conventional disputes as "the mind-set that we're all at war with everybody." But he says, "The people using IPD see it as transformative, getting much better project results. Teams that behave adversarially are culturally not ready to embrace the benefits."

Industry lawyers have criticized these model contracts, while their

authors continue to defend them. In the absence of a crystal ball to predict who is more correct, the debate has caught the attention of the legal and insurance professionals who must determine to what extent a model contract can be adapted to a firm's particular situation.

The toughest critics go after the AIA's SPE agreement. Abramovitz asserts, "Such a jointly owned limited liability company may not be legal in those states that don't allow nonprofessionals to own an interest in professional design firms." The AIA says that the SPE itself doesn't provide architectural services but rather contracts separately with licensed architects. Nevertheless, they caution that some jurisdictions might require the SPE to satisfy state licensing laws and that legal consultations are crucial.

Abramovitz also takes issue with the SPE's dispute-resolution mechanisms. Ideally, problems that arise are handled collaboratively by a team motivated to avoid conflict. However, he notes, "The contract language regarding collaboration is really aspirational. It talks about the party intending to deliver the project collaboratively and states that the parties will endeavor to align their interests with those of the project." When disputes arise that can't be resolved quickly, the SPE agreement provides two-tiered decision making in a management team and a governance board, both including owner, architect, and contractor members, and both requiring unanimous decisions. In the absence of unanimity, either a "project neutral" or arbitrator decides. Abramovitz

worries that this individual could have disproportionate control over the design/construction process. But AIA associate counsel Michael B. Bomba disagrees, saying, "It should be very infrequent that a matter is submitted solely to the project neutral or arbitrator for a decision."

Construction attorney William Quatman, general counsel and vice president of the engineering, architecture, and construction firm Burns & McDonnell, regards the AIA's transitional and multiparty agreements favorably, as well as the ConsensusDOCS three-party agreement. But he believes the AIA may have rushed the SPE agreement to market before working out all the flaws. One of these involves the SPE main parties waiving claims against each other in the best interest of the project. The theory is admirable, but what if there are problems anyway? The SPE indemnifies the team, but

that protection is limited. "The LLC is only set up for the life of a project," Quatman explains, "so when the project is completed, there are no assets left with which to defend or indemnify anybody." The AIA attorneys point out that the agreement calls on the owner to take over the SPE's responsibilities toward the nonowner members, and calls on the SPE members to define their ongoing rights and responsibilities. That may work, but as Abramovitz points out, there is still the potential for third-party claims. He says, "I'd advise the client they need cross-indemnifications among the primary parties to protect against claims by third parties. To the extent that you now require cross-indemnification, this undermines the waiver of liability that is essential to the IPD structure."

How traditional insurance policies will handle these new situations is not clear. Abramovitz warns that

a design professional on a project executive team may have some liability for project site injuries, which may not be covered under traditional project professional-liability insurance. Insurers are studying such questions and presumably developing policies tailored to IPD projects. The AIA attorneys say, "The IPD method would benefit from broader first-party coverage, such as property policies, tailored for the specific project risks."

Regardless of which IPD contract a team uses, further pitfalls surround the use of BIM. When contractors and subcontractors contribute to a collective digital model, architects benefit from their expertise, but as professional roles converge, licensing questions arise. Some states prohibit an architect from sealing documents that weren't created under his or her control. There are questions of

intellectual property ownership of a collective model and questions of liability when the source of a problem is impossible to identify. And what does the ability to detect system "clashes" do to the architect's standard of care? These and other questions are not insoluble, but they need to be explicitly considered in drafting suitable contracts.

Presumably all these questions will eventually be ironed out, and the construction industry can begin to enjoy the benefits of new technologies and legal relationships. In the meantime, what's needed to forge ahead? According to Perlberg, the industry needs to see more success stories and "enlightened owners" willing to take risks. He says, "We're starting to see projects that have successfully used IPD. Now we need more case histories to help people get comfortable with the principles and culture." ■

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The new Compass system from Herman Miller Healthcare prescribes a humanistic, holistic solution for medical spaces.

Healing Properties by Jen Renzi



WHILE HOSPITALIZED for severe back problems in the 1960s, Robert Propst – then head of the Herman Miller Research Corporation – noticed that cleaning and maintaining hospital furniture proved a major challenge for staffers. Those observations, coupled with further research, led Propst to develop Co/Struc, a modular storage and transport system for medical spaces, in 1972. Since then, the division's collection has greatly expanded, with products from multitasking seating to nurse stations designed to support superior care, serve both patients and visitors, and bring high design to spaces typically lacking in creature comforts.

Herman Miller Healthcare's latest debut is Compass, a suite of case goods, finishes, and work surfaces that address the evolving needs of healing spaces. "When we first started researching patient-care areas, we focused on issues such as caregiver effectiveness,

infection prevention, and patient/family experience," says Joel VanWyk, Herman Miller Healthcare director of product management. "But we realized that a bigger problem was inflexibility; spaces could be designed extremely well initially, but furnishings couldn't keep up with changes in care practices, technology, or space usage."

In response to that need, Compass components are easy to disassemble and reconfigure for use in myriad applications – from clinical labs to patient rooms and waiting areas – and can accommodate technology upgrades. All uphold high standards of safety, cleanliness, and efficiency: Sinks integrated into Corian work surfaces can be specified with continuous backsplashes to achieve a seamless installation, and case goods float above the floor so it can be more easily maintained.

The system was developed with evidence-based design consul-

tancy Continuum, which gathered observations from myriad practitioners and end users. "Every aspect of Compass responds to that research," says VanWyk. Coordinating products introduced this fall by Herman Miller subsidiaries Nemschoff and Brandrud include an exam chair with a smooth-motion calibrated vertical lift and a space-conscious sleeper settee. Herman Miller Healthcare, Zeeland, Mich. www.hermanmiller.com/Healthcare **CIRCLE 200**

ABOVE: Compass lets architects specify entire rooms – from head- and footwalls to furnishings – from one manufacturer in coordinated finishes.

RIGHT: Nemschoff's Brava patient chair – with an optional rear-connecting folding table – has a fold-down arm offering ease of access.



1,2 | PRODUCT **BioSpec MD**
 MANUFACTURER **Mannington Commercial**
mannington.com/commercial

Incorporating postconsumer recycled content, BioSpec MD homogenous sheet flooring has a through-chip construction to withstand heavy loads and high traffic – not to mention stains, cuts, and gauges. Ideal for health-care applications, the high-performance product now incorporates Quantum Guard HP, a UV-cured inner wear layer offering enhanced durability that incorporates an antimicrobial agent to thwart germs and bacteria, reducing exposure from secondary infections. The 72 colors can even be water-jet cut and layered to create intricate patterns. **CIRCLE 201**



4 | PRODUCT **Shadows**
 MANUFACTURER **Shaw Contract Group**
shawcontractgroup.com

Shadows features a soothing, nature-inspired aesthetic conceived for healing spaces. The hard-wearing collection encompasses two broadloom carpets plus three coordinating tile patterns – from abstract leaves to oversize polka dots – designed for mixing and matching. Cradle to Cradle Silver-certified, Shadow is made with Eco Solution Q nylon and EcoWorx backing – both recyclable. **CIRCLE 203**

6 | PRODUCT **Jazz Collection**
 MANUFACTURER **CF Stinson**
cfstinson.com

Jane Wicks designed the five spirited patterns of Jazz, a Cradle to Cradle Silver-certified upholstery collection woven from postconsumer recycled polyester. The yarn is embedded with Agion, an integrated antimicrobial that – unlike topical treatments – offers continuous resistance to microbes and bacteria throughout the product's 100,000-plus-double-rubs lifespan. Offering high resistance to fading, the product is bleach cleanable and features GreenShield nanotechnology soil/stain protection. **CIRCLE 205**



3 | PRODUCT **Corian Healing Colors Collection and Illumination Series**
 MANUFACTURER **DuPont**
surfaces.dupont.com

Able to achieve seamless installations – without hard-to-clean grout lines or crevices – Corian inhibits mold, mildew, and bacteria growth in health-care environments. The nonporous, nonallergenic solid-surfacing material makes a star turn in the waiting room of Washington Hospital Center's new ER One emergency-care facility, where design firm Huelat Parimucha Ltd. specified Corian's Healing Colors and translucent Illumination palettes for backlit wall treatments and security and reception desks. **CIRCLE 202**



5 | PRODUCT **Sustainable Wall Systems and Bullet Connection**
 MANUFACTURER **DIRTT Environmental Solutions**
dirtt.net

A sustainable alternative to drywall and studs, modular and movable DIRTT Walls are designed for health-care spaces requiring frequent reconfiguration. The pre-engineered panels – which come with optional antibacterial finishes – are customizable and able to accommodate medical equipment, plumbing, data, handrails, storage, and AV systems. The company's Bullet connection makes post-free and curved connections possible where side and front walls link. **CIRCLE 204**





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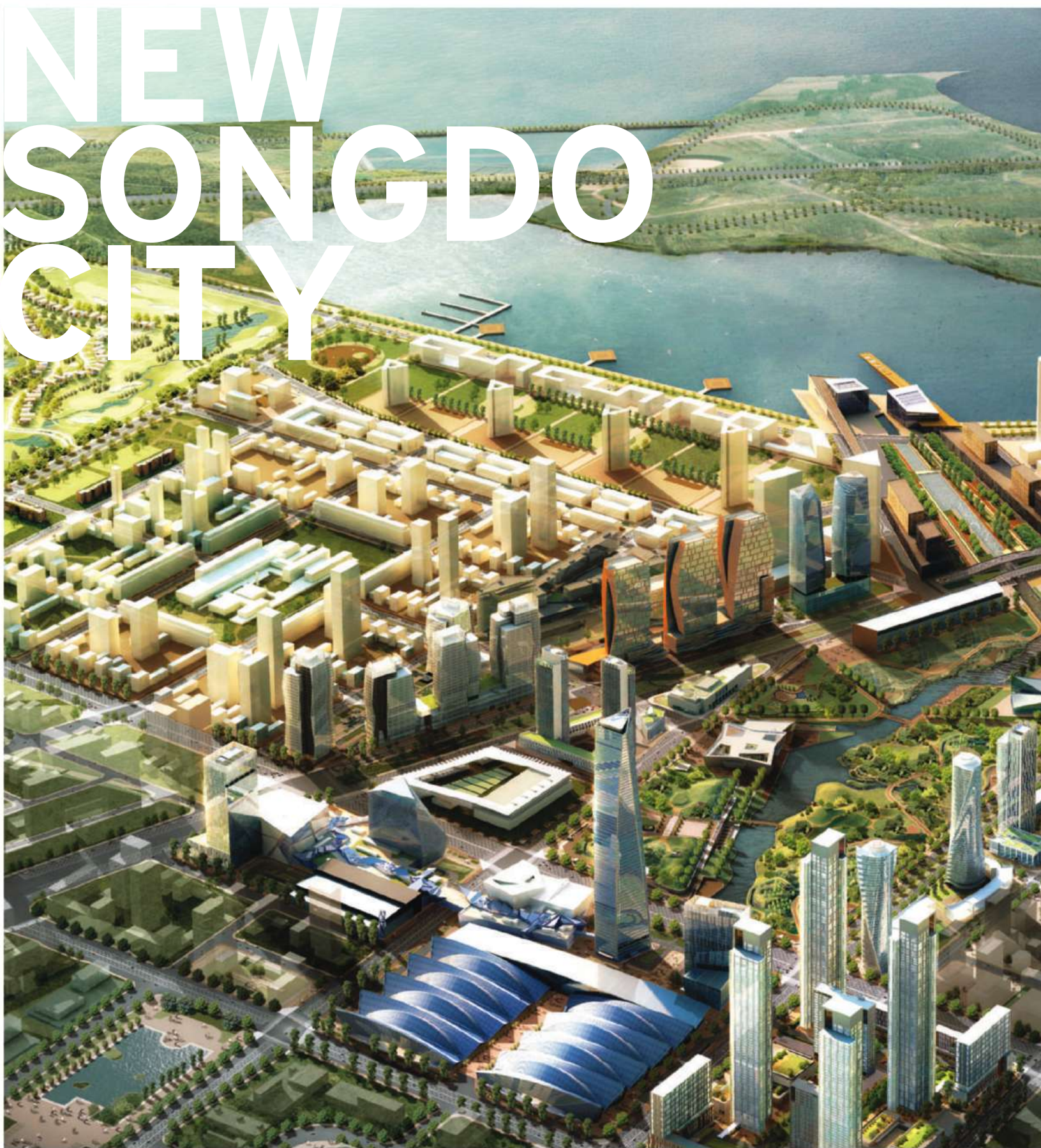
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NEW SONGDO CITY





A GREEN CITY RISES

Inspired by precedents from around the world, New Songdo City emerges near Incheon International Airport as an up-and-coming bustling business hub primed to bring South Korea's struggling economy back on track. *By Naomi R. Pollock, AIA*

RENDERING: COURTESY KPF

THESE DAYS, PLANS FOR CREATING entire cities from the ground up do not surprise us, but South Korea's New Songdo City (NSC) does. It has a clear purpose to attract foreign investment; it has an ideal geographic location near Seoul's Incheon International Airport; and its design champions innovation and sustainability in accordance with LEED standards. The first foreign real estate acquisition in Korea, this massive project is a joint venture between POSCO E & C, the South Korean steel giant's construction division, and the U.S. developer Gale International, which appointed the New York firm Kohn Pedersen Fox (KPF) to spearhead the design. With KPF's master plan and many of its landmark components already in place, the project is off to a strong start. But the question remains how it will finish.

Approached from the 7 1/2-mile-long suspension

bridge, **Strategically situated just a short distance from the airport across a suspension bridge, New Songdo City is intended to become an international business hub within easy access of neighboring Asian cities. Propagating outward from Central Park, the city consists of a patchwork of neighborhoods laced together with pedestrian-friendly, tree-lined avenues and broad boulevards created in response to South Korea's enduring enthusiasm for car travel.**



1, 2. The tallest building in South Korea, the 68-story Northeast Asia Trade Tower stands out as a landmark on the New Songdo City skyline. Symbolizing the city's mission to promote international trade, it occupies a key position next to the convention center at the end of the canal that runs through Central Park. Changing shape from a quadrilateral to a triangular plan as it ascends, the skyscraper contains

offices below coupled with hotel and service apartments above, where the tower tapers. While the building's striking form responds to the clients' goal of architectural innovation for individual buildings, high-performance glazing and exterior shading devices help satisfy the request for lowered energy consumption by reducing solar heat gain and cooling loads. Heerim Architects was the associate architect.

bridge connecting to the airport, NSC emerges from the coastal fog like a mirage. The most striking feature is KPF's 68-story Northeast Asia Trade Tower, South Korea's tallest building to date. Multiblock housing by HOK and the tree-studded Central Park gradually come into focus as the air clears. But they vie for attention with vast stretches of still-empty land and the broad boulevards binding everything together. Already well trafficked, the roads are the most visibly populated part of town. Though NSC has yet to acquire the vibe of a bustling urban center, it is also hard to imagine that only a few years ago, the 1,500-acre reclaimed site did not exist.

While South Korea has been engaged in large-scale landfill construction since the 1970s, necessitated by a shortage of buildable area near the nation's capital, the impetus for building NSC came after the South Korean economy hit the skids in 1997. At the urging of the International Monetary Fund, the South Korean government designated the site as a free economic zone with a full-fledged city to attract foreign investment. To jump-start the influx of money from abroad, the government made an unprecedented move by selling the land to this private, international joint venture and putting the new owners in charge of the city's development. "Basically, it is a free-market experiment," says KPF principal James von Klempner, FAIA.

Given its lack of overseas experience, Gale was an unlikely partner for POSCO. But the challenge and opportunity to build a whole city from scratch – schools, museums, shopping, and entertainment, as well as





4



5

3. The defining elements of the Songdo Convention Center are folded, steel roofs that come to three prowlike points. In between the sharply angled planes, curved roofs reminiscent of boat hulls cap the major programmatic pieces: exhibition halls, preparation areas, and support spaces. Baum Architects and Heerim Architects were the associate architects.

4. A pedestrian promenade alongside water, Songdo

Canal Walk is a mixed-use development combining retail at grade with loftlike units for residences and offices above. JINA Architects was the associate architect.

5. An international K-12 school, this project was inspired by traditional Korean palace and garden design. An elegant concrete bell tower stands in the sunken courtyard unifying the campus. Gansam Partners served as the associate architect.



1,2. When realizing an entire city, it is hard to make progress by constructing one tiny building at a time, says KPF's James von Klempener – especially in South Korea, where superblocs abound. So, KPF and its associate architect Kunwon Architects created First World Towers, the city's first completed residential project. While mixed building heights, exterior finishes, and permeability break down the overall volume, connected courtyards and water elements enrich the ground plane.

housing and offices – was too good for the American developer to pass up.

The firm's approach entailed synthesizing a number of complex conditions, such as building codes and infrastructure elements prescribed by local authorities; programmatic requirements stipulated by the client with guidance from the South Korean government; and common market practices, including the South Korean penchant for multilane roads and megablocks many times the size of their Manhattan counterparts. Not to mention an ambitious conceptual agenda that championed architectural innovation and sustainability. "Because NSC is a kind of entrance to South Korea and meant to showcase the free economic zone, we had high standards for building quality," explains S.J. Lee, professor of architecture and engineering at Yonsei University and a former government design review board member.

KPF's design process began with the development of



Only a few years ago, the 1,500-acre reclaimed site did not exist.

a hypothetical master plan authored by a small team of architects, engineers, and client representatives. Ten new teams then produced 18-blocks worth of building prototypes to probe the scheme's strengths and weaknesses. "We needed to test densities, scale, and the feeling of material," explains von Klempener. Based on the findings, KPF adjusted its model, discarded the temporary architecture, and, in 2004, got approval from South Korean authorities to proceed.

Inspired by precedents from around the globe, KPF's cityscape brings to mind London's garden squares, Paris's tree-lined boulevards, and the canals that once riddled Seoul. As in New York, the heart of the city is Central Park. Adapting traditional South Korean landscaping, KPF's 100-acre green space incorporates indigenous geographic features in miniature – craggy granite mounds, topiaries shaped like tea bushes, and a saltwater canal symbolizing the country's extensive waterfront.

The city's tent-shaped density distribution peaks near the park, which is ringed with NSC's tallest buildings. "In every major city, the most expensive real estate surrounds a park," comments Charles Reid, executive vice president of design and construction at Gale International. Here, too, high-end office and residential towers face its greenery but will taper off as the city propagates outward, ending in a golf course at one end and a hospital at the other.

While this formation will yield a coherent, Manhattan-style skyline, KPF's "planned heterogeneity" forms the guiding principle at ground level. It consists of a patchwork of distinct neighborhoods, each one traversable on foot in under 15 minutes and linked by public transportation. Within each sector, KPF specified volume and mass restrictions plus street-wall requirements, but left architectural decisions largely up to the local and foreign firms in charge of individual buildings.



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1. The second of three mixed-use projects designed by HOK, Central Park II consists of a commercial base with three residential towers above. The south-facing towers all front the park with shifting, sculptural glass volumes.

2. A retail and entertainment center designed by Studio Daniel Libeskind, Riverstone is next in the construction queue. Located amid the city's commercial zone opposite Central Park, the complex includes a department store, cinema, ice-skating rink, and

food court. Reminiscent of the dramatic South Korean landscape, it consists of jagged volumes that guide the flow of pedestrian traffic like rocks in a riverbed.

3. The first of several projects by HOK, Central Park I consists of three 50-story residential towers atop a three-story commercial/retail base that defines the street wall facing Central Park. Each tower is clad with a basket-weave facade composed of glass and aluminum.



1



2



3

"For us, a pedestrian city is the first measure of sustainability," says von Klemperer. Because green thinking is fairly new to South Korea, the team adopted the American LEED system as its ecological design standard. In addition to designating 40 percent of the land area as open green space, the central, saltwater canal neither utilizes potable water nor freezes in winter, enabling it to host water taxis year-round. And the reuse of gray water plus a citywide, pneumatic garbage collection system are just two ways that NSC will handle waste efficiently. "Sustainability is no longer a footnote," says Daniel Libeskind, the architect of Riverstone, a 1½-million-square-foot shopping center slated to begin soon.

But high-quality, environmentally sensitive architecture and urban planning alone do not a city make. A lot of square footage was built here in a short time, yet NSC still needs a viable downtown where people do business. Despite brisk sales of housing units, the townscape seems uninhabited. Although the international school is poised to open, the city is short on cultural, entertainment, and shopping facilities. And unless the tax code changes, NSC is not likely to become the next Singapore anytime soon. Unquestionably, the economic downturn has not helped the cause. Yet construction has slowed, not stopped. "Based on satellite cities around Seoul, I think it is almost inevitable that people will move here," says Lee. That may be. But whether NSC will reach its ambitious goals remains to be seen. ■

Based in Tokyo, Naomi R. Pollock is RECORD's special international correspondent. She is the coauthor of New Architecture in Japan, published in March 2010.

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MONASTIC REVIVAL

PIERRE THIBAUT'S PARED-DOWN ARCHITECTURE FOR A NEW ABBEY OUTSIDE MONTREAL CONNECTS RELOCATED MONKS WITH NATURE. BY JOSEPHINE MINUTILLO





LEFT: As in most spaces within the Val Notre-Dame Abbey in Saint-Jean-de-Matha, nature permeates the refectory, where the monks gather for meals in complete silence.

ABOVE: The aluminum-clad roof of the church extends over the monastery entrance. There, a one-story structure on the cloister's north side welcomes visitors.

THE CHRISTIAN MONASTERY, among the most paradigmatic of building types, has for centuries retained the basic formula of a square plan around a cloistered garden. Nevertheless, since the Middle Ages, these complexes, including their church buildings, were often progressive examples of Western architecture. But long after religious communities ceased being the most influential patrons of the built environment, their leaders continued to support Modern architecture. And Modern architects have jumped at the chances, so few and far between, to interpret the building type in their own way. In the 1950s, both Le Corbusier and Marcel Breuer designed monastic buildings: the former, the Dominican monastery of Sainte-Marie-de-la-Tourette near Lyon, France; the latter, the lesser-known Benedictine complex for Saint John's Abbey and University in Minnesota (and later, its sister institution, Annunciation Priory in North Dakota). In each case, the community leaders were looking for a bold design.

The same was not true for the Cistercian monks of Notre-Dame-du-Lac Abbey in Oka, outside Montreal. Their existing building, a late-19th-century stone structure designed to house over 150

monks at its peak, had become far too big for the community's diminished population, reduced to just under 30 monks at the start of this century. In the intervening years, the surrounding area also changed – from a place of peace and solitude to a highly trafficked corridor, in conflict with the order's call for its monasteries to be located in areas remote from human intercourse.

Recently, when a community of Czech Cistercians relocated from France back to their homeland, they chose John Pawson as their

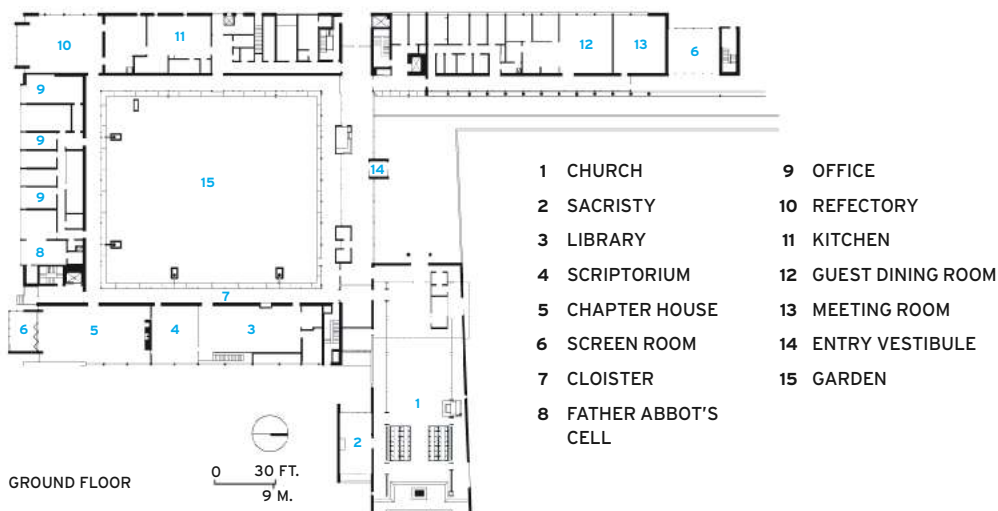


architect, finding his Minimalism compatible with their ascetic lifestyle and traditional architecture [RECORD, September 2007, page 132]. The French-Canadian Cistercians at Oka instead sought a greater connection to nature, and saw in Pierre Thibault an architect whose sensitivity to the landscape, best exemplified in his residential projects [RECORD, July 2007, page 184], perfectly suited their way of life.

The Quebec architect was selected to build the new complex, Val Notre-Dame Abbey, at Saint-Jean-de-Matha, 80 miles northeast of Oka, following a 2004 competition. Though the monks were open to forms that deviated from that well-known paradigm – several such buildings were constructed after the order's constitution reforms of 1969 – Thibault's winning submission for a low, sprawling structure hidden among the trees maintained the ideal plan, with the church on the north side and the cloister immediately south of it.

Much of Thibault's design adheres to traditional layouts to accommodate the tight programmatic requirements. For instance, the guest wing is on axis with the refectory, so that the common kitchen between the two serves both the monks and their guests. (Despite the order's desire for seclusion, hospitality is one of its missions, and the monks often host visitors on short retreats.) The simple, unadorned elevations of the church and outer cloister, originally designed with stone but executed in white concrete panels, also follow tradition.

Thibault's pared-down Modernism and preference for natural materials and basic construction details retain a touch of the vernacu-





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lar. From the outside, his buildings, including the monastery, appear like found objects in nature, an achievement in itself. But it is from the inside that his architecture comes alive. At the monastery, the space that does so more than any other – through light, sound, and a spectacular 30-foot-high window onto nature – is the church. It is here that the monks spend most of their day, beginning at 4 a.m., with the first of seven daily offices.

The order’s rules dictate that the church face east, as Christ is seen in the rising sun. Thibault’s decision to terminate the apse in an entirely glazed wall, while not heretical, is certainly unorthodox. Throughout the day, the view changes dramatically; over the course of a year, even more so.

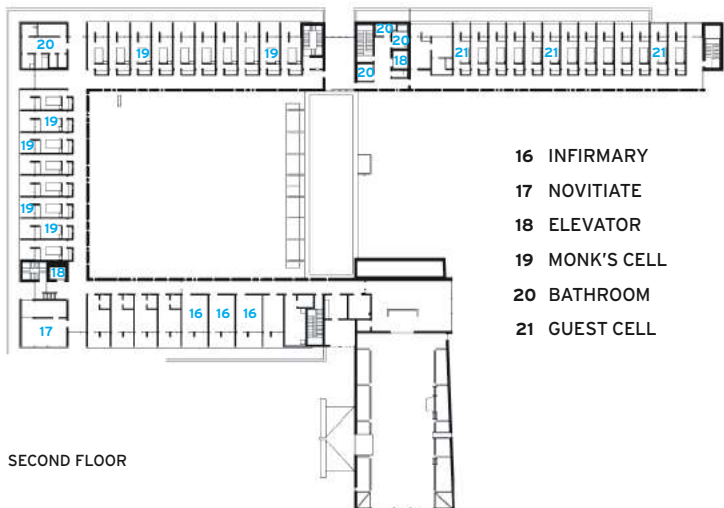
During predawn services, the wall appears solid black. Daylight hours treat churchgoers to a view where the slender trunks of silver birch trees peek out from the warmer months’ dense foliage or winter’s bare, snow-covered branches. A stray deer or coyote, and once even a bear, has wandered past during services. Birds have been known to add their song to the monks’ chanting.

Since chanting plays such a large role in the offices, Thibault paid special attention to the space’s acoustics. The nave’s permeable walls feature rows of wild-cherry planks, each slightly more inclined as they get higher so that the sum of the various angles forms a vaulted shape from bottom to top.

Thibault’s office designed the stalls by the altar where the monks face each other during services, and the pews where up to 120 visitors can be seated. The two are deliberately separated to avoid interaction between the monks, who enter and exit the church via side aisles, and the lay community.

The new monastery is a third the size of the former building at Oka, yet its cloister is larger. The full-height, triple-glazed units of the inner cloister’s lower level offer constant views of the garden and of passing monks on opposite sides. In the dark of night, small recessed lights placed a foot above the floor along all four faces of the cloister appear like floating candles in the glass reflections, an especially poignant vision when the monks are in procession to the first office of the day.

Thibault retained the existing plantings within the garden, whose sunken appearance happened quite by accident. The site’s high water table was discovered only after construction documents were completed. To address this unforeseen setback, Thibault raised much of the building by several feet.



1. The monastery is nestled within a wooded site at the foothills of the Laurentian Mountains.
2. The church’s east-facing apse features a 30-foot-high glazed wall with views onto nature.
3. During predawn and late-evening offices, the glazed wall, now black, matches the church’s dark slate flooring.

While it might come as a surprise to some, the building incorporates state-of-the-art, 21st-century technologies, including a sophisticated, computerized building management system that monitors, among other things, the 14 geothermal wells located below a nearby parking lot. But then again, monasteries were among the first buildings to harness electrical power at the turn of the last century.

It was the monks' desire to make the building's environmental footprint as light as possible, so that the monastery not only exists in nature but respects it. Locally sourced wood was used for most of the structure and cedar cladding. Roofs over the lower levels, including by the individual cell's private terraces, were planted. A drainage system collects rainwater and recycles gray water.

The biggest design challenge, however, had nothing to do with formal or practical concerns. The life of a monk is a contemplative one, where spirituality takes precedence over everything else. By connecting the interiors to the outside and, more important, by capturing light – both natural and artificial – Thibault created spaces with floors and walls that feel immaterial, the antithesis of Le Corbusier's and Breuer's brute concrete. The monastery's inhabitants treasure this quality most. In the words of one monk, "*La lumière est l'espace.*" ■

1. Each of the second floor's cells features a private terrace abutting the lower level's green roof. White concrete panels clad the church and outer cloister.
2. The light-filled corridors of the upper level end with open views of the surrounding foliage.
3. The cloister's sunken garden, a fortuitous result of the site's high water table, retains existing plantings. A covered gallery offers older monks a place to enjoy the outdoors without contending with the ice-covered terrain during Quebec's harsh winters.
4. Visitors walk past the cedar-clad guest wing to enter the church and monastery. The regular placement of columns along the gallery contrasts with the random arrangement of windows above.



CREDITS

PROJECT: Val Notre-Dame Abbey, Saint-Jean-de-Matha, Quebec, Canada

ARCHITECT: Atelier Pierre Thibault – Pierre Thibault, principal and designer; Jean-François Mercier, André Limoges, Vadim Siegel, design team

ENGINEERS: Dupras Ledoux Ingénieurs (mechanical/electrical); Nicolet, Chartrand, Knoll Ltd (structural)

CONSULTANTS: Les Toits Vertige (green roof)
LANDSCAPE: Atelier Pierre Thibault

SOURCES

WOOD STRUCTURE: Nordic Engineered Wood
ROOFING: Soprema
ACOUSTICAL SURFACES: Decoustics
ELEVATOR: Schindler



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LEGIBLE AND LUMINOUS

WILLIAM RAWN'S PRISTINE GLASS BOX FOR THE
CAMBRIDGE PUBLIC LIBRARY QUADRUPLES
THE SIZE OF THE ORIGINAL HISTORIC BUILDING.
BY JOANN GONCHAR, AIA



ANYONE WHO DOUBTS the relevance of libraries in the age of e-readers, amazon.com, and the iPad should visit the new central branch of the Cambridge Public Library (CPL), in Cambridge, Massachusetts. They will find patrons borrowing the latest James Patterson thriller, parents reading to small children, people taking advantage of the free Wi-Fi, and community groups using the building's meeting spaces.

The goals of the CPL project, which has had between 1,600 and 2,000 visitors each day since opening in October 2009, included creating a building that would be a "town common," one that was open and inviting to the city's

diverse population, according to its lead architects, Boston-based William Rawn Associates. In addition, they hoped to avoid overwhelming the much smaller original library – a structure by Van Brunt & Howe built in 1888 and restored as part of the \$69 million project by Ann Beha Architects, also of Boston. The new and old structures are connected, together creating a 104,000-square-foot facility, almost quadruple the size of the original. The work also included demolition of a small but unsympathetic brick-walled addition built in 1967 – one that CPL director of libraries Susan Flannery describes as a "goiter" on the side of the historic library.



ABOVE: Especially at night, a circulation zone defined by vibrant color is visible from the 4-acre park surrounding the library.

RIGHT: The double-skin curtain wall is supported by 33 ladder trusses which contain no view-obstructing diagonals. Louvers enclosed within the facade cavity and external glass visors have been carefully coordinated to mitigate heat gain and glare and maintain sight lines to the exterior.





1. The design team worked closely with landscape architect Michael Van Valkenburgh to make the library's ground floor and the surrounding park's grassy lawn at the same elevation. The grille at the base of the curtain wall conceals a trench and an operable damper. This damper, along with another at the top of the wall, can be opened or closed to trap air or allow it to circulate through the double-skin cavity.

2. Daylight fills the new library's ground floor, coming from multiple directions, not just from the primary double-skin facade.

A grand stair, with skylight above, links the first two levels.

3. The oak-bookshelf-lined reading room includes a set of WPA-era murals restored as part of the renovation. The reading tables are new, but fabricated to match a few remaining historic tables. Unlike the originals, these accommodate wiring for power and data.

4. The teen room occupies what had been the original library's stacks. The architects preserved the almost industrial feel of this former back-of-house space by leaving brick walls exposed and inserting an aluminum-grid ceiling.





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To more appropriately respond to the granite-and-sandstone original, the architects created a three-story, steel-framed structure with a crystalline glass facade, 180 feet long and 42 feet tall. Rawn's building serves as the library's main entry, meeting at grade a surrounding grassy 4-acre city park revamped by landscape architect Michael Van Valkenburgh in tandem with the library's expansion. The new transparent building provides a foil for Van Brunt & Howe's library – a solid, bearing-wall object with its first floor elevated several feet above the ground. "The best way to honor the old building was with one that was genuinely contemporary," says Pamela Hawkes, FAIA, an Ann Beha Architects principal.

One of the major impediments to realizing the design team's vision for a dematerialized structure was the glazed facade's southwest exposure and the associated potential for heat gain and glare. This orientation was practically a given, according to the architects, because of the proximity of a public high school bordering the park and a city requirement that the front facades of the new and historic buildings align.

To preserve the concept of transparency and ensure the thermal and visual comfort of the occupants, the CPL project team devised a double-skin curtain wall of low-iron glass [ARCHITECTURAL RECORD, July 2009, page 102]. Its two layers, supported by a structure of vertically oriented Vierendeel trusses detailed to be as unobtrusive as possible, define a 3-foot-wide cavity that acts as an insulating jacket: Dampers at the wall's top and base can be opened or closed, depending on the season, to vent or retain the warm air that collects within. The cavity also incorporates internal shading devices that shield the library interior from direct sunlight while allowing indirect light to penetrate more deeply.

Behind the pristine glazed wall, the atmosphere is more like an appealing book emporium than a public library. The first- and second-floor slabs cantilever 15 feet from structural columns to define a reading area at the building perimeter with unobstructed views of the park. Beyond, the collections are displayed in open shelves. And on the first floor, patrons are permitted to eat and drink (except at computer terminals) and chat. "We were going for a cross between a bookstore and a library," explains Flannery.

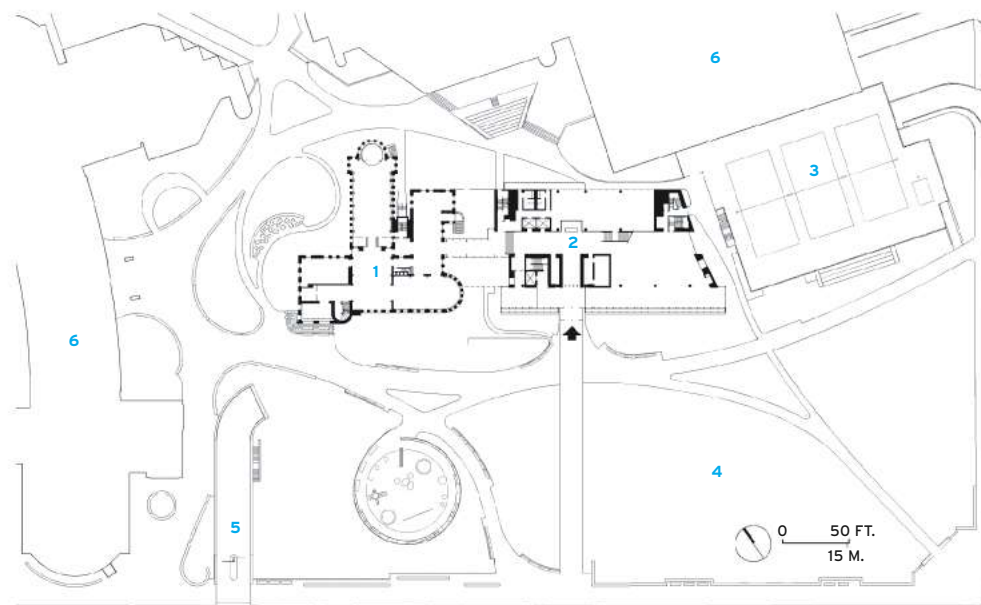
Dividing the new building's roughly rectangular floor plate nearly in half is a circulation zone, defined by a lipstick-red wall, ceiling, and terrazzo-clad grand staircase. The eye-popping color, visible from the park especially at night, contrasts with more subdued and natural materials such as schist and maple. Daylight further enlivens the space, entering not only from the double-skin facade, but from multiple directions, including from a skylight over the stair.

The mood is altogether different in the reading room of the historic building, which visitors reach by way of a bridgelike, glass-enclosed connector. Here they find a vaulted, oak-bookshelf-lined space, with newly restored WPA-era murals illustrating themes relevant to books and libraries, such as the history of papermaking and printing and the development of the Dewey Decimal System. The room's other plaster surfaces, which had been white for decades, are now, after paint analysis, returned to their original earthy palette of terra-cotta, ocher, and olive. The result is the kind of pleasingly cocoonlike environment that one would expect from a late-19th-century reading room.

One of the more surprising spaces in the historic building is the teen lounge, occupying what had been the second and third levels of the library's stacks. Architects have inserted an aluminum-grid ceiling, with mechanical systems

visible above, and left the brick walls exposed, maintaining the almost industrial feel of this former back-of-house area. According to Flannery, the room is regularly full to capacity after school with students doing homework, surfing the Internet, and reading while sitting on restaurantlike banquettes or stretched out on beanbag chairs. "We worked hard to make sure that popular and lively programming was housed in the old building," she says.

This room is an example of imaginative adaptive reuse, and it also typifies the approach that has made the CPL project a success: The architects have managed to provide spaces, within both the new and old structures, with a variety of distinct characters that appeal to a broad spectrum of users. At the same time, they've found a way to greatly expand a historically significant building without compromising its relevance. ■

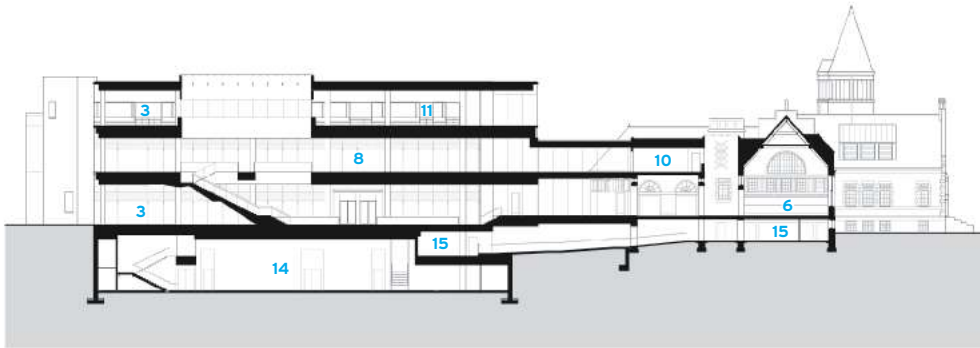


SITE PLAN

RIGHT: The perforated-aluminum louvers enclosed in the curtain wall cavity are slightly curved to help bounce sunlight onto the library's ceiling. The building management system controls their operation, moving them from horizontal to slightly tilted toward the exterior, depending on the season and time of day.

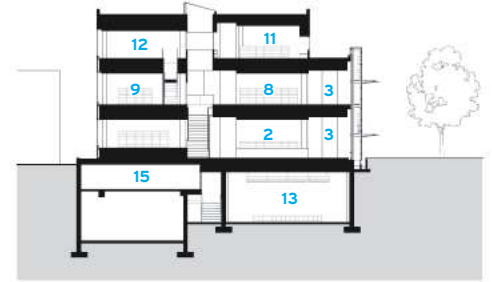
OPPOSITE: The southwest orientation of the new library was practically a given due to a requirement that its front facade align with that of the late-19th-century original.



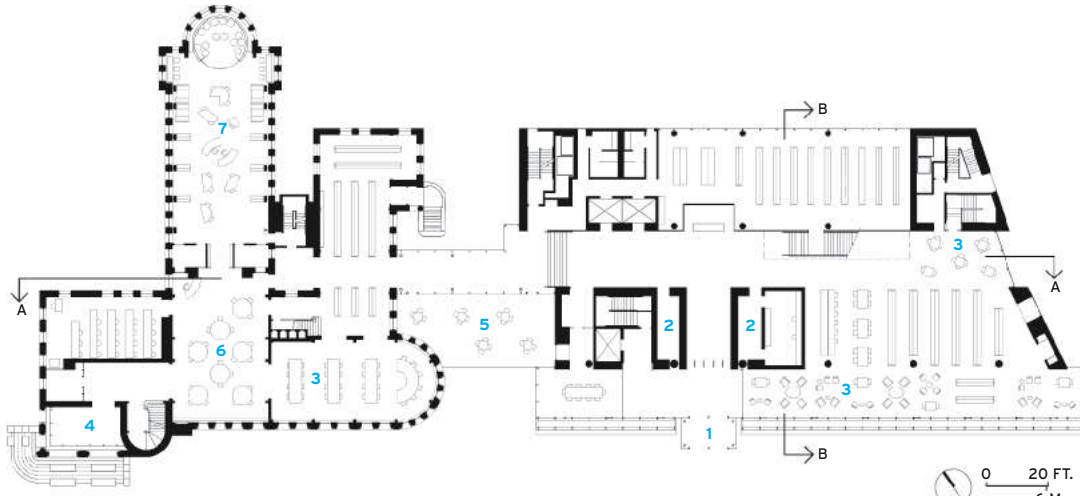


SECTION A-A

0 20 FT.
6 M.



SECTION B-B



GROUND FLOOR

0 20 FT.
6 M.

CREDITS

PROJECT: Cambridge Public Library, Cambridge, Massachusetts

ARCHITECT: William Rawn Associates – William Rawn, FAIA, Clifford Gayley, AIA, principals for design; Philip Gray, project manager; Kevin Bergeron, AIA, project architect; Ken Amano, senior designer

ASSOCIATE ARCHITECT: Ann Beha Architects – Pamela W. Hawkes, FAIA, principal in charge; Ann Beha, FAIA, consulting principal

CONSULTANTS: LeMessurier (structural); R.G. Vanderweil (m/e/p); H.W. Moore (civil); Michael Van Valkenburgh Associates (landscape); Arup (facades); Horton Lees Brogden (lighting); Acentech (acoustical)

SOURCES

CURTAIN WALL: Gartner Steel and Glass (new building); Novum (historic building)

GLASS: Saint-Gobain; PPG Industries
MASONRY: Sparta Pink Granite (new building); Dedham Granite (historic building)

EPOXY TERRAZZO FLOORS: Specialty Flooring Systems

SITE PLAN (OPPOSITE)

- 1 RENOVATED LIBRARY
- 2 NEW LIBRARY
- 3 TENNIS COURTS
- 4 CITY PARK
- 5 PARKING ACCESS
- 6 PUBLIC HIGH SCHOOL

PLAN AND SECTIONS

- 1 MAIN ENTRANCE
- 2 CIRCULATION DESKS
- 3 READING AREA
- 4 MEETING ROOM
- 5 COURTYARD
- 6 INFORMATION COMMONS
- 7 TEEN ROOM

- 8 REFERENCE COLLECTION
- 9 CAMBRIDGE HISTORY ROOM
- 10 ADMINISTRATION
- 11 CHILDREN'S COLLECTION
- 12 CHILDREN'S PROGRAM ROOM
- 13 AUDITORIUM
- 14 AUDITORIUM LOBBY
- 15 STAFF OFFICES

PHOTOGRAPHY: COURTESY WILLIAM RAWN ASSOCIATES (OPPOSITE)



MAXXI

ZAHA HADID TAPS INTO ROME'S PAST WHILE
CREATING ITS MOST CONTEMPORARY BUILDING
IN DECADES. **BY CLIFFORD A. PEARSON**



The 228,000-square-foot museum, which cost \$190 million, faces a new public plaza that connects streets from the north to the south.





IN ROME, HISTORY FLOWS through every urban artery, providing a strong pulse to obscure outposts and tourist destinations alike. For architects, the Eternal City presents history as inspiration, obstacle, and challenge. With the National Museum of XXI Century Arts (MAXXI), which opened in May in the Flaminio district just outside the city's historic core, Zaha Hadid treats it as a river – a fluid construct comprising a series of streams – converging, overlapping, then changing course. In the process, she taps into powerful flows of the Roman past and delivers her most convincing building to date – a sensual piece of construction that works both urbanistically and as a place to view art.

More than 10 years in the making, MAXXI offers visitors a trip to Hadid's past, as well as Rome's. When she entered the competition for the project in 1999 and made it to the short list of 15 architects (which included Steven Holl, Toyo Ito, Rem Koolhaas, Jean Nouvel, and Kazuyo Sejima), she had built very little and employed only about 30 people. Today, her staff numbers more than 350 and she is building major projects around the world. The year 1999 turned out to be a pivotal moment in her career, starting with a set of unsuccessful competitions and ending with her

busy designing two projects in Germany – the Phaeno Science Center and the BMW Central Building – and a transit terminus in France, in addition to MAXXI. (See sidebar, page 86.)

In each of these projects, Hadid and her partner, Patrik Schumacher, approached the building as a “quasi-urban field, a ‘world’ to dive into rather than a signature object,” explains Hadid. With MAXXI, the architects confronted a site covered by a set of military barracks, some of which they could remove and some they needed to keep. Their design incorporates a military building on Via Guido Reni to the south and carves out a public plaza running the length of the site to Via Masaccio on the north. In addition to opening a pedestrian connection through the city block, the scheme acknowledges the angled street grid beyond Via Masaccio – twisting the museum building to align with a nearby streetcar line. Or, as the architects explain in their tortured project text, “An inferred mass is subverted by vectors of circulation.”

Matching the three-story height of its neighbors and wiggling between and around them, MAXXI cleverly embeds itself in the fabric of this emerging part of town. Along with Renzo Piano's Parco della Musica Auditorium (2002) and Pier Luigi Nervi's

Sports Palace (1960) just a few blocks away, MAXXI is turning what had been an industrial and military area into a new arts district. As you approach the museum along Via Guido Reni, you notice only a pair of modest bookends on either side of a restored barracks. So when you walk into the entry plaza, the size and twisting form of MAXXI take you by surprise. But the way it connects to the different city grids on the north and the south and its sinuous allusion to the nearby Tiber river make it feel very much a part of this place.

When the project began, it was unclear what kind of museum would occupy the building. There was talk of focusing on Arte Povera – a movement that emerged in Italy in the 1960s. Eventually, the national government set up Fondazione MAXXI, made up of two parts – one devoted to art and the other to architecture – and both dedicated to contemporary work. To deal with the uncertainty of the art to be displayed, Hadid approached the museum as a “frame or clearing for the unknown and untested.” As built, the museum leads visitors along winding paths accented by lengths of concrete fins suspended from glass-and-steel roofs; some of the fins hold lights and other utilities, while others have tracks for securing



OPPOSITE: A forking bridge above the entry was supposed to connect to a pair of outbuildings on the other side of the plaza, but the client decided to renovate an existing building there instead for use as a café, bookstore, and offices.

LEFT: A system of steel stairs and ramps serves as a counterpoint to the building's concrete structure. Built off-site and delivered in sections no larger than 7 feet, the stairs were painted black using the same technology manufacturers use for cars.

A cluster of Hadid projects share a particular strain of design DNA

Turn the clock back to 1999 and you find Zaha Hadid and her partner Patrik Schumacher working on a critical set of projects, four of which (including MAXXI) eventually got built and two that never moved off the page or computer screen. Reacting against the notion of buildings as sculptural objects – popularized at the time by Frank Gehry's Guggenheim Museum in Bilbao – Hadid and Schumacher explored the possibility of designing buildings as fields or networks of elements and connections. From a car factory and a transit hub to different kinds of museums, these projects imagine architecture as a three-dimensional fabric woven and layered in ways that emphasize movement and interaction. To understand these projects, you need to look at them individually as expressions of interconnectivity, and collectively as a family of designs sharing similar beliefs and quirks. *C.A.P.*



WATCH VIDEO

Watch an interview with Zaha Hadid.

MAXXI (white building in foreground) snakes through the Flaminio district, responding to one city grid on the south (right in photo) and another on the north (left). Pier Luigi Neri's domed Sports Palace stands east of MAXXI, while the three performance halls of Renzo Piano's Parco della Musica lie a little farther east.



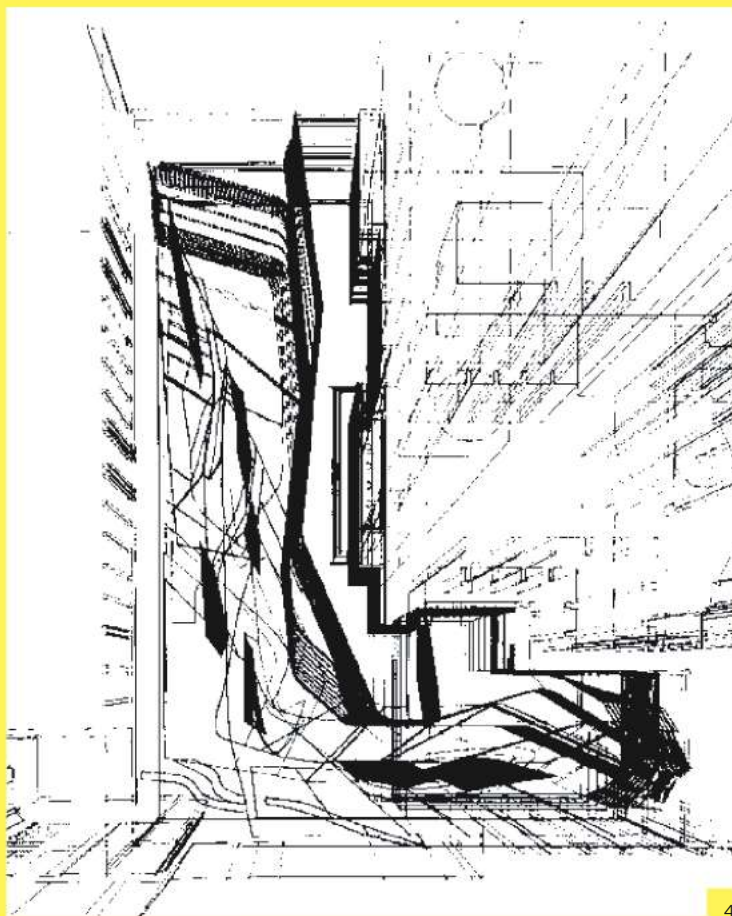
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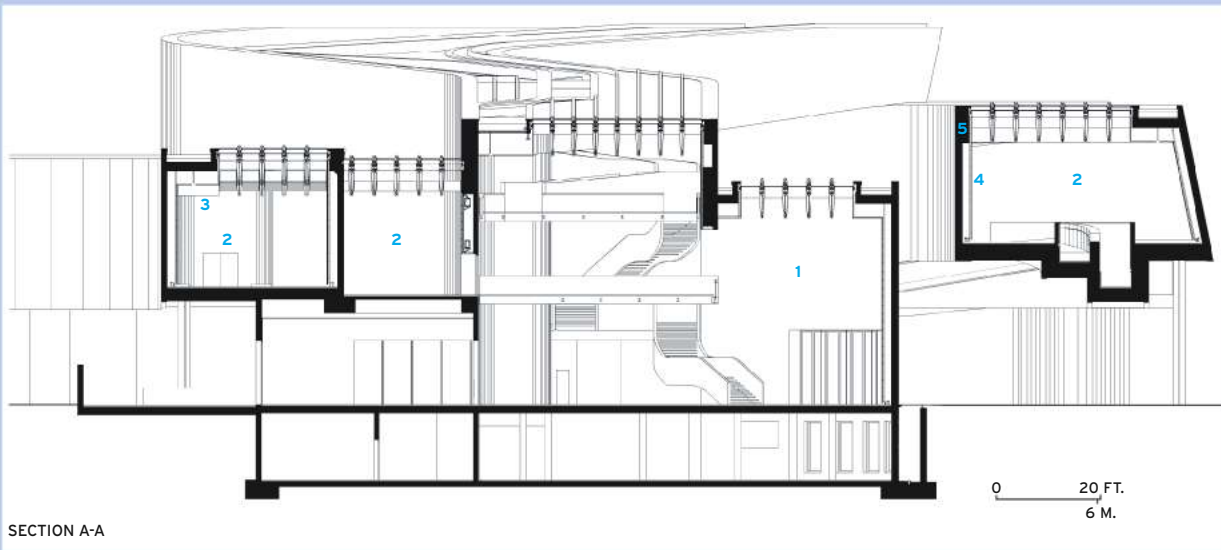


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- 1. Interior of the BMW Central Building in Leipzig, Germany (February 2005).
- 2. Losing design for a new campus center at IIT in Chicago.
- 3. Phaeno Science Center in Wolfsburg, Germany (November 2005).
- 4. Sketch of the Museum for the Royal Collection in Madrid.
- 5. Hohenheim-Nord Terminus in Strasbourg, France (2001).



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SECTION A-A

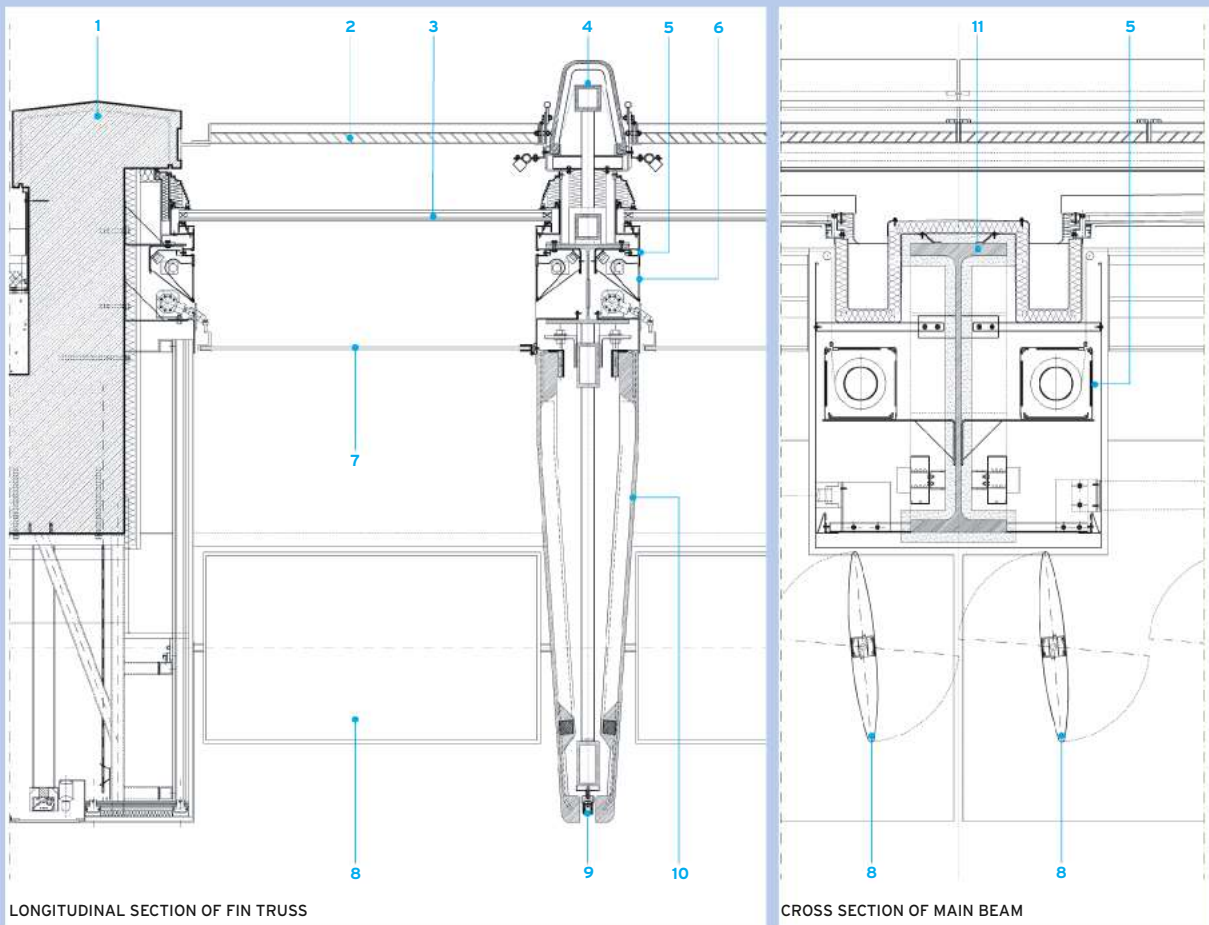
MAIN LOBBY SECTION

OPEN TO THE SKY

Many museum buildings have incorporated systems that allow daylight to illuminate their galleries, but none as robustly as MAXXI, where almost every roof surface is glazed. To support such a roof above the museum's winding galleries, whose bays average 40 feet wide, reinforced-concrete walls on either side sandwich a series of trusses. While these trusses run parallel to the gallery walls, transversal steel beams connect the walls. Originally conceived as a

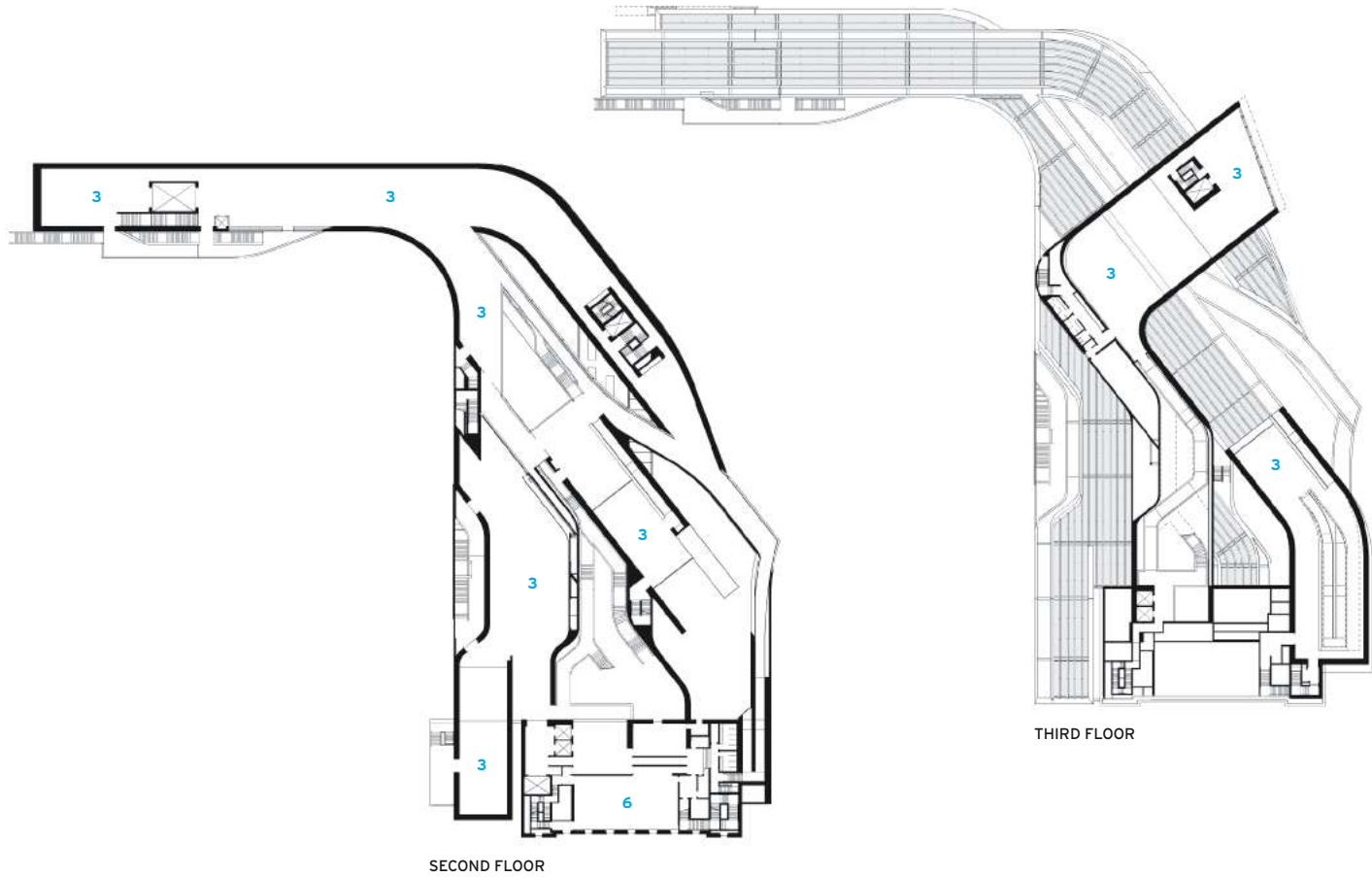
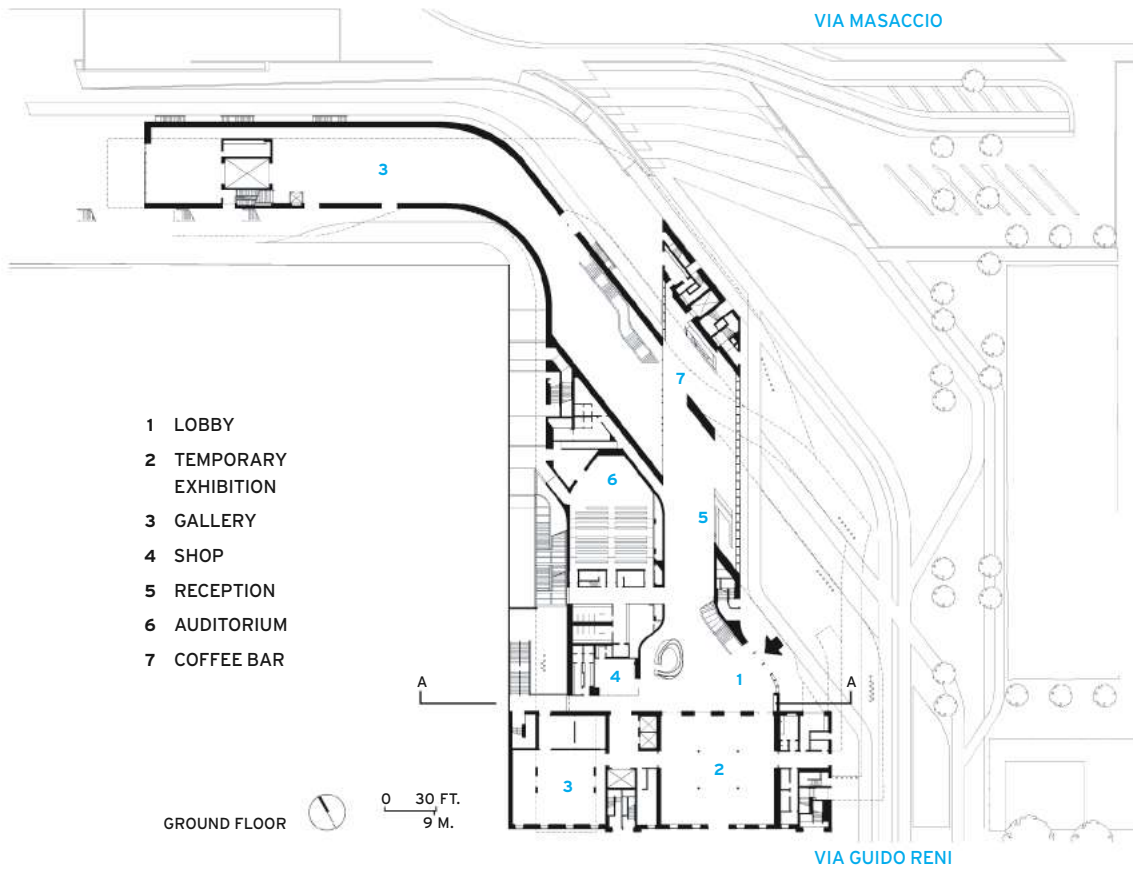
precast-concrete element, each of these longitudinal sections, typically six per bay, is composed of a steel truss encased in 1/2-inch-thick fiberglass-reinforced concrete panels. The nearly 8-foot-deep assembly, which rises 20 feet above the floor, supports an exterior metal solar-shading grille that doubles as a maintenance walkway above the double-glazed units of the glass roof. Below the glazing, aluminum louvers automatically adjust to control the amount

of light that enters a gallery based on lux levels measured by a building management system. Roller blinds are used to block out light entirely when required. The channels at the bottom of alternating fins contain either spotlights (to augment fluorescent lighting housed above the louvers) or tracks for suspending speaker boxes, projectors, or similar items for installations and performances. *Josephine Minutillo*



LONGITUDINAL SECTION OF FIN TRUSS

CROSS SECTION OF MAIN BEAM

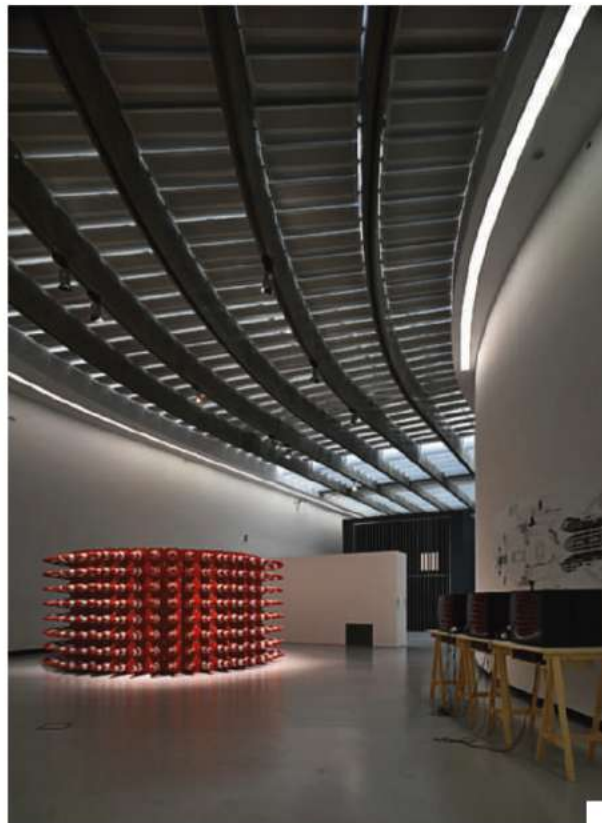




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1. The 228,000-square-foot building includes 108,000 square feet of galleries, some of which are accessed by a long winding ramp. Some of the concrete fins suspended from the steel-and-glass roofs provide power for lights, while others hold tracks to support temporary walls for exhibitions.
2. A system of metal grilles, blinds, and adjustable louvers controls sunlight streaming into galleries.
3. Instead of a traditional set of galleries as rooms, the architects designed a series of continuous spaces where walls both shape the setting and serve as surfaces on which to mount or project art.
4. A gallery on the third floor cantilevers 45 feet beyond the building's main structure. A tilted glass wall offers views over the public plaza.

temporary partitions. The galleries work best for big works of art and challenge curators to think creatively in displaying smaller pieces.

Due to its complex geometry, the building “is not easily understandable at first,” says project architect Gianluca Racana. Just as one needs to explore an Italian city on foot, visitors must wander around MAXXI – ascending forking stairs and following tiered galleries accessed by long ramps. On both the inside and the outside, the museum works as a series of connected ribbons, a composition that conjures the spirit of Baroque architecture with its play of convex and concave forms. And like buildings designed by Borromini and Bernini, MAXXI manipulates daylight in an almost mystical way – bringing it in from above, through glass roofs shielded by metal grilles, adjustable louvers, and concrete fins. Fluorescent tubes in the stairs and light boxes on the underside of circulation routes give these elements the appearance of floating and add to the museum’s liquid approach to space.

Reinforcing this fluid character, the architects designed the building as a poured-concrete structure, exposed on the inside and out. To handle the complex geometry, they used self-compacting

concrete. And to ensure an continuous supply of concrete, they built a factory on-site. Four expansion joints split the building for seismic reasons. But uniform finishes give visitors the impression of moving through uninterrupted space. One of the few false moments, however, happens on the second floor where a north–south gallery meets a tiered set of display spaces; instead of a seamless convergence, a glass wall and doors separate the two flows.

“I think this is the best building Zaha will ever do,” states Pippo Ciorra, senior curator of architecture at MAXXI. “Because the project took so long and she had a small firm when it started, she was able to fully develop the design,” he explains. Some people have criticized the building as overwhelming the art inside it. Pio Baldi, president of Fondazione MAXXI, disagrees, saying the continuous galleries allow visitors to see art from different perspectives. The museum has certainly shaken up Rome’s often staid world of art and architecture, provided a jolt of creative energy to the Flaminio district, and given visitors a thrilling place to think about the future while still connected to the city’s rich past. ■

CREDITS

PROJECT: MAXXI/National Museum of XXI Century Arts, Rome, Italy

ARCHITECT: Zaha Hadid Architects – Zaha Hadid, Patrik Schumacher, partners in charge; Gianluca Racana, project architect; Anja Simons, Paolo Matteuzzi, Fabio Ceci, Mario Mattia, Maurizio Meossi, Paolo Zilli, Luca Peralta, Maria Velceva, Matteo Grimaldi, Ana M. Cajiao, Barbara Pfenningstorff, Dillon Lin, Kenneth Bostock, Raza Zahid, Lars Teichmann, Adriano De Gioannis, Amin Taha, Caroline Voet, Gianluca Ruggeri, Luca Segarelli, design team

ENGINEERS: Anthony Hunt Associates, OK Design Group, Studio SPC (structural); Max Fordham and Partners, OK Design Group (mechanical)

LIGHTING CONSULTANTS: Equation Lighting
GENERAL CONTRACTOR: Italiana Costruzioni

SOURCES

CONCRETE: GRC System Building

WINDOS: Metalsigma Tunesi; San Co.

GLAZING: Lorenzon

METAL STAIRS: Comic 2000; Pontina Impianti

FLOORS: Kerakoll

ELEVATORS: Kone Ascensori



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St. Anthony Hospital

GIG HARBOR, WASHINGTON

Zimmer Gunsul Frasca Architects' hospital and medical office building avoids an institutional look through natural materials and evidence-based design. **By Suzanne Stephens**

IN DESIGNING ST. ANTHONY, a privately funded hospital in the wooded area outside Seattle, the architects at Zimmer Gunsul Frasca (ZGF) asked themselves, "What would you want to see in a five-star hotel?" says ZGF interior designer, Anita Rossen. The comparison of hospitals to hotels is not so off-base: Evidence-based design principles now influencing the architecture of health-care facilities have been taking cues from the hospitality industry [RECORD, August

2009, page 73]. While the research has benefited from hotel studies focused on reducing stress among travelers, the motive of the hospitals is not to convince inhabitants to stay longer at the lodge. By trying to create a hotel-like atmosphere with single-bed rooms, ample views of the outdoors, indirect lighting, soft colors, and textured fabrics, health-care facilities such as St. Anthony are speeding recovery time and shortening the stay of their patients.





- | | | |
|----------------------|---------------------------|----------------------------|
| 1 MAIN ENTRANCE | 8 TRIAGE | 14 MEDICAL OFFICE BUILDING |
| 2 EMERGENCY ENTRANCE | 9 EMERGENCY DEPARTMENT | 15 MAMMOGRAPHY |
| 3 CHAPEL | 10 CONFERENCE | 16 MEDICAL SURGICAL UNIT |
| 4 ADMITTING | 11 STAFF | 17 ROOF |
| 5 GIFT SHOP | 12 HEALING GARDEN (ABOVE) | 18 ICU |
| 6 LOBBY | 13 RETAIL PHARMACY | 19 FAMILY WAITING |



2

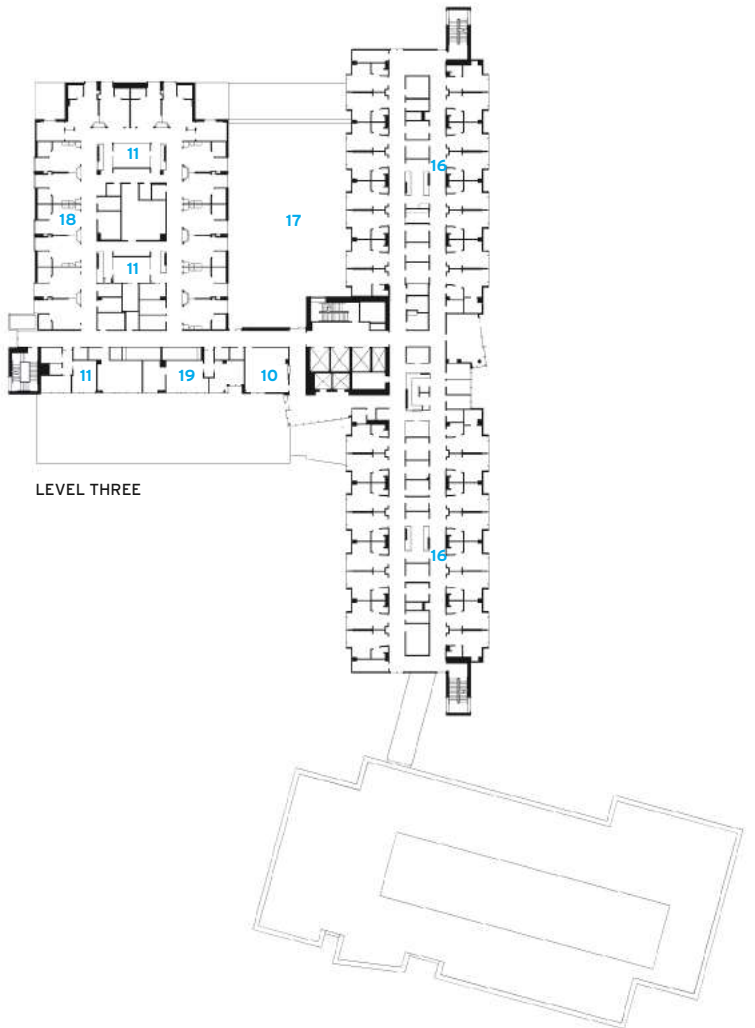
PREVIOUS PAGE: A curved-glass canopy on fir-clad steel columns marks the emergency entrance. Flanking it is a 600- square-foot concrete-and-wood chapel.

1. The five-story medical office building with a cancer-care center is

nested into a slope of the hilly site.

2. The four-story hospital wraps in an L-shape around the healing garden.

3. The hospital's horizontal massing takes advantage of the site's change in grade.



LEVEL THREE



1



3

Certain hospital features cannot be forsaken entirely – for example, the extensive use of washable floors instead of carpeting. Nevertheless, by adhering to evidence-based design findings, St. Anthony can claim an average stay of 2.6 days for its patients.

Program

ZGF, based in Portland, Oregon, as well as Seattle, was hired when the client, the Franciscan Health System (FHS), felt it should venture into a remote wooded peninsula to provide medical care to a population of 120,000. The FHS acquired 38 acres to accommodate a 256,000-square-foot, full-service hospital with 80 beds. Adjoining it is the 93,000-square-foot Milgard Medical Pavilion, which also includes the Jane Thompson Russell Cancer Care Center. While FHS's parent group, Catholic Health Initiatives, undertook the funding for the \$371-per-square-foot construction cost of the hospital,

a developer, Frauenshuh Healthcare Real Estate Solutions, built the \$172-per-square-foot medical office building. Nestled against a slope, it is connected to the main hospital by an enclosed pedestrian bridge and retains much of the hospital's noninstitutional architectural vocabulary.

Solution

In designing the architecture and interiors of the hospital, the notion of "a walk in the woods" became a conceptual reference point. When arriving at St. Anthony, visitors encounter natural materials – such as quartzite stone tiles combined with a boak-wood veneer that clads the exterior walls of the steel-framed structure.

The L-shaped hospital sits on a slope so that those entering the lobby find themselves on a shiplike mezzanine overlooking a sitting area 14 feet below, where a double-height window wall opens onto a healing garden. In the garden, local planting, sculpture, a pond, and an

CREDITS

ARCHITECT: Zimmer Gunsul Frasca Architects – Allyn Stellmacher, AIA, design partner; John Mess, AIA, project manager; Connie Holloway, AIA, project architect; James Harman, AIA, healthcare architect; Anita Rossen, interior designer

CLIENT: Franciscan Health System

ENGINEERS: PCS Structural Solutions (structural); DOWL Engineers (civil); St. Anthony: CDi Engineers (mechanical); Coffman Engineers (electrical); Milgard Medical Pavilion: ACCO Engineers (mechanical); DW Close (electrical)

CONSULTANTS: SiteWorkshop (landscape); Hammes Co. (owners' representative)

GENERAL CONTRACTOR: Sellen Construction

SIZE: 256,000 square feet (St. Anthony); 93,000 square feet (Milgard Medical Pavilion)

COST: \$95 million (St. Anthony); \$16 million (Milgard Medical Pavilion)

COMPLETION DATE: March 2009 (St. Anthony); December 2008 (Milgard Medical Pavilion)

SOURCES

MASONRY EXTERIOR CLADDING: Terrazzo and Stone Supply
ALUMINUM CURTAIN WALL AND WINDOWS: Kawneer
METAL PANEL: Centria
CONCRETE: Kitsap Ready Mix
WOOD: Parklex (boak-wood resin panel)
GLASS: Technical Glass Products; Hartung Glass Industries; aNorthwestern Industries



1. Blown-glass pendant light fixtures in the lower-level lobby next to the conference rooms recall glass floats used in commercial fishing.

2. Patient prep and recovery rooms have soft colors and cove lighting.

3. Single-bed rooms offer views, sofa-bed seating, and woodlike flooring.

OPPOSITE: Stairs spill down from the healing garden to the entrance of the medical office building.

outdoor café offer additional interaction with the outdoors.

Inside, the architects thought of designing the various spaces to evoke natural features, such as a glade or a clearing in the woods by means of details, materials, and lighting. Certain elements intentionally allude to the fishing culture of Gig Harbor. "We decided against literal motifs such as netting or anchors," says Allyn Stellmacher, ZGF design partner. Instead, ZGF opted for more abstract references, such as sail-shaped translucent glass canopies at the hospital's entrance.

The inclusion of wood paneling, stone fireplaces, and paintings and sculptures by local artists in public areas adds to the residential quality and the regional tone of the spaces. On top of that, the architects sited the hospital to take advantage of sun angles in the changing seasons so that natural illumination via skylights and windows (including ones placed at the ends of corridors) could cut down on energy expenditure. Such light sources also help provide patients and visitors with a sense of orientation, avoiding the clutter of signs common to hospitals.

While the architects do make use of fluorescent lighting, they have sought to mitigate its glare and deathly green tinge through a mix of cove lighting and other forms of indirect illumination. Similarly, they cut away acoustical-tiled ceilings at the edges to create reveals for lighting, and in certain public places have hung wood-slat ceilings to filter the light and buffer the sound.

Because of cost, vinyl floors appear more often than the more durable, less potentially toxic rubber flooring. Although ZGF notes that vinyl may not win green points, the design incorporates other means of promoting a sustainable environment – for example, the storm-water catchment system, as well as a storm-water detention pond and filtration system. Even the pond in the healing garden makes use of recycled water. Other energy-saving measures include a HVAC heat-recovery system that recycles heat generated from equipment.

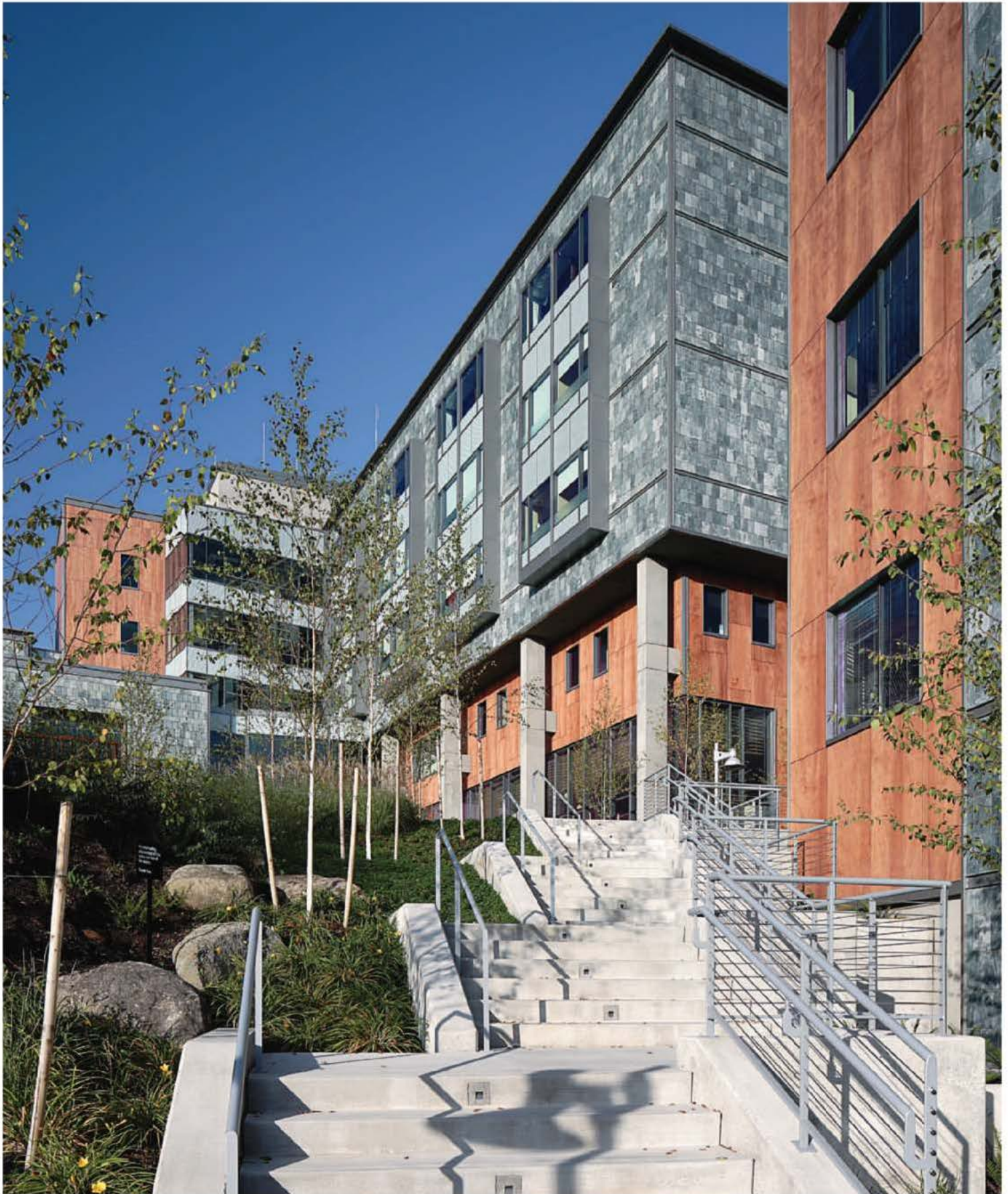
Commentary

With regard to Modern hospital design, Alvar Aalto's Paimio Sanatorium (1933), in a forest in Finland, has long



served as a design paradigm owing to its serenely spectral white volumes, interior spaces filled with daylight, and the integration of the building block with cantilevered outdoor balconies. St. Anthony shows a similar desire to connect to nature and make use of daylight, albeit without necessarily depending on Aalto's clinically white (with splashes of color) surfaces. Interestingly, St. Anthony's natural materials, rugged exterior surfaces,

massing, outdoor stairs, and organization around a common space recalls the later, softer Modernism seen in Aalto's Säynätsalo Town Hall (1952). The connections to both of these significant works explain why St. Anthony seems to bring together both the hygienic and the humane. Although it is not quite like a hotel (limited carpeting, no lamp shades, and too many metal machines), you might well want to stay more than average time of 2.6 days. ■



Milstein Family Heart Center

NEW YORK CITY

A beautifully daylighted infill addition between a hospital and an office building harvests precious space for diagnostics, treatment, and surgery. **By Charles Linn, FAIA**

CREDITS

ARCHITECT AND INTERIOR DESIGN:

Pei Cobb Freed & Partners – Ian Bader, FAIA, partner in charge; Michael D. Flynn, FAIA, partner; Alan Gordon, AIA, Richard Cutter, AIA, associate partners

ASSOCIATE ARCHITECT:

daSILVA Architects – Charles Calcagni, AIA, Anton Martinez, AIA, principals

CLIENT:

NewYork-Presbyterian Hospital

ENGINEERS:

Thornton-Tomasetti (structural); Syska Hennessy Group (m/e)

CONSULTANTS:

Medical Planning Research International (hospital planning); Peter J. Roman & Company (project manager)

CONSTRUCTION MANAGER:

Bovis Lend Lease

SIZE: 165,000 square feet (new construction), 40,000 square feet (renovation)

COST: \$140 million

COMPLETION DATE: January 2010

SOURCES

DOUBLE-WALL FACADE: Pilkington

METAL PANELS: Reynobond

SHADING DEVICE: Nysan Solar

WINDOWS: EFCO; Oldcastle

BuildingEnvelope

NEWYORK-PRESBYTERIAN

Hospital's dense web of mostly older buildings at its 20-acre campus in Upper Manhattan is not unusual for medical complexes constructed over many decades. Administrators and trustees balk at demolishing old facilities, and so with a nip here and a tuck there structures survive long past their original life expectancies, even as new space is desperately needed. The conundrum motivates these clients and their architects to scour the environs for sites they previously would never have considered.

Program

Milstein Hospital is NewYork-Presbyterian's main inpatient facility. When it opened in 1988, its operating rooms were state-of-the-art, and over the years they have become some of the busiest in the U.S. More than 100 operations may be performed in its 26-room surgical suite in the course of a day.

Surgery and patient care have evolved at light speed since the building opened, thanks in part to new techniques developed in this hospital. Diagnostics machines and complex surgical procedures that would have been considered science fiction when the building opened are common today and continue to advance rapidly.

But to keep leading the way, Milstein needed new kinds of spaces – for example, hybrid operating rooms that could quickly change from noninvasive to invasive surgery if a patient had problems in the midst of a seemingly routine procedure. But where could it expand?



Solution

The site of the new Vivian and Seymour Milstein Family Heart Center was carved out of a schist outcropping so large it was considered unusable until the real estate became too valuable to ignore. The addition fills a void between Milstein Hospital and the Herbert Irving Pavilion, an early 1960s vintage medical office building.

Patients and visitors can gain access to the Heart Center via its entrance on a side street, which is somewhat private and gives the center its own identity, or they can enter by way of Milstein Hospital's more public main lobby (considered the addition's first level) and through a compact but beautifully daylighted four-story atrium. It is spanned by bridges on three levels, connecting Irving to Milstein.

ABOVE: The Milstein Family Heart Center's waiting rooms and ICU enjoy spectacular Hudson River views.

OPPOSITE: The center is identified by its own entrance on a side street.

The new facility packs a tremendous amount into a small space. A conference center with prefunction space and an auditorium, as well as offices, is located on the first level. Labs occupy the level below the conference center, and a cath lab is located on level two. Eight new operating rooms have been added on the third level, and diagnostics, such as echocardiograms, are performed on level four. On level five, 20 ICU rooms have been added. Functions on all these floors have been seamlessly



VIVIAN AND SEYMOUR MILSTEIN FAMILY HEART CENTER



1



2

integrated into the existing hospital, while its circulation was improved.

Commentary

On the whole, hospital additions are more difficult to extract pleasing moments from than most building types. Obstacles range from woeful existing conditions to clients who resist spending money on frills like waiting rooms. The architects in charge of this project, Ian Bader, FAIA, of Pei

Cobb Freed & Partners, and Chip Calcagni, AIA, of daSILVA Architects, were privileged to have generous donors and an enlightened client in NewYork-Presbyterian's senior vice president, Andria Castellanos. And they are to be commended for what they've made of it. The exterior of the addition, which has earned a LEED Gold rating, stands out like a jewel between two beige monoliths that were depressing at best. Innovations

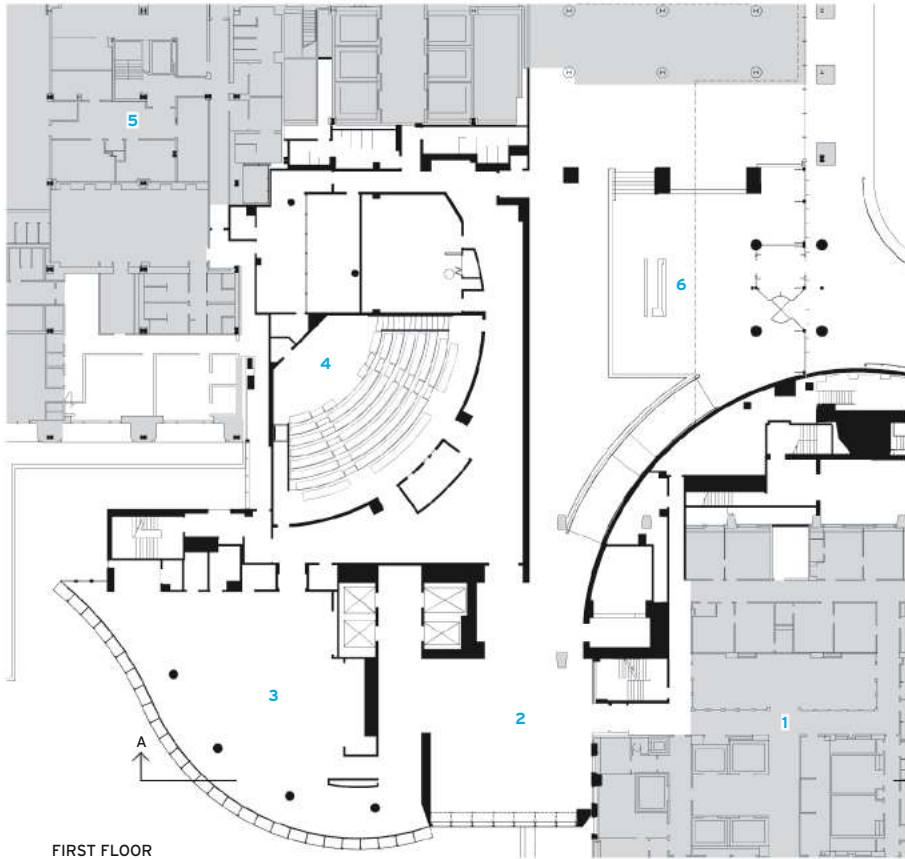
such as the cable-truss, double-walled facade that frames the south elevation bless the waiting rooms and conference center with spectacular views of the Hudson River. The glass bridges over the atrium are also more than eye candy. They reconcile the differences in floor heights between Irving and Milstein and can cut critical minutes of travel time between the buildings when a quick response to an emergency is required.

One of the huge challenges for these architects was anticipating how rooms not yet built could accommodate equipment not yet invented. Although their solutions are not visible to the eye, the firms devoted much attention to ensuring that the structural system as well as utility and data lines are adaptable enough to support what may be science fiction today, but commonplace in the near future. ■



3

1. The addition has to accommodate technology that is not yet available. The 3D MRI scanner pictured, for example, was not released until after construction began.
2. This suite of recovery rooms serves the cath lab.
3. The cable-truss-supported, double-walled facade gives waiting rooms a clear view of the Hudson.
4. Glass bridges span the atrium joining Milstein Hospital with the Irving Pavilion's offices.



FIRST FLOOR

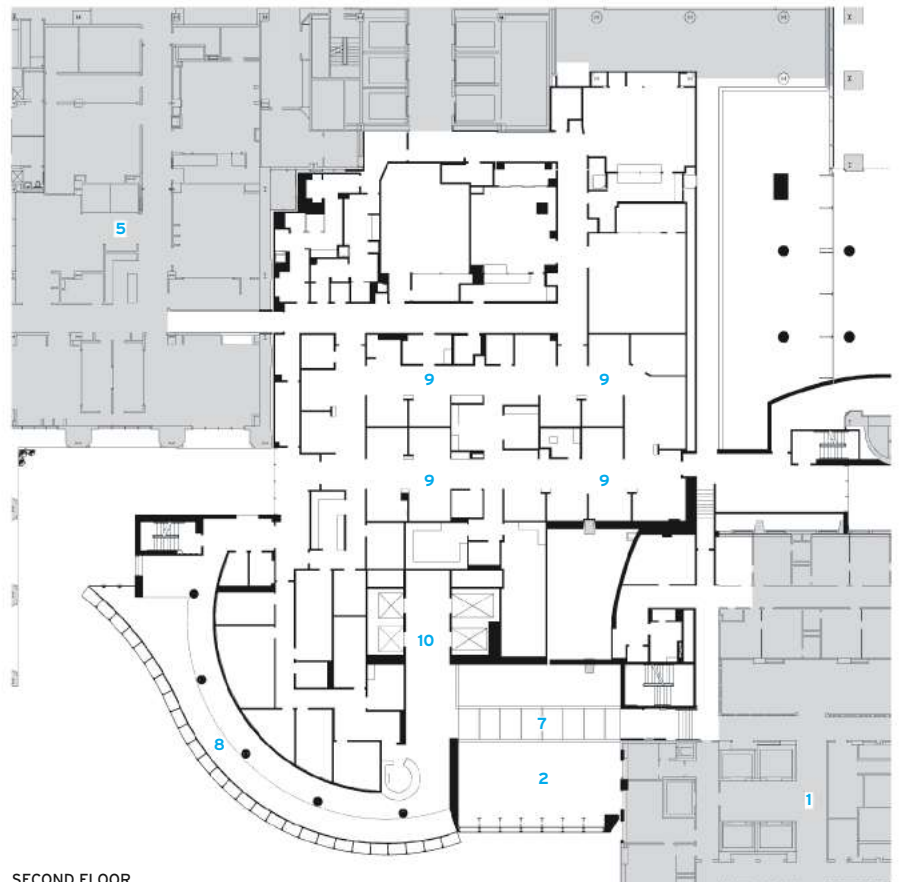


SECTION A-A LOOKING NORTH

0 30 FT.
9 M.

- | | |
|---------------------|-------------------------|
| 1 IRVING PAVILION | 7 BRIDGE |
| 2 ATRIUM | 8 RECEPTION AND WAITING |
| 3 PREFUNCTION | 9 AMBULATORY SURGERY |
| 4 AUDITORIUM | 10 VISITOR ELEVATORS |
| 5 MILSTEIN BUILDING | 11 LOWER LOBBY |
| 6 MILSTEIN LOBBY | 12 OFFICES |

0 10 FT.
3 M.



SECOND FLOOR



Penn State Hershey Cancer Institute

HERSHEY, PENNSYLVANIA

A building's design expresses and supports its client's mission of blending research and treatment. **By Clifford A. Pearson**

Health-care facilities typically use isolation as a strategy for dealing with infection control, creating buildings that work as sets of departments closed off from one another. The new Penn State Hershey Cancer Institute, however, emphasizes integration – in terms of both flow and function. Embodying the client's philosophy of “translational medicine,” which brings together cancer research and

treatment, the 182,000-square-foot building provides a series of indoor and outdoor spaces that encourage interaction – among different parts of the medical community, between patients and doctors, and between patients and their families.

Program

The Penn State Hershey Medical Center hired Payette to expand its

existing campus – adding buildings for the Cancer Institute, a children's hospital, and a parking garage – while also adding a new lobby for the general hospital, renovating the emergency department, and rethinking circulation through the sprawling complex. The new buildings needed to work with and respect the great curving structure known as the Crescent, designed by Vincent Kling in the mid-1960s.

Solution

To complement the Crescent, Payette organized the new buildings along a curving line it calls the Arc, completing first the garage, then in July 2009, the Cancer Institute and hospital lobby. Construction is under way now on the children's hospital and is scheduled to be done by the fall of 2012. “Our project shifts the center of gravity to the Arc,” says Kevin Sullivan, AIA, one of Payette's principals in charge, and offers a new face for the medical complex.

Lighter and more open than the

softly curving concrete Crescent, the steel-frame Cancer Institute reaches out to arriving patients with a large metal-and-wood canopy and generously glazed upper floors sitting above a base clad with granite, limestone, and metal-alloy panels. While the old building has a lovely garden tucked away in its medical-school wing, the new facilities bring this architectural device to the forefront in a series of green courtyards – one for the Cancer Institute, one for the general hospital, and two for the children's hospital. “Embedded gardens are the life force of the project,” states Sullivan. “It's our belief that access to nature not only makes for good architecture, but also good health care,” he adds.

Movement through the new buildings was critical to the project's design and inspired the architects to envision the main public spaces as an archipelago of curvilinear forms, explains Sullivan. So reception desks, planters, and skylights work

OPPOSITE: A metal-and-glass facade greets visitors to the Cancer Institute (at right) and a new lobby for the hospital (at left).

1. An "archipelago" of curving forms enlivens the hospital lobby.

2. The "beehive" atrium reveals the institute's workings: research and offices above and treatment and examination below.



1

as abstract islands, and waves of landscaping ripple through the gardens. The lobbies of the main hospital and Cancer Institute intersect, as will that of the children's hospital when it is done. In the Cancer Institute, the architects carved out a four-story atrium that offers views from one floor to another. Because it serves as a social hub, the architects dubbed it the "beehive."

As part of its mission to break down old barriers, the institute brings together departments that had been on different parts of the campus and mixes offices for researchers with those for clinicians on the top two floors. These floors also combine lab spaces with offices, breaking with tradition. Lounges overlooking the beehive on the top floors encourage all members of the medical community to relax, eat together, and exchange ideas. "We moved from a departmental model to an integrated institute," says Thomas Loughran, the director

CREDITS

ARCHITECT: Payette – Kevin Sullivan, AIA, Sho-Ping Chin, FAIA, Leon Drachman, AIA, principals in charge; Michael Hinchcliffe, AIA, project architect; Stephanie Collins, Santiago Garay, Dennis Grudkowski, Seunghwan Lee, Michael Liporto, AIA, Mike Quinn, AIA, Steven do Rego, Carl Romig, Wesley Schwartz, project team

ASSOCIATE ARCHITECT: Array

ENGINEERS: Gannett Fleming (structural/civil); BR+A (m/e/p)

LANDSCAPE ARCHITECT: Hargreaves Associates

SIZE: 182,000 square feet

COST: \$92 million

COMPLETION DATE: July 2009

SOURCES

CURTAIN WALL: National Glass

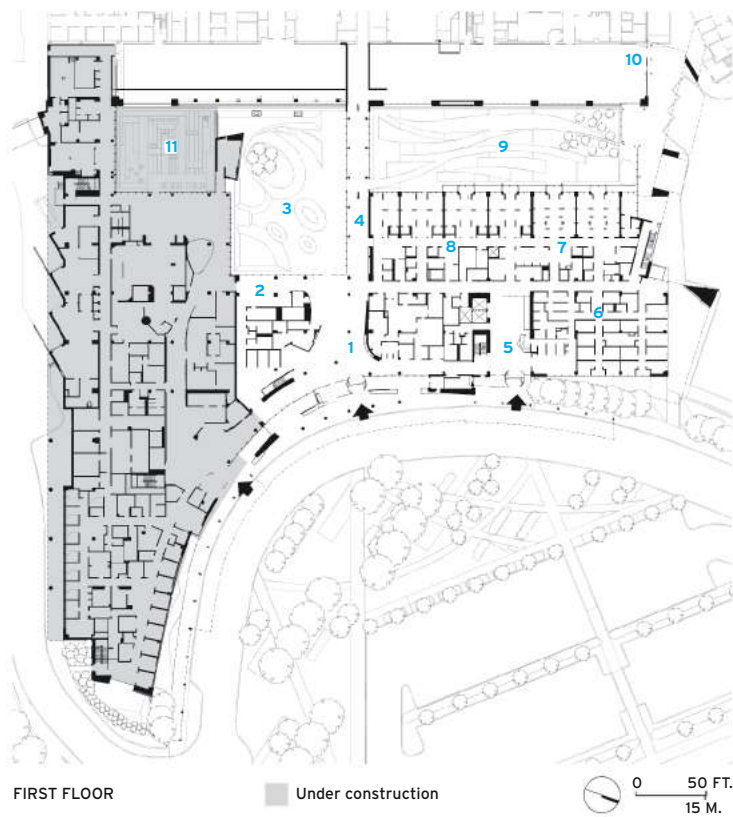
METAL PANELS AND CLADDING: Centria; Rheinzink

VEGETATED ROOF: Hydrotech

GLAZING: Oldcastle BuildingEnvelope



2



FIRST FLOOR

Under construction

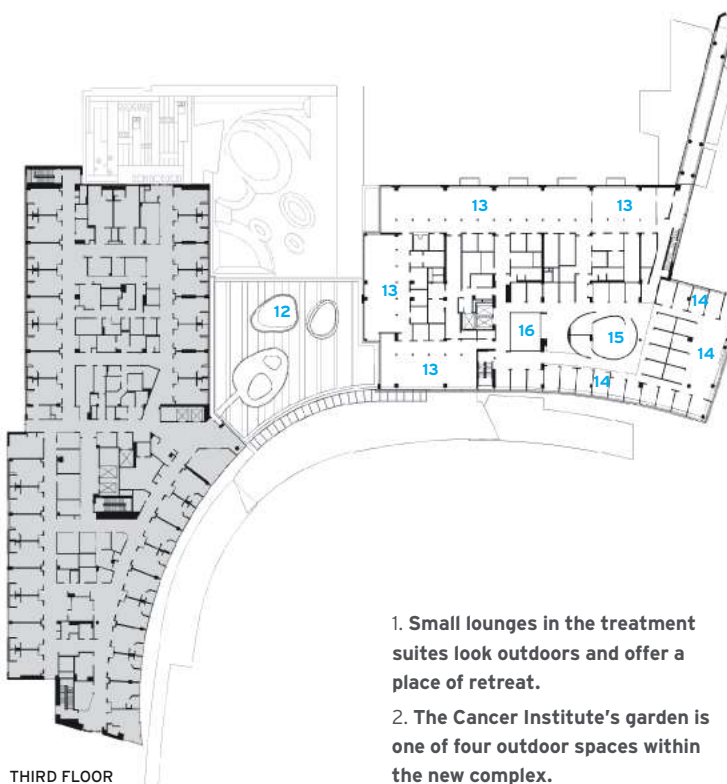
- | | |
|--------------------------|-------------------------------|
| 1 MAIN HOSPITAL LOBBY | 9 CANCER INSTITUTE GARDEN |
| 2 CAFÉ | 10 EMERGENCY DEPARTMENT |
| 3 HOSPITAL GARDEN | 11 CHILDREN'S HOSPITAL GARDEN |
| 4 CONNECTOR TO HOSPITAL | 12 ROOF GARDEN |
| 5 CANCER INSTITUTE LOBBY | 13 LABORATORY |
| 6 OUTPATIENT CLINIC | 14 OFFICE |
| 7 INFUSION THERAPY | 15 CONFERENCE |
| 8 DAY HOSPITAL | 16 ATRIUM |



2



1



THIRD FLOOR

1. Small lounges in the treatment suites look outdoors and offer a place of retreat.
2. The Cancer Institute's garden is one of four outdoor spaces within the new complex.

of the Institute. "We recently put together a major grant proposal," he recalls, "and having everyone talking to each other helped."

On the first two floors, access to daylight enlivens infusion suites and outpatient clinics. In some places, a small glazed room overlooks the garden and offers an attractive space for family members to relax while being close to those being treated.

Commentary

While walking through the Cancer Institute's treatment suites still

feels like an institutional trek, connections with outdoor spaces offer critical improvements to the character of the place. The beehive atrium does a good job of bringing daylight and activity to the heart of the building, gathering researchers and clinicians together in its upper-floor lounges and establishing visual ties between doctors and the people they serve. The building's design inspires confidence that such connections can speed the translation of research into treatment. ■



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– Matt Dubbe, Mead & Hunt Inc.

TILE FROM SPAIN: THE PRODUCT THAT NEVER SLEEPS.

Certain spaces see more than their share of traffic. Think of the abuse an elementary school floor must endure – thousands of little feet walking, running, jumping day in and day out. Or hospital hallways, as hundreds of doctors, nurses, patients and families go about the business of saving lives. Add gurneys that are rushed down the hall, stat. Supply carts shoved mercilessly against the wall. Airports, same story: millions of passengers, employees and airline crew members, luggage wheels, people-moving carts, wheelchairs – night and day.

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Live | Build | Sustain

A new green building program aims to push the design and construction industry well beyond current best practices. **By Nancy B. Solomon, AIA**



Continuing Education

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To earn one AIA learning unit, including one hour of health, safety, and welfare/sustainable design (HSW/SD) credit, turn to page 118 and follow the instructions.

Learning Objectives

- 1 Explain the goals of the Living Building Challenge.
- 2 Describe its organizational framework and requirements.
- 3 Discuss the hurdles to achieving Living Building designation.
- 4 Compare the Challenge and the LEED rating system.

THE LIVING BUILDING CHALLENGE is not for the faint of heart. Part polemic, part rating system, it looks squarely at the environmental crisis – from rising global temperatures to shrinking natural habitats – and asks: What are we going to do about it, not in a few decades or a few years, but today?

The program challenges like-minded people to avoid any further degradation when they build. In fact, it asks participants to try to heal their sites as they create structures that exist in harmony with their surrounding ecosystems, inhabitants, and cultures. And if myopic building codes or manufacturing processes are limiting sustainable options, it requires the project team to advocate change.

While applauding the progress that has been made by the green-building movement in the past 20 years, the authors of the Challenge say it has not been enough. In an April 2010 description of the program, they argue that “incremental change is no longer a viable option.” Given the enormity of the task that still lies ahead, they maintain that we need “to completely reshape humanity’s relationship with nature and realign our ecological footprint to be within the planet’s carrying capacity.”

The concept of a living building grew out of a mid-1990s project to design a highly sustainable building for Montana State University. The design team, which included BNIM Architects of Kansas City, Missouri, sought to shift from a mechanistic model of architecture, in which natural resources are viewed as fodder for construction, to a more organic one, in which a building is designed to be fully part of, and in balance with, its ecosystem.

Although the Montana project was never built, Bob Berkebile, a founding principal of BNIM, and Jason F. McLennan, then head of the firm’s building-science team, continued to work on the concept. They coauthored an article titled “Living Building,” which appeared in the October 1999 issue of *The World & I*, and used the same term to signify

ideal green-building practices in a study initiated the next year for the David and Lucile Packard Foundation. The latter analyzed the construction and operating costs of market-rate construction, comparing them to the costs associated with certification under the four tiers of the Leadership in Energy and Environmental Design (LEED) rating system, which had only recently been launched by the U.S. Green Building Council. The Packard study also examined the cost of achieving the then-largely-hypothetical living building, which was envisioned to be even more sustainable than one meeting LEED’s highest level of certification, Platinum.

McLennan continued to refine the living building concept and, in August 2006, presented the first version of the program to Cascadia Green Building Council (Cascadia), a chapter of both the U.S. and Canada Green Building Councils covering Oregon, Washington State, British Columbia, and Alaska. McLennan joined the organization as its C.E.O. soon thereafter, and Cascadia formally announced the launch of the Living Building Challenge in November 2006. To administer the expanding program, Cascadia established a separate organization, the International Living Building Institute (ILBI), in May 2009, which released Version 2.0 of the system later that year.

The framework

To fully meet the Challenge in its current version, a man-made environment must address seven performance areas: site, water, energy, health, materials, equity, and beauty. These categories are called “petals” to emphasize the overarching goal: A building, like a flower, should be in ecologic balance with its environment, rooted to its place, and an ongoing source of inspiration.

Each performance area has one or more requirements, or “imperatives.” There are 20 imperatives in all, with names like “limits to growth” and “inspiration + education.” All

IMPERATIVES AND TYPOLOGY MATRIX

To obtain Living Building status, projects must satisfy the following:

● Required ■ Solutions beyond project boundary permitted

PROJECT TYPLOGIES	SITE				WATER		ENERGY	HEALTH			MATERIALS				EQUITY			BEAUTY		
	Limits to growth	Urban agriculture	Habitat exchange	Car-free living	Net-zero water	Ecological water flow	Net-zero energy	Civilized environment	Healthy air	Biophilia	Red list	Embodied carbon footprint	Responsible industry	Appropriate sourcing	Conservation + reuse	Human scale + humane places	Democracy + social justice	Rights to nature	Inspiration + education	
NEIGHBORHOOD	●	■	■	■	●	■	■	●	●	●	●	■	●	●	●	●	●	●	●	●
BUILDING	●	■	■	■	●	■	■	●	●	●	●	■	●	●	●	●	●	●	●	●
LANDSCAPE + INFRASTRUCTURE	●		■		●	■	■			●	●	■	●	●	●	●	●	●	●	●
RENOVATION	●		■		●		■	●	●		●	●	●	●	●				●	●

SOURCE: INTERNATIONAL LIVING BUILDING INSTITUTE



PHOTOGRAPHY: © MATTHEW MILLMAN

imperatives within a performance area must be met to earn that particular petal of the Challenge.

Projects are categorized as belonging to one of four typologies, or construction types: landscape and infrastructure, renovation, building, and neighborhood. The projects are also grouped into one of six living transects according to the density of their context – a concept based on Duany Plater-Zyberk & Company’s New Urban Transect. The transects range from natural habitat preserve (L1) to urban core zone (L6).

The conceptual nature of the imperatives allows them to be overlaid with these various typologies and transects to create a holistic matrix that can be effectively applied to any kind of man-made environment, from park gazebo to office tower.

The matrix adds flexibility to an otherwise extremely demanding program. Some typologies, for example, do not have to meet all 20 imperatives because the requirement does not apply to that form or scale of construction. A renovation, for

instance, does not have to address the biophilia imperative.

And certain criteria within some imperatives are adjusted according to the project’s transect. For example, according to the urban agriculture imperative, a project with a floor area ratio (FAR) of less than .05 located in a rural agricultural zone (L2) must use 80 percent of its project area for food production, while one located in the urban center zone (L5) with an FAR of 2.5 need only allot 5 percent for such use.

Furthermore, the matrix allows the Challenge to employ a mechanism called “scale jumping,” in which a project may be exempted from meeting certain imperatives (such as net-zero water or net-zero energy) within its boundaries. However, the team must demonstrate that the overall goal of the imperative can be achieved by implementing solutions at the campus, neighborhood, or community scale.

Recognizing that the program is still evolving, the developers have also included temporary exceptions to

The Energy Laboratory at the Hawaii Preparatory Academy in Waimea, Hawaii, was designed by Flansburgh Architects of Boston and completed in January 2010. To source materials for projects in such remote regions, the Challenge increases allowable transportation distances.

TRANSPORTATION RESTRICTIONS

Source locations for materials and services must adhere to the following limits:

ZONE	MAXIMUM DISTANCE	MATERIALS OR SERVICES
1	500 km	Heavy or high-density materials
2	1,000 km	Medium-weight and medium-density materials
3	2,000 km	Light or low-density materials
4	2,500 km	Consultant travel
5	5,000 km	Assemblies that actively contribute to building performance and adaptable reuse
6	15,000 km	Renewable technologies
7	20,004 km	Ideas

RED LIST

Projects may not contain any of the following materials or chemicals:

- Asbestos
- Cadmium
- Chlorinated polyethylene and chlorosulfonated polyethylene
- Chlorofluorocarbons (CFCs)
- Chloroprene (neoprene)
- Formaldehyde (added)
- Halogenated flame retardants
- Hydrochlorofluorocarbons (HCFCs)
- Lead (added)
- Mercury
- Petrochemical fertilizers and pesticides
- Phthalates
- Polyvinyl chloride (PVC)
- Wood treatments containing creosote, arsenic, or pentachlorophenol



1. **The Omega Center for Sustainable Living in Rhinebeck, New York, was completed in May 2009. The building, designed by BNIM Architects, houses a classroom and an Eco-Machine, which treats wastewater with algae, fungi, bacteria, plants, snails, and fish.**

2. **EcoCenter at Heron's Head Park opened in April 2010 on a landfill site in San Francisco. Designed by Toby Long, the center includes an intensive green roof and a rainwater-harvesting system.**

3. **Ann and Gord Baird designed and built Eco-Sense, a house in Highlands, British Columbia, for their own family. Completed in late 2008, its walls are made of cob – a mixture of sand, straw, and clay.**

4. **On the condition that water quality be tested monthly, authorities in Eureka, Missouri, allowed Hellmuth+Bicknese Architects to specify a potable rainwater system for the Tyson Living Learning Center. It opened in May 2009.**

many of the imperatives. Once the market successfully responds to an imperative's demands, these exceptions will be removed. Typically, a project team can take advantage of an exception by demonstrating that it has made every effort to meet the requirement and has advocated some kind of industrywide change. Examples of such advocacy include writing manufacturers to request modifications in material sourcing, product formulation, or assembly, or by filing an appeal with the appropriate agencies to amend a code.

The process

To formally participate in the Challenge, at least one member of the project team must join ILBI's Living Building Community Membership, which is available to any interested individual or organization according to a tiered fee schedule (currently \$125 for an individual), offers access to various online resources, from the actual user's guide to discussion forums. According to Eden Brukman, ILBI vice president and research director for Cascadia, there are currently more than 475 members.

To officially participate in the Challenge – and obtain any needed clarifications from ILBI – a member must register the proposed project for an additional fee, ranging from \$100 to \$500, based on type. Brukman estimates that 70 projects in North America and a handful in Europe and Australia are registered under some version of the Challenge, although she has heard anecdotally about many more unregistered projects informally trying to meet the program's criteria.

The actual certification requires a third fee. A payment starting at \$1,000 for projects less than 500 square meters and aiming for full certification is due prior to an audit, which takes place after the project has been in operation one full year. According to Brukman, ILBI will select people with a knowledge of green building and train them to undertake these audits. They will function as consultants to ILBI rather than employees and will visit the site and review the various metrics and documentation submitted by the team.

The imperatives for all petals must be met for full certification, or "Living Building" status. If at least three petals are met, including at least one being the energy, water, or materials petal, the project will earn partial certification, or "petal recognition." The team can later apply for full certification, if and when it fulfills the remaining petals.

At press time, only five of the registered projects had completed construction: Eco-Sense in Highlands, British Columbia; Tyson Living Learning Center in Eureka, Missouri; Omega Center for Sustainable Living in Rhinebeck, New York; Hawaii Preparatory Academy Energy Laboratory in Waimea, Hawaii; and EcoCenter at Heron's Head Park in San Francisco. Eco-Sense, Tyson, and Omega have finished their 12-month operational phase and are currently under audit. ILBI could make an announcement about their status later this month.

Verification

The method of verification will depend on the particular imperative. Some have very clear-cut, albeit demanding, criteria. Net-zero energy, for example, requires that "one hundred percent of the project's energy needs must be supplied by on-site renewable energy on a net annual basis." Verifying these kinds of imperatives is relatively straightforward: a site visit plus either 12 months of utility bills demonstrating net-zero

energy over the year or a letter from the local utility company confirming that the project is not connected to the grid.

Other imperatives are much less objective. “Beauty + spirit,” for example, states that “the project must contain design features intended solely for human delight and the celebration of culture, spirit, and place appropriate to its function.” To demonstrate that this objective has been met, the architect and owner must write essays describing the value of the place in physical and cultural terms, the purpose of the project, the aesthetic intent of the design, how the aesthetic intent relates to the particular region, and how this intent was carried out in practice. During their site visits, auditors will judge if the team successfully translated their written goals into physical form. In addition, occupants and visitors will be surveyed to gauge their reaction to the finished product.

Although the metric for beauty is far less clear cut than the ones for energy or water, ILBI believes a genuine effort on the part of the entire team to discuss the meaning of beauty within a particular context and how they hope to achieve this is a significant accomplishment in itself. “We are trying to bring the question of beauty back into the forefront,” says Brukman. And she adds that it is the more indeterminate concepts of beauty and equity that tend to draw people to the Challenge: “That is what they really appreciate about the program – even if they are hard to measure.”

Craig Curtis, FAIA, a partner at Seattle-based Miller Hull Partnership, concurs, noting that a living building “has to be beautiful” if proponents are going to convince others to build this way. Miller Hull is currently working toward Living Building status for the Cascadia Center for Sustainable Design + Construction, a commercial structure that is being built in Seattle by the Bullitt Foundation to house like-minded organizations, including the Cascadia Green Building Council.

Early adopters

Although it certainly wishes otherwise, ILBI does not expect everyone to sign on at once. Says Brukman, “The Living Building Challenge targets the top end – the early adopters who have been pushing the envelope.” Generally speaking, this means a client with an established, institutional concern for the environment. To be willing to tackle the seemingly impossible demands of the Challenge, “the owner has to be the driver,” points out Chris Minnerly, AIA, principal of The Design Alliance



5

Architects, who is working on the Center for Sustainable Landscapes at the Phipps Conservatory and Botanical Gardens in Pittsburgh, another registered project.

A quick run-through of the clients of the first five constructed projects bears this out: Eco-Sense is the 2,150-square-foot home for a multigenerational family committed to living off the grid; the Tyson Center is a 2,900-square-foot environmental research and education facility for the International Center for Advanced Renewable Energy and Sustainability at Washington University in St. Louis; the Omega Center is a 6,200-square-foot education center and natural wastewater treatment facility for the Omega Institute for Holistic Studies, which lists biologist John Todd, leader in the field of ecological water purification, as one of its teachers; the Energy Lab is a 6,100-square-foot educational facility for Hawaii Preparatory Academy, a private school that has instituted a “go green” initiative; and EcoCenter is a 1,500-square-foot environmental education facility run by the organization Literacy for Environmental Justice.

5. The Cascadia Center for Design + Construction by Miller Hull Partnership is part of Seattle's Living Building Pilot Program. The team has received approval to extend a photovoltaic canopy into a right-of-way so that the building can generate sufficient energy on-site.

6. Designed by Iredale Group Architecture, the Robert Bateman Art and Environmental Education Centre makes use of old growth Douglas fir salvaged from a nearby abandoned aircraft hangar in its roof structure.



6

The Centre for Interactive Research on Sustainability (CIRS), under construction in downtown Vancouver, will serve as a “living laboratory” for the study of building products, technologies, and systems in context. The idea for CIRS, designed by Busby Perkins+Will, was conceived about eight years ago by John Robinson, former director of the University of British Columbia’s Sustainable Development Research Initiative. He was frustrated that sustainable processes were not being implemented quickly enough and envisioned a building that could operate within its own footprint.

Like these first five, most of the other registered projects are also fairly small. However, a few intrepid teams are attempting to apply the challenge’s strictures to larger buildings. But jumping up in scale is not easy, reports Laura Lesniewski, AIA, the BNIM partner in charge of the Omega project: “It gets pretty tricky with water, energy, and materials when you enter that world.”

In addition to the 50,000-square-foot Cascadia Center and the 24,000-square-foot Center for Sustainable Landscapes, larger registered projects currently in design or construction include two in British Columbia: the 27,000-square-foot Robert Bateman Art and Environmental Education Centre on the campus of Royal Roads University in Victoria and the 61,000-square-foot Centre for Interactive Research on Sustainability (CIRS) at the University of British Columbia in Vancouver. As all their names imply, the clients for these projects, like the first five, have strong environmental missions.

The thorniest petal

The difficulties of the Challenge vary markedly by project, depending in large part on local natural resources and codes and building program and size. But if one petal of the Challenge stands out as the most difficult, it would have to be the one pertaining to materials.

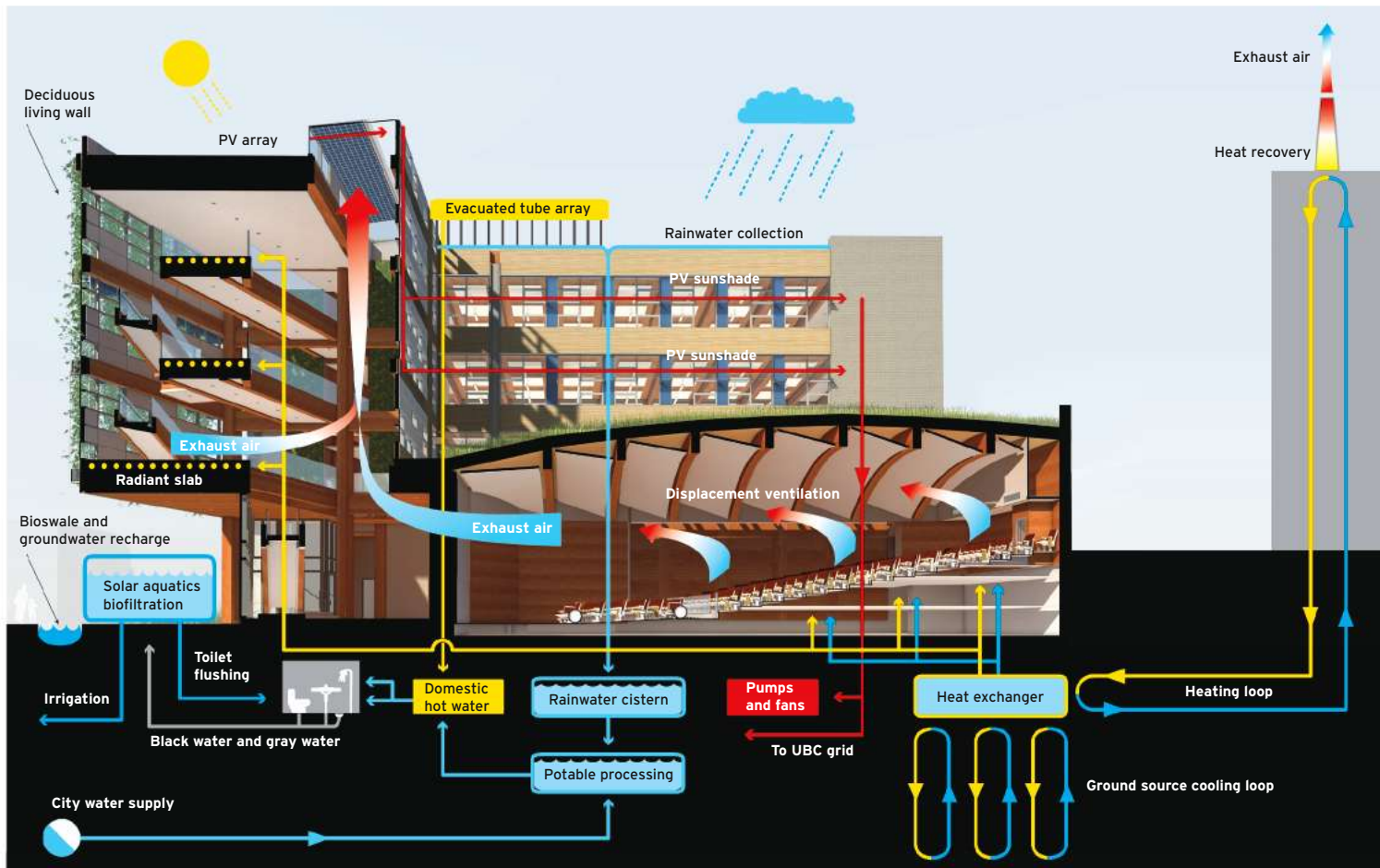
Two imperatives in particular – the “red list” and appropriate sourcing – can be difficult to satisfy. The red list specifies potentially toxic substances that must be avoided in

products and finishes, even though many are still common in construction materials. The appropriate sourcing imperative limits the distance products and consultants can travel to reach the project site.

Design teams must research every product they are considering to determine if any contain forbidden substances. Typically this means calling the product supplier, who in turn must often call the manufacturer to obtain the information. But some manufacturers won’t release the data, points out Minnerly, because they consider it proprietary. And many others haven’t conducted chemical testing and “don’t even know what’s in their products,” says Richard H. Iredale, a partner at Iredale Group Architecture. The firm has offices in Vancouver and Victoria, British Columbia, and is designing the Bateman Centre.

Specifiers also must keep tabs on shipping distances. The mileage restrictions can severely limit product options. And, needless to say, the effort required to research and track this information adds significantly to a team’s workload.

Several project teams also found it hard to meet another of the materials imperatives – responsible industry, which requires that all timber be “certified by the Forest Stewardship Council (FSC), from salvaged sources, or from the intentional harvest of timber on-site for the purpose of clearing the area for construction.” At least one client felt that FSC-certified wood was cost-prohibitive, and one architect reported that it was difficult to obtain FSC-certified structural lumber within



breaking boundaries

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The Center for Sustainable Landscapes will house the administrative staff of the Phipps Conservatory and Botanical Gardens, in Pittsburgh. The project team, which includes Design Alliance Architects, is aiming to achieve Living Building status with existing and affordable technologies.

the allowable distances. Many teams instead spent considerable time and energy looking for salvaged wood within the acceptable mileage range.

LEED vs. the Challenge

One cannot discuss a new green building rating system without asking how it compares to LEED, which has become the most accepted system in the country, if not the world. "We fully recognize that the industry wouldn't be ready for the Challenge if it hadn't been for LEED," says Brukman. "We are tackling the same issue from different angles," she says. "While LEED is targeting

incremental change, working to increasingly improve building performance above code to achieve broad market transformation, the Living Building Challenge is coming from the other side, inspiring people by identifying the ideal and seeing how close they can come to it."

In practice, the most noticeable difference between LEED and the Living Building Challenge is that the former is primarily prescriptive while the latter is primarily performance-based. LEED spells out how a practitioner can accomplish its goals, while the Living Building Challenge encourages team discussion and brainstorming to develop the best strategies, no matter how unique, for the site. "The Challenge's endgame is rigid – all or nothing – but they don't care how you get there," says Minnerly.

And while practitioners generally seem to agree that LEED has established itself firmly in the market, many believe that it will gradually adopt the best ideas of the Living Building Challenge as the goals of this newer, cutting-edge rating system become more attainable. After all, notes Martin Nielsen of Vancouver-based Busby Perkins+Will, the design principal for CIRS, "the avant-garde is continually consumed by the mainstream." ■

Nancy B. Solomon, AIA, writes regularly about architecture, planning, and sustainable design.

CEU questionnaire continued on page 118.

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1 The seven Living Building Challenge performance areas, or "petals," include all except which?

- A water
- B energy
- C innovation
- D beauty

2 Which of the following regarding the appropriate sourcing imperative are true?

- A it limits distances materials and services can be transported, based on density or weight
- B it identifies potentially toxic substances that must be avoided in products and finishes
- C both A and B
- D none of the above

3 Which of the following can be used to demonstrate compliance with the net-zero energy imperative?

- A a whole-building energy simulation
- B a year's worth of utility bills
- C a letter from the utility company stating that the building is not connected to the grid
- D B or C

4 The Challenge allows the use of which type of timber?

- A timber certified by the Forest Stewardship Council
- B timber from salvaged sources
- C timber harvested on-site for the purposes of clearing the area for construction
- D all of the above

5 According to the urban agriculture imperative, a renovation must devote how much of its project area to food production?

- A 80 percent
- B 5 percent
- C 2.5 percent
- D renovation projects have no urban agriculture requirement

6 Which of the following substances is not included on the red list?

- A halogenated flame retardants
- B thermoplastic polyolefins (TPO)
- C polyvinyl chloride (PVC)
- D chlorinated polyethylene

7 How can "scale jumping" make it easier to meet the Challenge?

- A it allows products to come from farther away if these materials are bought in large enough quantities
- B it allows certain imperatives to be addressed beyond the project's boundaries
- C it relaxes the criteria for large-scale projects
- D all of the above

8 To achieve Living Building certification, what percent of a project's energy needs must be supplied by on-site renewable energy on a net-annual basis?

- A 75
- B 85
- C 95
- D 100

9 What are some common difficulties faced by project teams trying to determine if a product contains a substance on the red list?

- A the product supplier cannot answer the question
- B the manufacturer will not answer because it considers the information proprietary
- C the necessary chemical tests on the product have never been undertaken
- D all of the above

10 In comparing the Challenge to LEED, which of the following are true?

- A both require that a project be completed and operating for at least 12 months prior to certification
- B LEED more clearly indicates how an architect can achieve the rating system's goals
- C the Challenge is primarily performance-based
- D B and C

Program title

"Live | Build | Sustain,"
ARCHITECTURAL RECORD,
10/2010, page 110.

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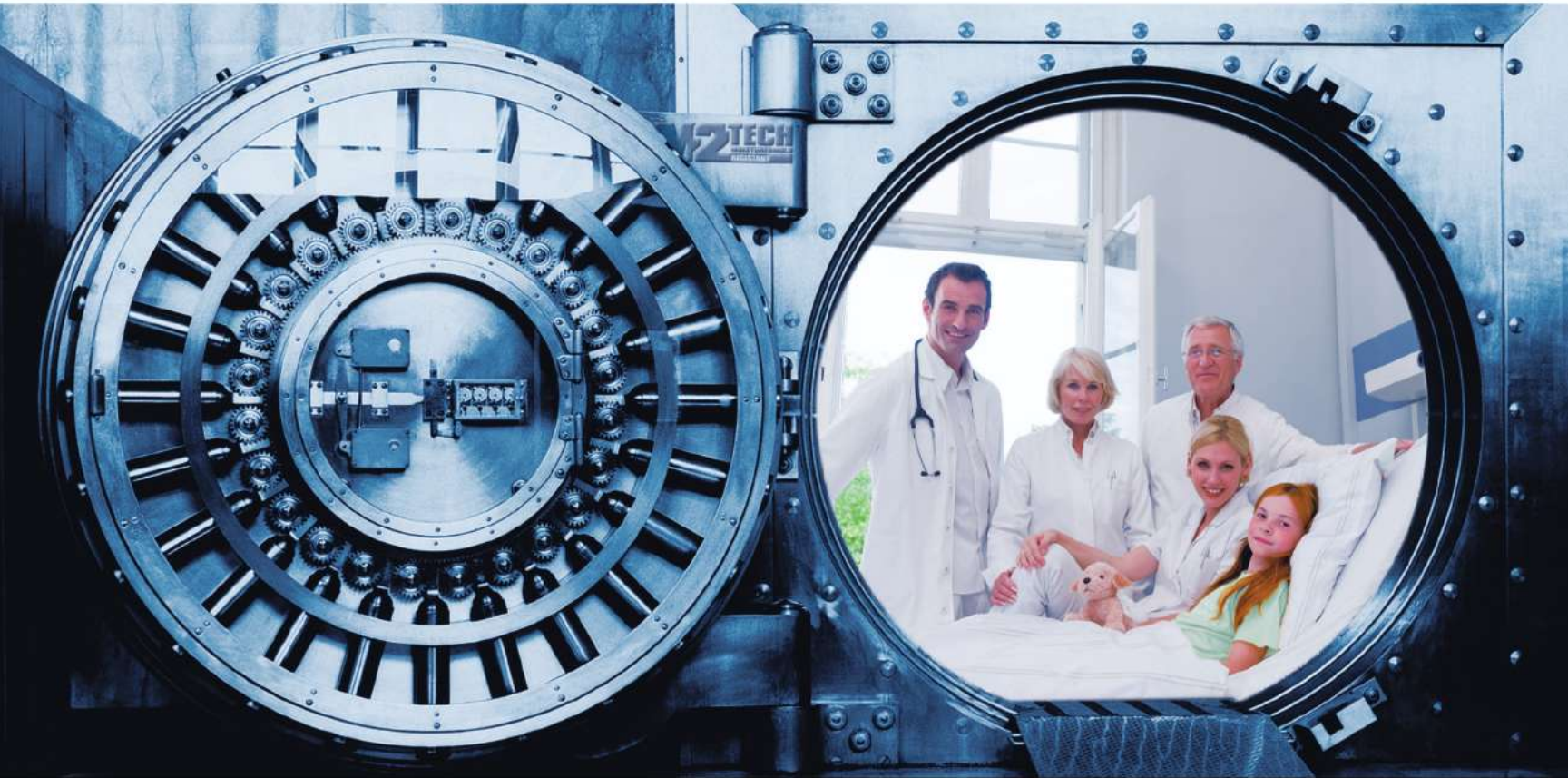
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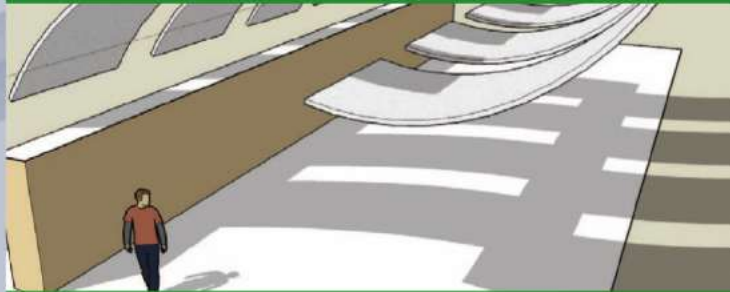


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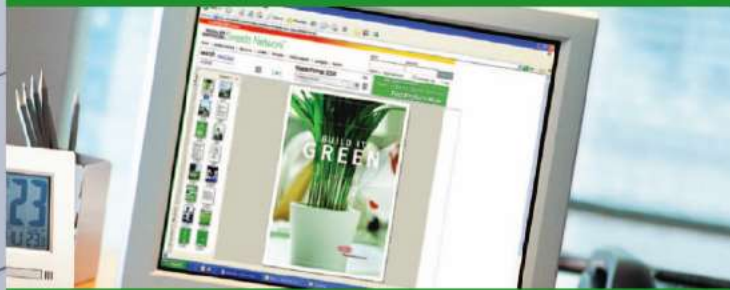
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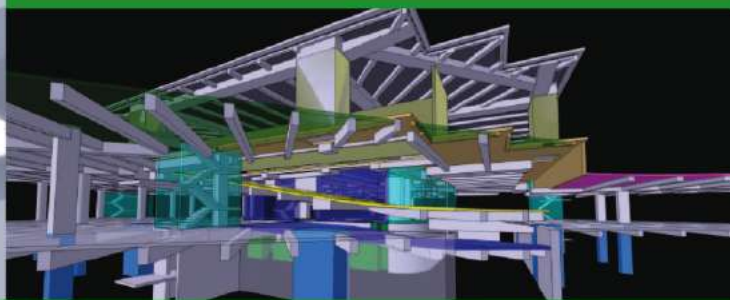
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Chuckanut Drive Residence Bellingham, Washington Architect **Miller Hull Partnership**

OVERLOOKING THE CRAGGY

Washington coastline, this waterfront residence enjoys cinema-worthy scenery – but is subject to significant winds and extreme weather. The Miller Hull Partnership devised an elemental design and materials palette – exposed-timber framing, abundant fenestration – to harmonize with the wooded site and water views.

Located at one end of the home, the kitchen faces due south through metal-clad fir windows that rise from the countertop to the 12-foot ceiling. Running the full length of the southern wall, the fenestration

has a 0.40 U-value befitting the climate. “These windows combine performance with design so well,” says principal Robert Hull. “They have such a thin profile, yet are strong enough to support mullions of a minimum dimension.” A deep roof overhang further shields the facade.

The west wall’s view is no less diminished, thanks to a clever glazing treatment that offers water vistas and access to the patio beyond. A wall cavity between the stove’s glass backsplash and a double-glazed fixed window accommodates one of the sliding doors when open.

Such expansive glazing does come at a practical cost, limiting available wall space for storage. To compensate, a large walk-in pantry adjoins the kitchen, accessed near the refrigerator. Base cabinetry was also maximized: Maple units capped with stainless-steel counters line three walls, surrounding a concrete-topped island that holds court in the center of the room.

After sunset, dimmable MR15s illuminate the space, along with halogen undercabinet lights and pendant fixtures above the island. *Leslie Clagett*

CREDITS

ARCHITECT: Miller Hull Partnership – Robert Hull, design partner/partner in charge; Jed Edeler, project architect

GENERAL CONTRACTOR: Emerald Builders

SOURCES

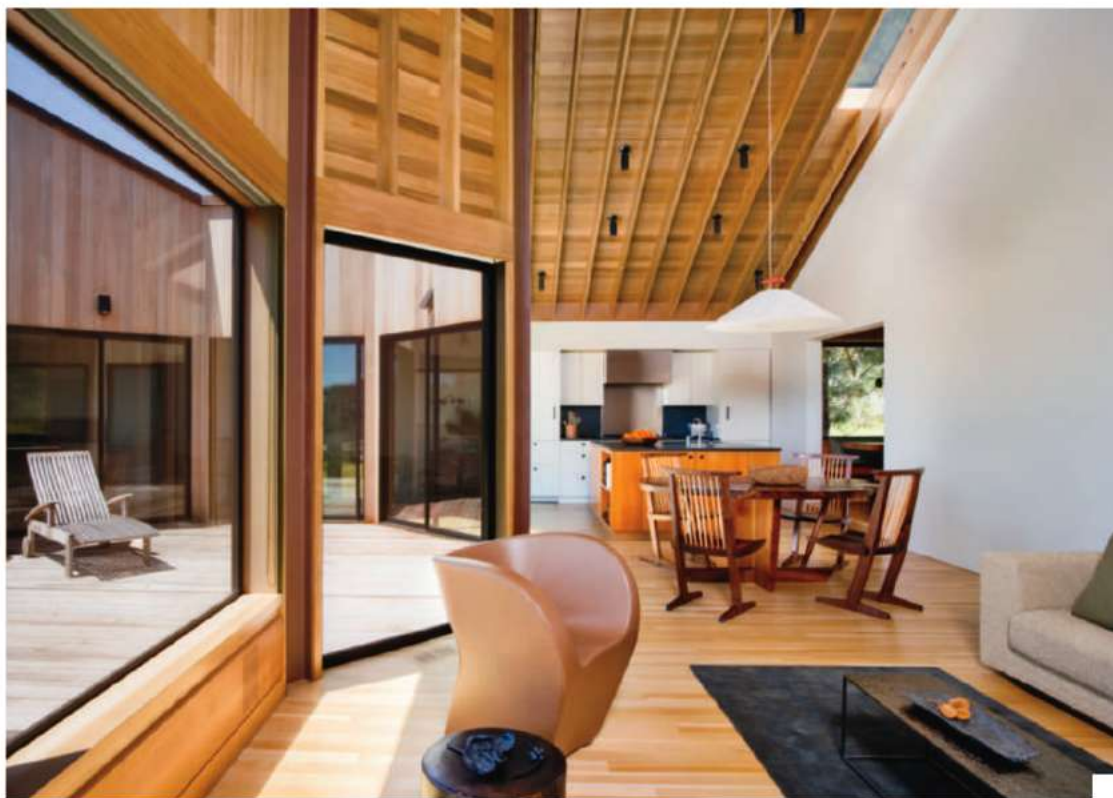
WINDOWS: Sierra Pacific

HOOD: Ventahood

COOKTOP, OVEN: Wolf

DISHWASHER: Miele

REFRIGERATOR: Sub-Zero



1



2

1. Quiet finishes and white-painted cabinets allow the kitchen to recede into the background of the open-plan space, hiding in plain sight.
2. A cedar-clad breakfast nook overlooks the verdant property through expansive panes of glass.
3. Separating the kitchen from the eating area is a cedar island capped with a Bursting stone countertop.

Sea Ranch Residence Sea Ranch, California Architect **Turnbull Griffin Haesloop**

DESIGNING A NEW, 1,030-square-foot house at the famed Sea Ranch development on the California coast was more than a building process for Turnbull Griffin Haesloop.

Principals Eric Haesloop and Mary Griffin also built upon the legacy of firm founder William Turnbull, who in the early 1960s was a chief creative force behind the seminal site. Haesloop puts it simply: "It's a special place that has evolved a lot."

In the past four decades, the coastal settlement has grown to roughly 1,700 homes; orienting a new structure thus entailed challenges not faced in its formative years. This L-shaped residence, with an oblique view of the ocean, sits on a lot that bridges dense forest and open meadow – what Haesloop calls a "threshold" condition. That same phrase describes the kitchen, positioned at the intersection of the home's living and sleeping wings.

Throughout the flowing interior, core walls are sheathed in gypsum,

peeling back selectively to reveal cedar framing – a nod to both the original Sea Ranch aesthetic and the clients' passion for traditional Japanese woodworking and joinery. Painted white, the kitchen cabinets recede into the wall, while a stone-topped cedar island more boldly demarcates the boundary between the kitchen and dining/living area.

The homeowners requested a dedicated breakfast spot separate from the main dining table. Adjoining the kitchen is a compact cedar-clad niche – "apart from the main space, but present in it," says Haesloop – with built-in slab benches and a cantilevered table. Reached by a single 6-inch step (a rise that allows diners to see over the island to the ocean view beyond), the alcove is dominated by fixed glass windows, dissolving the walls into the surrounding landscape and becoming another kind of threshold: one between indoors and out. *L.C.*



3

CREDITS

ARCHITECT: Turnbull Griffin Haesloop – Eric Haesloop, FAIA, principal; Mary Griffin, principal; Stephanie Choo, project architect; Margaret Simon, interiors

GENERAL CONTRACTOR: Don Matheny Construction

ENGINEER: Fratessa Forbes Wong

SOURCES

WINDOWS: Milgard

PAINT: ICI Dulux Paints

COOKTOP, OVEN: Wolf

REFRIGERATOR: Sub-Zero

PLUMBING FIXTURES: Dornbracht

LIGHTING: Tobias Grau; Poulsen

HARDWARE: Baldwin; Richards-Wilcox

DISHWASHER: Miele

Experimental Ranch Los Angeles

Architect **Marmol Radziner**

IN HIS OWN 1952 HOME, Cliff May – father of the California ranch-house movement – designed an open-plan space divisible by movable walls and cabinets. By the 1980s, subsequent owners had filled the house with permanent partitions and drop ceilings, creating a dim warren. Engaged to remodel the residence, Marmol Radziner sought to recapture the spirit and spatial flow of the original rather than to impose a 21st-century aesthetic. “We took it as an opportunity to learn from the past, trying not to inject too much of our own hand,” says principal Ron Radziner.

Opening up the kitchen was a logical move toward reinstating the home’s social quality. After removing interior walls and replacing asphalt floor tiles with polished concrete, the architects installed

clean-lined walnut cabinets and an 11 ½-foot-long island that – while fixed in place – recalls May’s notion of furniture as flexible boundary.

The master bath was enlarged by borrowing space from an adjacent bedroom. Full-height walnut cabinets complement the grain and color of the existing post-and-beam structure. Small, out-of-scale windows were replaced with oversize glass planes, etched for privacy. It is here that the sanctuary aspect of the home is expressed in the most personal way while still maintaining what Radziner calls the “core values” of the ranch. *L.C.*

1. A green marble countertop was selected for the master bathroom.
2. Walnut cabinetry highlights the existing post-and-beam structure.



CREDITS

ARCHITECT: Marmol Radziner – Ron Radziner, principal; Chris McCullough, project manager

SOURCES

BATHROOM STONE: Marble Unlimited

BATHROOM SINK: Kohler

SINK FAUCET, TUB FILLER: Waterworks

BATHTUB: Duravit

RANGE: Viking

HOOD LINER: Modern-Aire

KITCHEN FIXTURES: Dornbracht

KITCHEN SINK: Blanco





Miami Beach Residence Florida

Architect **Sand Studios**

WHEN DESIGNING CONDOMINIUM

interiors, the proverbial blank slate can be a bit too blank. Charged with creating architectural interest within a Miami Beach unit, Sand Studios principal Larissa Sand started by removing two walls to join the kitchen with the rest of the home.

Pairing rectangular volumes with a palette of rich natural materials enhanced not only the eating area but the apartment's overall atmosphere. "The clients wanted a kitchen that would be comfortable to live in – not just cook in," says Sand. Bookmatched slabs of Calacatta marble line the back wall, where boxy walnut cabinets house appliances and storage. The same mix of finishes defines the Donald Judd-like island, anchored by large-format limestone

1. Montpelier limestone floors and Calacatta marble walls and counters define the crisp, open-plan kitchen.
2. The master bath's soaking tub and glass-enclosed shower are backed by a slab of Black Spring granite.

floor tiles. Making the most of existing conditions, concealed air-conditioning ducts are highlighted by halogen cove lighting that adds a sculptural dimension.

The focus on materials continues in the master bathroom, where the soaking tub and shower are backed by a slab of Black Spring granite whose graphic green-on-black markings resemble abstracted leaves. Says Sand, "People don't get tired of looking at a piece of stone with its organic patterns." L.C.



CREDITS

ARCHITECT: Sand Studios – Larissa Sand, principal designer

SOURCES

STONE (KITCHEN, BATH): Coverings Etc.

KITCHEN FAUCET, SINK: KWC

HOOD: Gaggenau

OVENS: Miele

BATHTUB, BATHROOM SINK: Hansgrohe

BATH FIXTURES: Hansgrohe; Duravit

TILE/STONE INSTALLATION: Stone Brokers of America



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 liebherr.com

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4 | PRODUCT **Levos Faucet**
 MANUFACTURER **Blanco**
 blancoamerica.com

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2 | PRODUCT **Water Purator**
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 zuvowater.com

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3 | PRODUCT **Integrity Sink**
 MANUFACTURER **Cosentino**
 silestoneusa.com

Seamless, jointless, and measuring a spacious 16" x 20" x 6", this integral single-bowl sink can be fabricated in 21 colors of quartz-based Silestone – a hygienic material that resists stains, heat, and scratches. **CIRCLE 208**



5 | PRODUCT **I-Box Universal Plus**
 MANUFACTURER **Hansgrohe**
 hansgrohe-usa.com

Change orders won't disrupt design or construction with this versatile shower rough, which accommodates all trim packages from Axor and Hansgrohe, as well as both thermostatic or pressure-balance designs. Compatible with common pipework systems and wall constructions, the I-Box Universal Plus can be installed in walls as shallow as 2.25". **CIRCLE 210**



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6



6 | PRODUCT **Persuade Petite Vanity**
 MANUFACTURER **Kohler**
kohler.com

A powder-coated metal frame gives structure to a modern mix of finishes and materials – and a concealed shot of color. In addition to the space-conscious vanity's roomy Melamine storage drawers (lined in red), there's a frosted-glass shelf at the base of the unit. Available in a brushed-nickel or brushed-chrome finish. **CIRCLE 211**

9



9 | PRODUCT **Water Covers**
 MANUFACTURER **Almonte**
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A streamlined and economical way to hide unsightly sink and toilet shutoff valves, these two-piece covers install and remove easily and are available in seven finishes, such as brushed chrome and oil-rubbed bronze in either plastic or metal. **CIRCLE 214**

7 | PRODUCT **Accord Seated Shower**
 MANUFACTURER **Sterling**
sterlingplumbing.com

Complete with a factory-installed backerboard that primes it for grab-bar installation, this shower assembles via snap-together walls and has caulkless seams. Designed for an aging-in-place population, its transfer-height bench is repositionable and removable. Made of high-gloss Vikrell – which resists chipping, scratches, and peeling – Accord incorporates integral storage and comes in two sizes: 48" x 36" and 60" x 36".

CIRCLE 212



7

8 | PRODUCT **Stealth Toilet**
 MANUFACTURER **Niagara Conservation**
niagaraconservation.com

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8



13W L141 = 50W MR16
Lumen Output = Lumen Output

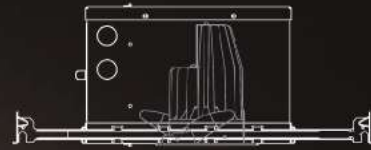
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DATES & EVENTS

Lectures, Conferences, and Symposia

A Conversation about Public Architecture

New York City
October 5, 2010

The Queens Borough Public Library system and the N.Y.C. Department of Design + Construction provide much-needed civic structures characterized by design quality and construction excellence. In this lecture at the Center for Architecture, architects in leadership positions will make decisions on design service procurement, project scoping, and execution that create sustainable and exemplary buildings. Visit www.aiany.org.

INPUT_OUTPUT: Adaptive Materials and Mediated Environments

Philadelphia
October 8, 2010

This symposium at Temple University will address the convergence of several significant advancements in the ways that materials and environments are designed, evaluated, and experienced within architecture and related disciplines. The purpose is to interrogate the relationships that exist among Material Compositions, Material Fabrications, Material Behaviors, and Material Computations. Visit www.temple.edu.

Council on Tall Buildings and Urban Habitat: 9th Annual Awards Symposium

Chicago
October 21, 2010

The Council issues seven Tall Building Awards annually: two Lifetime Achievement Awards and five Best Tall Building Awards, which recognize excellence in design and construction. Held in Mies van der Rohe's iconic Crown Hall at the Illinois Institute of Technology, cocktails and a formal dinner are served as awards are presented. This year, the ceremony and dinner will be preceded by an afternoon symposium, featuring

presentations from all the 2010 winners. Visit www.ctbuh.org.

The Plume: Architecture under a Cloud

New York City
October 26, 2010

In this lecture at the School of Visual Arts, Christopher Hawthorne will discuss the prospects for architecture – and architecture criticism – in an era of economic uncertainty and ecological upheaval. How can architecture maintain its relevance in a culture drained of capital for new construction and facing new environmental catastrophes on a regular basis? And how should architecture critics react to these new realities? For more information, visit <http://dcrit.sva.edu/>.

Sustainable Building and Architecture in China

New York City
October 28, 2010

This lecture at the Trespa Design Centre will cover new trends in green building, including the Chinese Three-Star rating system. Panelists include Mi Junren, chief architect of Beijing Institute of Architectural Design; Mesh Chen Dongliang of Architectonica Shanghai; and Wang Degang of W2 Architects. They will discuss new works in China, including Sanlitun Village in Beijing, and provide insights on new green building projects and their work process in general. Visit www.trespa-ny.com.

AIA Minnesota Convention

Minneapolis
November 2-5, 2010

This convention at the Minneapolis Convention Center will take the research AIA Minnesota has done in the past year, including an assessment of architectural firm work flow, structure, outsourcing, key markets, skill sets, technology, and more, to paint an accurate picture of the profession. Forty-five programs and four keynote addresses will cover program tracks including design, materials and systems, and practice. Visit www.aia-mn.org.

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CIRCLE 20

2010 winners



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Competitions

Buckminster Fuller Challenge

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A Downtown Miami Seaplane Terminal

Deadline: October 26, 2010

Sponsored by DawnTown, this competition encourages creative thinkers and innovative designers to make Miami an even greater world-class city with new-age transportation. DawnTown paves the way for the conception of a seaplane terminal just off Watson Island, helping to define downtown Miami as a major transportation hub. Visit www.dawntown.org.

International Parking Institute's 29th Annual Awards of Excellence

Deadline: November 5, 2010

Regarded as the most prestigious in the parking profession, this competition recognizes outstanding achievement in parking-facility design and architecture. The awards are open to public agencies, jurisdictions, institutions, organizations, or corporations that own parking facilities completed or renovated since January 1, 2008. Visit www.parking.org.

2011 Sustainable Design Assessment Team Program

Deadline: November 19, 2010

The American Institute of Architects Center for Communities by Design is seeking community applicants for the 2011 Sustainable Design Assessment Team Program (SDAT). The SDAT is an innovative program that brings together multidisciplinary teams of professionals to work with community stakeholders and decision makers through an intensive planning process. The mission is to provide technical assistance and process expertise to help communities develop a vision and framework for a sustainable future. For more information, visit <http://www.aia.org/about/initiatives/AIAS075425>.

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Samuel Heath

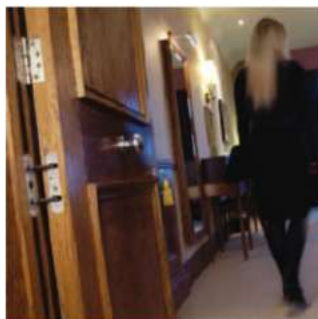
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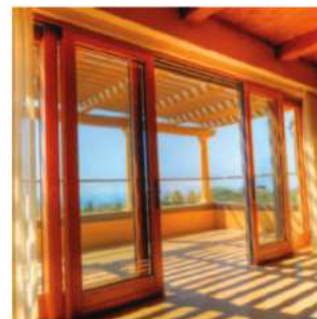
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Circle 168

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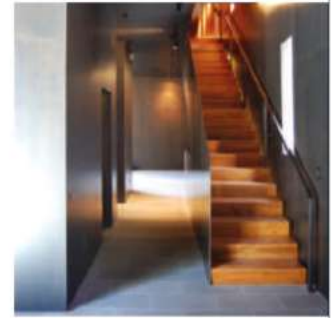
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- Architect: Adjaye Associates
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\$\$ | G

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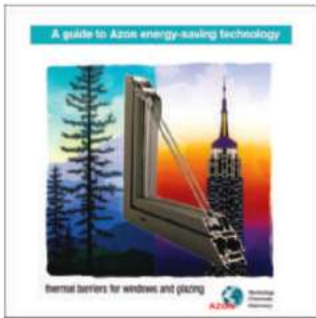
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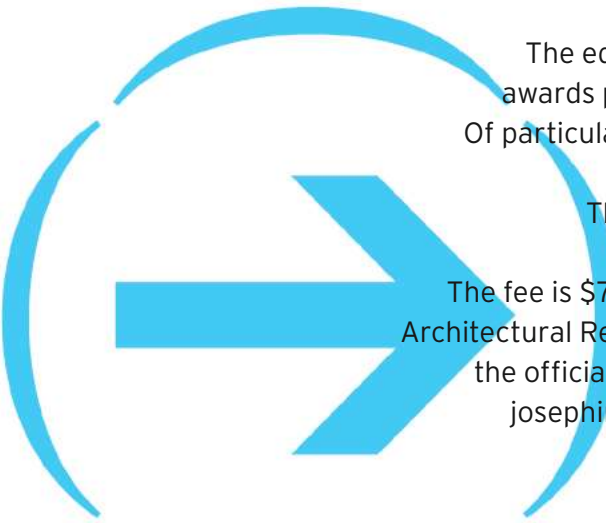
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2. Publication number: 132-650
3. Date of filing: October 1, 2010
4. Frequency of issue: Monthly.

5. Number of issues published annually: 12
6. Annual subscription price: \$70.30, U.S.; \$79 CAN/MEX; \$149 International
7. Complete Mailing Address of Known Office of Publication: 1221 Avenue of the Americas, New York, NY 10020-1095.
8. Complete Mailing Address of Headquarters of General Business Offices of the Publisher: Two Penn Plaza, New York, NY 10121-2298
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor: Publisher: Laura Viscusi, The McGraw-Hill Companies, Two Penn Plaza, 9th floor, New York, NY 10121-2298

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Sandy Diehl

Vice President, Integrated Building Solutions, United Technologies Corporation



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Harvey M. Bernstein, FASCE, LEED AP

Vice President, Global Thought Leadership & Business Development, McGraw-Hill Construction



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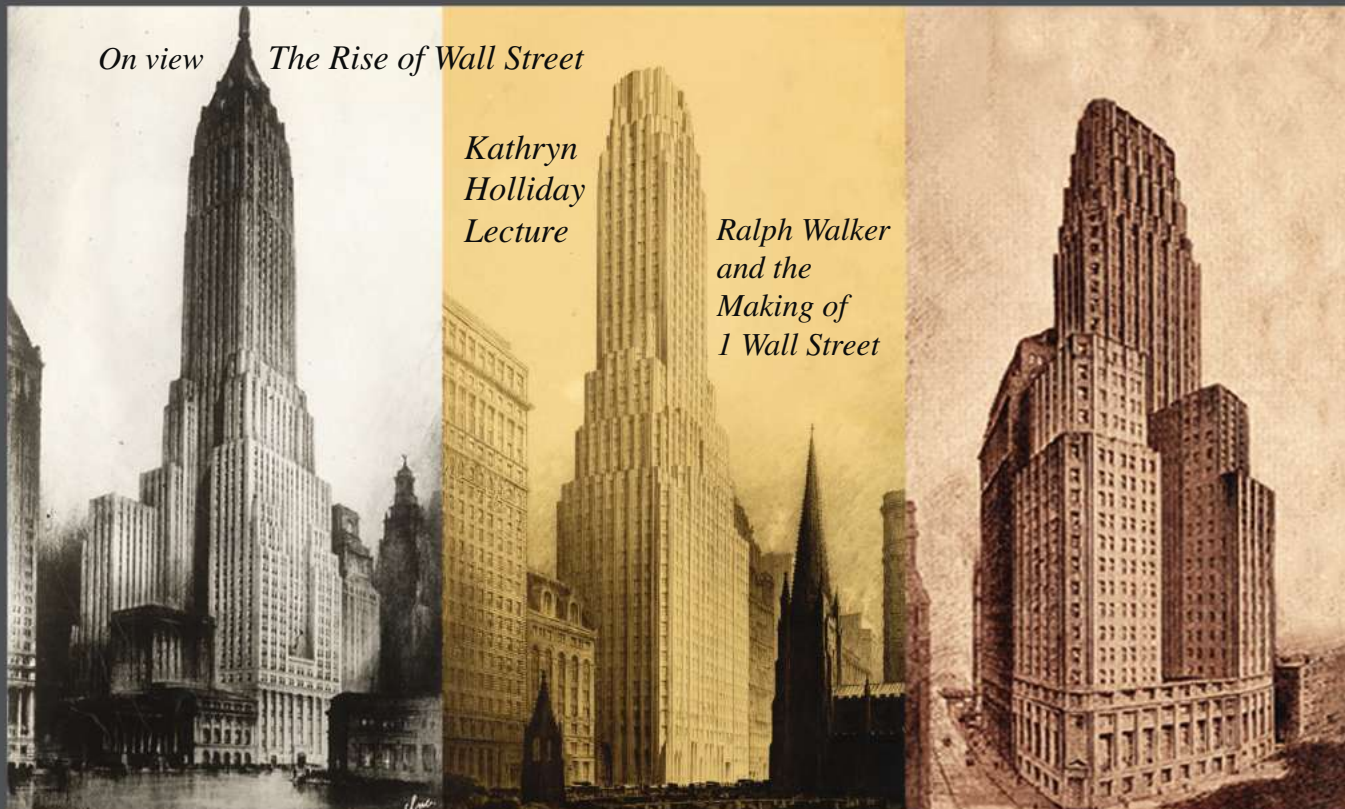
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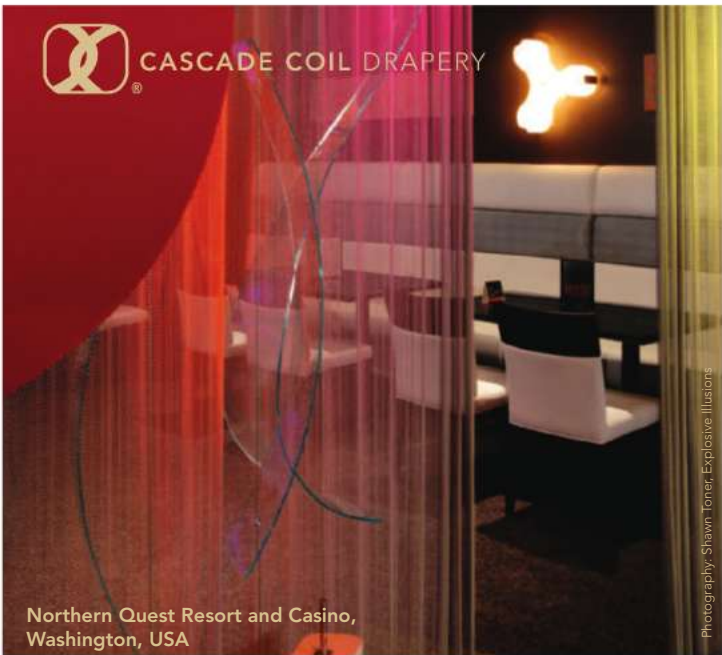


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The firm For Use/Numen installs its tape project.

IN THE LATE 1980S AND early '90s, choreographer William Forsythe translated geometric forms, lines, and lighting – architectural information – into dance for the Ballett Frankfurt. He was inspired by Daniel Libeskind's *End Space* drawings. It was a poignant example of how these two art forms can engage each other. A deep connection between architecture and dance also sparked the idea for the cocoonlike installation by Austrian-Croatian design firm For Use/Numen. The firm's three partners envisioned dancers weaving their own stage set with rolls of transparent packing tape, the resulting form born of their movement. Most recently, For Use/Numen built the structure – a hollow, arterial web, reminiscent of an otherworldly creature's home – with the help of friends at the exhibition institution Schirn Kunsthalle Frankfurt, where it was on view in September. Depending on the installation's location, hundreds of rolls of tape are wound around custom scaffolding or existing columns, creating spaces that support the weight of visitors who tumble inside. (The work in this photograph was built at the decommissioned Tempelhof Airport for the DMY International Design Festival Berlin, where it won a festival award.) The ultimate design of the cocoons is spontaneous, like the social interaction that occurs within them. "We just run around in a big chaos," says For Use/Numen's Christoph Katzler. "The shape leads you." The installation will soon travel to Melbourne, Buenos Aires, and other cities. *Laura Raskin*

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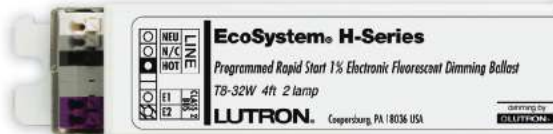
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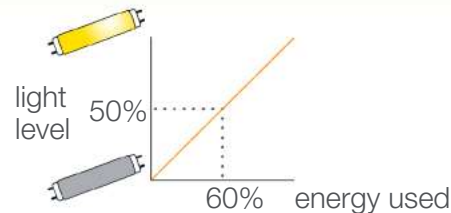
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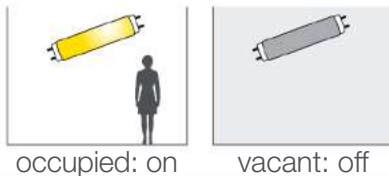
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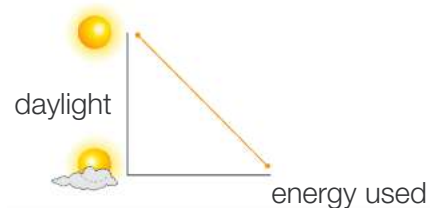
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