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Editorial

**EDITOR-IN-CHIEF
EDITORIAL DIRECTOR,
COMMERCIAL DESIGN**

Ned Cramer
ncramer@hanleywood.com

MANAGING EDITOR

Greig O'Brien
gobrien@hanleywood.com

SENIOR ART DIRECTOR

Aubrey Altmann
aaltmann@hanleywood.com

EXECUTIVE EDITOR

Amanda Kolson Hurley
ahurley@hanleywood.com

SENIOR EDITOR, BUILDINGS

Katie Gerfen
kgerfen@hanleywood.com

SENIOR EDITOR, DEPARTMENTS & ONLINE

Braulio Agnese
bagnese@hanleywood.com

ASSOCIATE ART DIRECTOR

Marcy Ryan
mryan@hanleywood.com

SENIOR EDITOR, PRODUCTS

Laurie Grant
lgrant@hanleywood.com

ASSISTANT MANAGING EDITOR

Lindsey M. Roberts
lmroberts@hanleywood.com

GRAPHIC DESIGNER

Michael Todaro
mtodaro@hanleywood.com

EDITORS-AT-LARGE

Edward Keegan, Vernon Mays

CONTRIBUTING EDITORS

Aaron Betsky, Blaine Brownell,
Elizabeth Evitts Dickinson, John Morris
Dixon, Thomas Fisher, Cathy Lang Ho,
Lance Hosey, Margot Carmichael Lester,
Mimi Zeiger

CONTRIBUTING ARTISTS

Ian Allen, Peter Arkle, Catalogtree,
Noah Kalina, Mike Morgan

Online

GENERAL MANAGER, ONLINE

Kim Heneghan

CHIEF DESIGNER

Thomas C. Scala

SENIOR WEB PRODUCER

Amy Wiersum

Services

EDITORIAL AND ADVERTISING OFFICES

One Thomas Circle, NW, Suite 600
Washington, DC 20005
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ARCHITECT
P.O. Box 3494
Northbrook, IL 60065-9831

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Wright's Reprints
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ARCHITECT

Advertising

EXECUTIVE DIRECTOR, COMMERCIAL DESIGN AND CONSTRUCTION

Patrick J. Carroll
pcarroll@hanleywood.com
 773.824.2411

PUBLISHER, COMMERCIAL DESIGN

Russell S. Ellis
rellis@hanleywood.com
 202.736.3310

REGIONAL SALES MANAGER, EAST, TX, OK, AR, LA

Michael Lesko
mlesko@hanleywood.com
 203.445.1484

REGIONAL SALES MANAGER, MID-ATLANTIC, MI

Nick Hayman
nhayman@hanleywood.com
 202.736.3457

REGIONAL SALES MANAGER, WEST

Mark Weinstein
mweinstein@hanleywood.com
 562.598.5650

REGIONAL SALES MANAGER, MIDWEST

Michael Gilbert
mgilbert@hanleywood.com
 773.824.2435

NATIONAL ADVERTISING MANAGER, LIGHTING

Cliff Smith
csmith@hanleywood.com
 864.642.9598

REGIONAL SALES MANAGER, NEW ENGLAND, GA, FL, IN, OH, MS, AL

Dan Colunio
dcolunio@hanleywood.com
 617.304.7297

REGIONAL SALES MANAGER, CANADA

D. John Magner
jmagner@yorkmedia.net
 416.598.0101, ext. 220

ACCOUNT MANAGER, CANADA

Colleen T. Curran
ctcurran@yorkmedia.net
 416.598.0101, ext. 230

REGIONAL SALES MANAGER, UNITED KINGDOM/EUROPE

Stuart Smith
stuart.smith@ssm.co.uk
 44.020.8464.5577

GROUP PUBLISHING SUPPORT MANAGER

Angie Harris
aharris@hanleywood.com
 773.824.2415

MARKETING MANAGER

Lauren Cardinet
lauren@decisioncounsel.com

RESOURCE AND CLASSIFIED SALES ACCOUNT MANAGER

Erin Liddell
eliddell@hanleywood.com
 773.824.2445

Production

DIRECTOR OF PRODUCTION AND PRODUCTION TECHNOLOGIES

Cathy Underwood

PRODUCTION MANAGER

Paige Hirsch

AD TRAFFIC MANAGER

Lauren Dobos

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Hanley Wood Business Media

PRESIDENT/HANLEY WOOD

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Lauren Nassef

"The Pit That Swallowed a City," page 90

Lauren Nassef was born in North Carolina and grew up in central Pennsylvania. She graduated from the Rhode Island School of Design with a B.F.A. in Painting in Design in 2001. Now a freelance artist and illustrator, she lives with her husband and dog in Chicago.

Nassef was excited to get started on the illustrations for "The Pit That Swallowed a City"—so much so that she began them before being fully briefed on the article. "When I got the information from the author, I realized that I'd drawn the wrong town!" she says. "It turns out that Malmberget is not the only Swedish town facing relocation due to mining."

ON THE COVER
A BUILDING IN DETROIT.
PHOTO BY NOAH KALINA.



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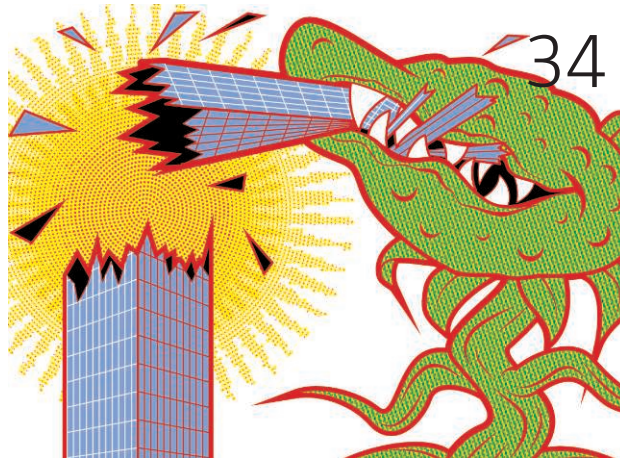
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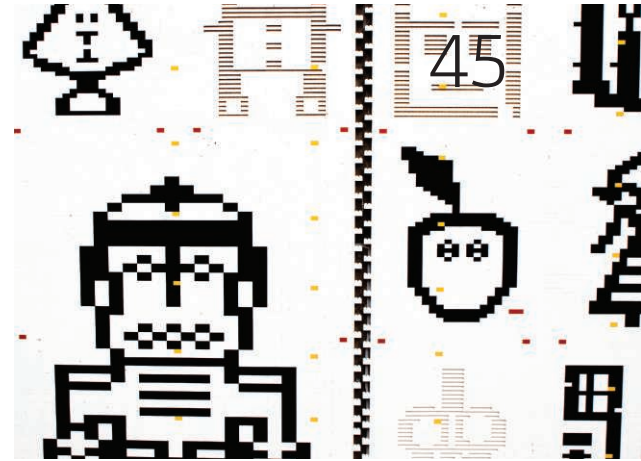
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Far right Legos were used to construct the façade for an English primary school and children's center.



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WITH A FEW, SEEMINGLY MINOR IMPROVEMENTS, THE RESIDENTS OF CHICAGO'S WARD 49 ARE TAKING CONTROL OF THEIR BUILT ENVIRONMENT IN A MAJOR WAY.

BUILD THIS!

CHICAGO IS DIVIDED into 50 wards. Each ward has an elected alderman who enjoys a \$1.3 million annual discretionary fund for capital improvements: fixing potholes, adding street lights, erecting bus shelters, and so forth. Given the city's reputation for political patronage, these 50 budget lines might seem like thinly veiled opportunities for machine politicians to reward their cronies. But one alderman, Joe Moore of Ward 49, has elected to spread the wealth in an admirably inclusive, remarkably innovative fashion. His jurisdiction, centered on Chicago's northernmost lakeside neighborhood, Rogers Park, is the first in the United States to adopt a process called "participatory budgeting."

In April, Moore invited all ward residents over the age of 16, regardless of citizenship or voter-registration status, to pick their eight favorites from a menu of 36 infrastructure projects, grouped in six categories: arts and other projects, parks and environment, public safety, streets, traffic safety, and transportation. Here's a typical menu item:

Loyola Fieldhouse Speed Humps on 1100–1200 W. Greenleaf Ave. Installation of speed humps to slow traffic leaving and entering beach and Loyola Fieldhouse parking. Cost: \$3,500

Volunteer committees researched and developed each proposal, based upon ideas submitted directly by residents and discussions at a series of neighborhood assemblies. The proposals that received the most votes would receive full funding from Moore's \$1.3 million budget (though some were contingent on buy-in from the City of Chicago and other bodies).

Out of a population of over 60,000, there were 1,652 votes cast, and 14 projects that got the green light.

At a moment when big government is in big disfavor, Ward 49's Athenian experiment in direct democracy seems almost too good to be true. Can you imagine a plebiscite on the allocation of the \$787 billion Obama stimulus plan? It's hard to believe that participatory budgeting could work at a national scale. But it's tempting nonetheless, especially given the disappointment that so many architects felt when the stimulus failed to produce a WPA-style transformation of the public realm.

Skeptics could point to California as an example of direct democracy gone awry. The state constitution allows any citizen who collects enough signatures to get a proposition on the ballot; with a simple majority vote, the proposition becomes (or repeals) a statute or constitutional amendment. The initiative process has its flaws, one being that while the people have the power to directly enact programs, they can also reject taxes that would keep the state budget in line.

Participatory budgeting is different, notably in that the amount of available funding is fixed. There's no chance that the residents of Rogers Park will vote to build themselves a monorail system, the way the citizens of Springfield did in season four of *The Simpsons*, with disastrous results.

So how did the Ward 49ers choose to spend their \$1.3 million? The list of approved projects, many of which are now under way, include sidewalk repairs, solar-powered trash cans, and community gardens. (The Loyola Fieldhouse speed bumps didn't make the cut.) Small potatoes, perhaps, compared to the stimulus, or the \$50 billion infrastructure improvement plan that President Obama proposed last month (see page 30). But with a few, seemingly minor improvements, the residents of Chicago's Ward 49 are taking control of their built environment in a major way.

The first-ever attempt at participatory budgeting began two decades ago, in Porto Alegre, Brazil, a city of 1.5 million. What has the process accomplished there? According to the World Bank:

[N]ew public housing units, which sheltered only 1,700 new residents in 1986, housed an additional 27,000 in 1989. Sewer and water connections in the city ... went up from 75 percent of total households in 1988 to 98 percent in 1997. The number of schools has quadrupled since 1986. Porto Alegre's health and education budget increased from 13 percent in 1985 to almost 40 percent in 1996.

Something obviously clicked in Porto Alegre, because so far, some 140 municipalities in Brazil have adopted the participatory budgeting system, including São Paulo, the seventh largest city in the world.

In the February 2008 issue of *ARCHITECT*, we asked notables such as Richard Florida and Ron Paul, "How would you spend \$1.6 trillion?"—the amount that the Urban Land Institute estimated that it would take to revitalize our nation's infrastructure. It'd be interesting to see what kind of priorities the American people would set if President Obama opened his \$50 billion proposal to the participatory budgeting process.

According to a poll conducted by the Transportation for America coalition, for instance, 82 percent of voters believe that the United States would benefit from an expanded and improved public transportation system. Sounds good to me. Clearly, \$50 billion isn't enough to fix everything, but we've got to start somewhere.

Neil Crane



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LETTERS

I HEART ST. LOUIS, September 2010

I enjoyed your Dialogue on the Gateway Arch competition, until I got to the East St. Louis/Detroit joke/cheap shot. As architects trying to lead our urban areas out of their morass, isn't it time we grow up and stop looking down our noses at cities that really need our help—not the Big Apple or San Francisco, but Gary/Akron/Cleveland/Detroit, etc.? Ned, I expect better from the editor of ARCHITECT.

C. Richard Hall, Principal, Harley Ellis Devereaux, Southfield, Mich.

FACING UP TO THE NUMBERS, September 2010

I read with interest and encouragement your article acknowledging that architects need to be more aware of the financial aspects of their work. Years of frustration eventually drove me to business school, so I strongly endorse a spirit of financial awareness for architects. More focus also should be placed on teaching construction technology.

For the last 17 years I have focused on providing forensic architectural and engineering services (I hold both architectural and engineering licenses). I regularly see the product of aesthetic-centered and technology-adverse architectural training. I would have less work, architects would have fewer legal distractions, and clients would have better buildings if, in order to be awarded an B.Arch., each student had to demonstrate working knowledge and proficiency in the following areas: project management, specification writing, building codes, and the construction of watertight buildings.

I would further remind my fellow professionals that you do not need to be licensed to do architectural design. You only need a license to seal a set of contract documents. Ultimately we trade our service and knowledge of effective investment in the built environment for our right to exist, so preparation for that service should be the core of architectural education.

James R. Drebelbis, Drebelbis Engineering, Dallas

From our online readers:

ECOLOGY by Lance Hosey, "The World's Greenest Buildings: Promise vs. Performance," Aug. 31.

In Europe, (Denmark and Austria, anyway) they've already got a report card for buildings: the Energieausweis (bit.ly/cTpiVC).
bruteforcecollaborative

The EPA is now giving letter grades for vehicles, Prius A-, Electric Vehicles A+, etc. (bit.ly/9oG8y1). Why don't we do this for buildings? An A for energy positive/carbon neutral or better, A- to F for every gradation from there; based on metrics, of course. Aesthetics—this is a separate, unrelated matter.
greenconscience1975

In the August 2010 Business department article "Self-Inflicted Losses," the last name of architect Michael Hickok was misspelled. We regret the error.

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First Federal Bank, Mt. Home, Arizona



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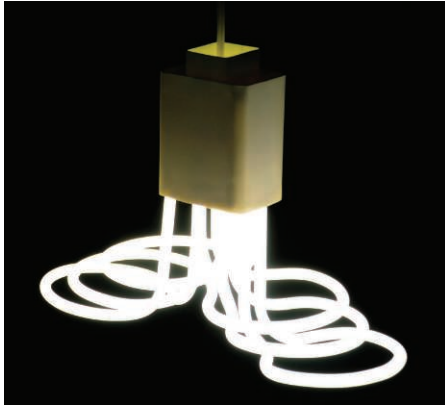


EDITED BY BRAULIO AGNESE

Top Stories → For these stories and more, see architectmagazine.com.

NEWSWIRE

COMPILED BY EDWARD KEEGAN



FAST COMPANY

Making a better compact fluorescent

The Plumen, a “designer” compact fluorescent light bulb from London-based Hulger, made its market debut in Europe. The energy-efficient bulb should be available in the U.S. soon.



THE DAILY PROGRESS (VA)

Jefferson's Rotunda to be renovated

The University of Virginia's iconic Rotunda—designed by Thomas Jefferson as the school's library—will receive its first significant renovations since its restoration in the 1970s.



THE NEWS & OBSERVER (NC)

AIA North Carolina selling water tower

The 85-foot-tall octagonal tower originally built by the Raleigh Water Works is on the market for \$685,000. The building has housed the North Carolina chapter of the AIA since 1963.

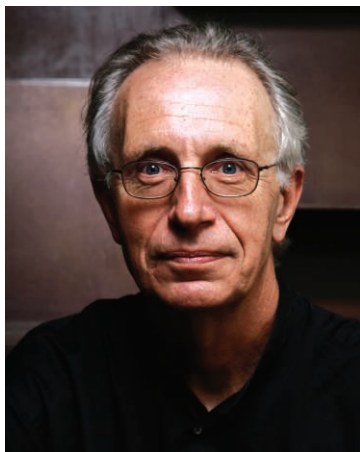
AUGUST 2010
ARCHITECTURE
BILLINGS INDEX

↑ 48.2

- ↑ 50.6 commercial
- ↓ 46.0 institutional
- ↓ 42.6 mixed practice
- ↓ 46.9 multifamily residential

SOURCE: AIA

Gwynne Pugh Departs Pugh + Scarpa to Focus on Urban Design



Gwynne Pugh

AWARD-WINNING Santa Monica, Calif.-based Pugh + Scarpa Architects will no longer practice with its two named partners at the helm. Gwynne Pugh has started Gwynne Pugh Urban Studio, while Lawrence Scarpa and Angela Brooks will continue to operate as Pugh + Scarpa for the remainder of the year. That firm will change its name to Brooks + Scarpa in 2011.

In an interview, Gwynne Pugh notes that he wants to explore urban design in more detail than he was able to at Pugh + Scarpa—although he'll continue to work with some of the same clients on this aspect of their projects. “I will still have a traditional architecture practice, although urban design will be the focus,” Pugh

says. On his first day of business on his own, Pugh answered his own telephone, but he plans to collaborate with people who used to work at Pugh + Scarpa.

“Larry felt he wanted to go in his own direction,” Pugh notes. Scarpa amicably responds, “This is not unusual. It's a natural outgrowth of working together for 22 years, and, artistically, I'm ready for other things.”

Gwynne Pugh and Lawrence Scarpa had led Pugh + Scarpa since its founding in 1991, garnering more than 50 local, state, and national AIA awards, including both the 2010 AIA National Firm Award and the 2010 AIA California Firm Award.

EDWARD KEEGAN

THIS PAGE, CLOCKWISE FROM TOP LEFT:
HULGER; GARGOLA87; MARK TURNER;
COURTESY PUGH + SCARPA
PAGE 22, LEFT TO RIGHT: CITYARCHRIVER
COMPETITION.ORG; COURTESY AIA
PAGE 24: COULOMB TECHNOLOGIES
PAGE 25: CITY OF MINNEAPOLIS

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*Computation based on comparison of showerheads that have a flow rate of 2.5 gpm under ASME A112.18.1.





ST. LOUIS POST-DISPATCH

Arch plan far from done

Brooklyn, N.Y.-based Michael Van Valkenburgh has won the competition for redesigning the grounds of St. Louis' Gateway Arch, but his preliminary work is far from done. Doug Moore and Jesse Bogan report that the landscape architect "will spend the next three months refining its design, coming up with a budget and helping find ways to raise money." The initial budget is \$300 million.

2010 AIA National Healthcare Design Awards

THE AIA ACADEMY of Architecture for Health has named the winners of the 2010 National Healthcare Design Awards program. This year, four projects were selected in three categories.



Category A: Built

Less Than \$25 million

Duke Integrative Medicine
(shown), Durham, N.C.:
Duda/Paine Architects

Advocate Lutheran General
Hospital Center for
Advanced Care, Park Ridge,
Ill.: OWP/P | Cannon Design

Category B: Built

More Than \$25 Million

Children's Medical Center
Legacy, Dallas: Zimmer
Gunsul Frasca Architects

Category C: Unbuilt

Seoul National University
Hospital Medical Mall, Seoul:
Gresham Smith & Partners

THE JURY: John Pangrazio (chair), NBBJ; Ruth Benefield, Seattle Children's Hospital; Paul Bentel, Bentel & Bentel; Mary-Jean Eastman, Perkins Eastman; Kirk Hamilton, Texas A&M University; Marlene Imirzian, Marlene Imirzian & Associates, Architects; Ray Pentecost, Clark Nexsen.

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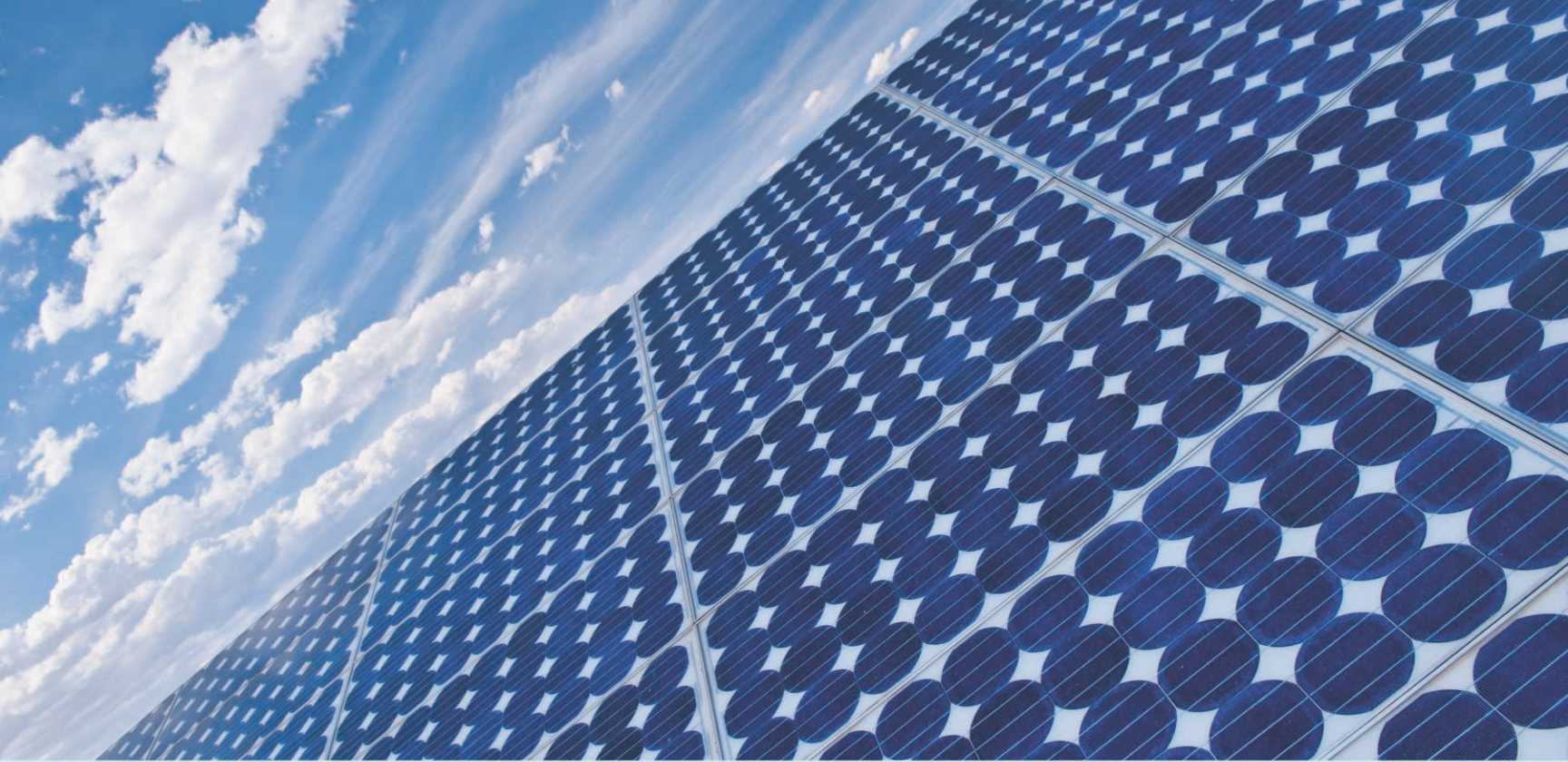
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THE NEW YORK TIMES

No electric refueling for Congress

Members of Congress and their staff who might be considering electric vehicles are going to have to deal with refueling anxiety. The Government Accountability Office has ruled that the Architect of the Capitol cannot purchase and install battery charging stations as proposed in its budget. Instead, these must be addressed through an act of Congress.

Legislation for National Renewable Electricity Standard Introduced

NEW MEXICO'S U.S. senators, Jeff Bingaman (D) and Tom Udall (D), along with Kansas Sen. Sam Brownback (R), have introduced a bill in the U.S. Senate that would create a national renewable electricity standard (RES). Bill S.3813, the Renewable Electricity Promotion Act of 2010, proposes amending the Public Utility Regulatory Policies Act of 1978 to include a federal RES that would require electric utilities to obtain set percentages of the total quantity of electricity sold to electric consumers in a calendar year—known within the industry as “base quantity”—from renewable energy sources.

In most cases, the proposed minimum annual percentages begin at 3 percent in 2012 and grow incrementally to the highest

proposed level of 15 percent from 2021 through 2036. Renewable energy sources include solar, wind, biomass, landfill gas, qualified hydropower, marine and hydrokinetic renewable energy, incremental geothermal production, coal-mined methane, qualified waste-to-energy, and others—based on technology as determined through rulemaking.

States that already have an RES in place that is higher than the proposed RES, such as New Mexico, would not be affected by the bill, and utilities that sell less than 4 million MWh per year would be exempt.

To be considered by Congress, the bill must obtain 60 cosponsors. At press time, it had 23. The full text of the bill is available online at senate.gov. **ECO-STRUCTURE STAFF**

 A photograph of a large, modern interior space, likely a lobby or atrium. The ceiling is a prominent feature, with a curved, white, ribbed design. Large windows with white frames are visible on the left side, allowing natural light to enter. The overall atmosphere is bright and clean.

WHAT IS ROOFING FOR



UNBEIGE

Revised I-35W memorial designs unveiled

Revised designs for a memorial to those who lost their lives in the 2007 Minneapolis-St. Paul I-35W bridge collapse have been released. The Remembrance Garden, designed by landscape architect Thomas Oslund and scheduled to open next August, will be in viewing distance of the new bridge, which opened 13 months after the collapse.

RTKL ACQUIRES BEIJING-BASED AHS INTERNATIONAL

INTERNATIONAL MERGERS continue, even in a down economy: RTKL has acquired AHS International. In a simple asset purchase, the five-year-old, 43-person AHS becomes part of RTKL's worldwide, interdisciplinary practice. AHS specializes in hospital, laboratory, and medical facility design from offices in Beijing and Shanghai. The firms recently collaborated on the Shanghai Changzheng New Pudong Hospital.

RTKL president and CEO Lance Josal noted in a press release that the acquisition gives RTKL a Beijing office, adding to the firm's presence in the Far East. "[M]ost importantly, it brings on board Kai Wang, a recognized leader in the design of hospitals," Josal said. Wang, the founder and managing principal of AHS, was educated in China and the United States. He is highly regarded for healthcare design in the Chinese market. AHS was initially established in Atlanta and Beijing and has operated in China as a wholly owned foreign enterprise.

The acronym stands for "Architecture for Healthcare and Science research facility."

"There is a premium on knowledgeable healthcare design in China," Wang said in the release. There would also appear to be a premium on design opportunities: The Chinese government has committed \$125 billion over the next three years for the construction of national healthcare centers of 2,000 and more beds, regional centers of 1,000 beds, and specialized hospitals of 500 beds. "Opening a second office in China is part of RTKL's broader commitment to markets that are developing world-class medical campuses," added Brad Barker, RTKL executive vice president.

RTKL's acquisition of AHS follows its own sale to Netherlands-based Arcadis just three years ago. With the significant new investments in healthcare by the Chinese government, the RTKL acquisition of AHS seems to be another example of the common business dictum "follow the money." E.K.

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BUSINESS



INTERVIEW BY EDWARD KEEGAN
PHOTO BY ANNE HAMERSKY

→ BEST PRACTICES

Molehills & Mountains

DISAGREEMENTS—EVERY PARTNERSHIP HAS THEM, EVEN THE BEST ONES. SO HOW SHOULD FIRM LEADERS PREPARE FOR, AND DEAL WITH, THE INEVITABLE?

As with many things in life, one key to dispute resolution is constant communication, advise lawyers **Bill Mandel** and **Laura Howard**. “If you know each other and deal with minor issues, when a major one comes up, you’re not going back to step one,” Mandel says. “You have continuity and an understanding of each partner’s viewpoint that helps resolve issues.”

CHANCES ARE, your firm’s management includes more than one person. Which means that differences of opinion will assuredly crop up. While many of the disputes will be easily resolved, some may not. Bill Mandel and Laura Howard, partners in San Francisco-based MBV Law, work with architecture, engineering, and environmental-consulting clients (who account for about half of MBV’s business) and have a good understanding of just the kinds of things that can come between firm leaders and put a partnership at risk. Mandel has specialized in the A/E community for 30 of his 40 years as a lawyer, Howard for 12 of 23. “I find

architects very interesting to work with,” Howard says. “They’re big-picture clients.”

How did you get started in partner-dispute resolution?

MANDEL: Clients turn to us as the trusted adviser. We don’t take sides. We act as a fair arbiter of their disputes.

What’s the key to resolving partner disputes?

MANDEL: Do preventive medicine. Spend time getting to know your partners before getting into the partnership.

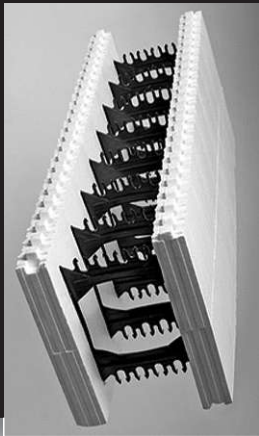


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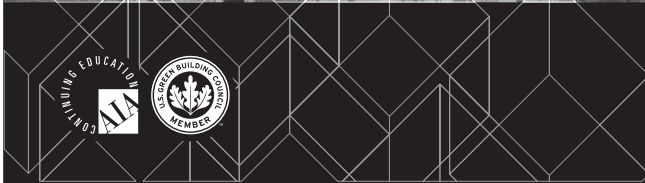


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business



Know their values. We put together a set of practices so that if they get to the dispute, they have a good way of handling it.

How do you, as lawyers, practice preventive medicine?

HOWARD: We build into agreements things that people are likely to disagree about: How are they going to deal with compensation? What about spending on equipment or leases or property? What are they going to do about new markets? Do they want to stay local, or do they have a more regional or global outlook? How do they feel about expanding their ownership circle and new people who may ultimately replace them? These are areas where partners have disagreements, and some of them can be preventatively worked on in a shareholder agreement or a buy-sell agreement.

Do all firms who work with you use your firm for dispute resolution?

MANDEL: We counsel all of them to do it, and the majority do. We push hard to have a shareholder agreement in place from the very beginning. The ones that do can ride out disputes pretty well. The ones that don't are the ones who become difficult problems.

How can partners stay focused in a dispute?

HOWARD: Focus on the good of the firm, rather than your own personal needs in any business dispute. Be flexible. Don't go to the mat.

MANDEL: Don't enter a partners' meeting with a loaded gun—either figuratively or literally.

HOWARD: Stay in the present. Often, partnerships are of long standing and can be like marriages. In the middle of a dispute, people can start talking about things that happened 10 to 15 years ago instead of focusing on what's their problem today. Address the issues at hand.

How important is compromise?

HOWARD: In any dispute-resolution process, everybody's going to feel a little pain. Nobody's going to get everything they want.

Has the economy had an effect on disputes?

MANDEL: Disputes are harder to resolve, especially if it's a split-up or the departure of an owner. We preach having agreements with evaluation formulas that decide what somebody gets paid if they leave, but they rely on the goodwill of the parties to follow through. When the dollars are tighter, as they are now, the disputes get deeper.

HOWARD: I had one particularly tough dispute when the economy was good, but there was enough money in the firm to make it solvable. If it happened today, it wouldn't have been solvable in a satisfactory way.

What about litigation?

MANDEL: You don't want to go to court. It's expensive, and it's time-consuming.

HOWARD: I find litigation to be very unsatisfying. It usually results in the firm just going away.

Beyond written agreements, how can partners prepare for disputes?

MANDEL: Meet on a regular basis—monthly, bimonthly, quarterly—even if there isn't a major issue to deal with. The closer you get to your partners, the better you'll understand them.

HOWARD: It's common sense, but we see it as a critical piece.

Any last thoughts?

MANDEL: It's inevitable. You're going to have disputes. □

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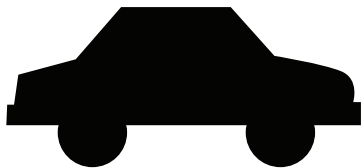
→ POLICY

Infrastructure by the Numbers

ON LABOR DAY, PRESIDENT OBAMA CALLED FOR A \$50 BILLION, SIX-YEAR INVESTMENT IN ROADS, RAIL, AND RUNWAYS, AND FOR THE ESTABLISHMENT OF A NATIONAL INFRASTRUCTURE BANK THAT WOULD COMBINE FEDERAL AND STATE DOLLARS AND PRIVATE INVESTMENTS. OBAMA SAYS THAT THE COST TO TAXPAYERS WOULD BE OFFSET BY THE ELIMINATION OF SUBSIDIES TO THE OIL AND GAS INDUSTRIES.

MILES OF NEW AND REHABBED CONSTRUCTION IN THE OBAMA PLAN, BY TRANSIT TYPE

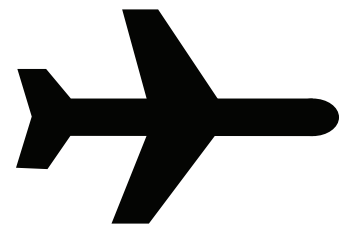
SOURCE: THE WHITE HOUSE



150,000
ROADS



4,000
RAILWAYS



150
RUNWAYS

9.5%

U.S. UNEMPLOYMENT
RATE, ALL SECTORS
(AUGUST 2010)

17%

U.S. CONSTRUCTION INDUSTRY UNEMPLOYMENT (AUGUST 2010)

SOURCE: BUREAU OF LABOR
STATISTICS





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COST TO THE U.S. TAXPAYER OF THE UPFRONT INVESTMENT FOR OBAMA'S SIX-YEAR PLAN

\$50 BILLION

SOURCE: THE WHITE HOUSE

PROJECTED SAVINGS OVER 10 YEARS BY ELIMINATING FEDERAL SUBSIDIES TO THE OIL AND GAS INDUSTRIES

\$45 BILLION

SOURCE: CENTER FOR AMERICAN PROGRESS

U.S. INFRASTRUCTURE GRADE:

D

SOURCE: AMERICAN SOCIETY OF CIVIL ENGINEERS

20.3%

PERCENTAGE OF U.S. FLIGHTS DELAYED 1998-2008

SOURCE: BUREAU OF TRANSPORTATION STATISTICS

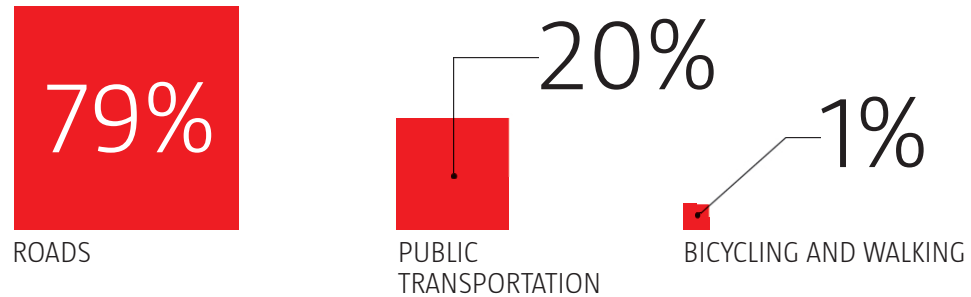
82%

PERCENTAGE OF VOTERS WHO BELIEVE THAT THE UNITED STATES WOULD BENEFIT FROM AN EXPANDED AND IMPROVED PUBLIC TRANSPORTATION SYSTEM, SUCH AS RAIL AND BUSES

SOURCE: TRANSPORTATION FOR AMERICA

CURRENT ALLOCATION OF U.S. TRANSPORTATION FUNDING

SOURCE: RAILS-TO-TRAILS CONSERVANCY



56 HOURS

→ PER YEAR THE AVERAGE AMERICAN COMMUTER LOSES TO TRAFFIC

SOURCE: THE HARTFORD 2010 DRIVABILITY SURVEY

HIGH-SPEED RAIL METRICS BY COUNTRY

	JAPAN	FRANCE	CHINA	UNITED STATES
DATE OF INITIATION	1964	1981	2007	2000
SYSTEM LENGTH (ROUTE- MILES)	1,360	1,180	588	457
TOP OPERATING SPEED (MPH)	188	199	186	150
RIDERSHIP (MILLIONS)	300	100	NO DATA	11

SOURCE: U.S. DEPARTMENT OF TRANSPORTATION

22%

PERCENT OF TOTAL GLOBAL ENERGY OUTPUT CONSUMED BY THE TRANSPORTATION SECTOR

27%

PERCENT OF TOTAL GLOBAL CARBON EMISSIONS PRODUCED BY THE TRANSPORTATION SECTOR

SOURCE: INTERACADEMY COUNCIL



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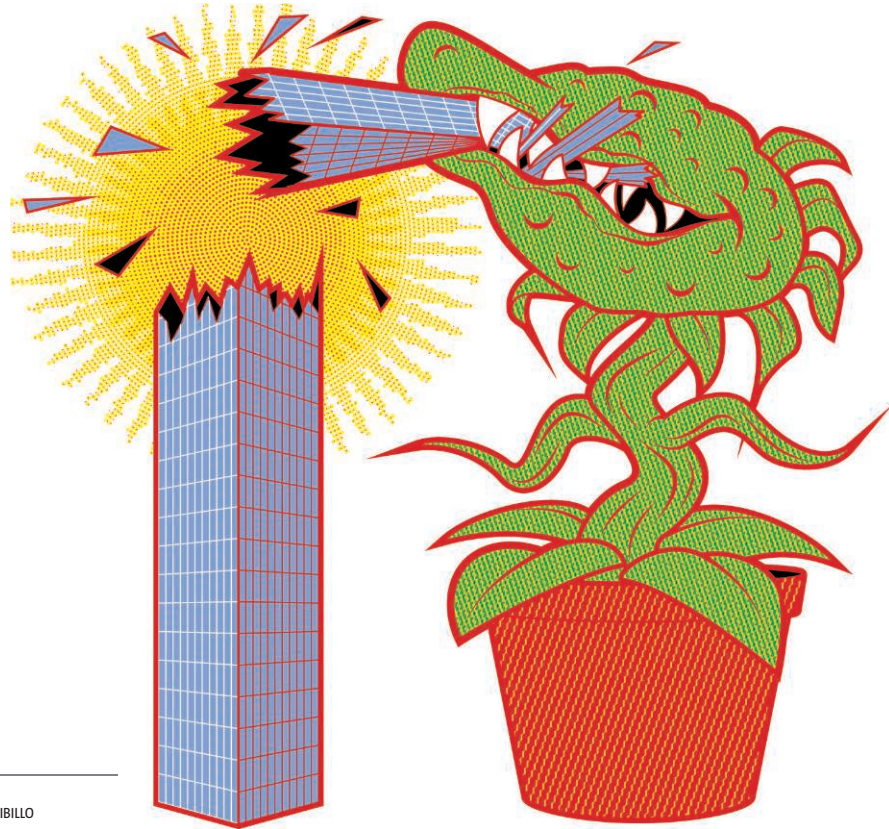
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→ STRATEGY

Green Monster



TEXT BY ERNEST BECK
ILLUSTRATION BY MCKIBILLO

LEGAL BATTLES OVER SUSTAINABILITY PROMISES VS. PERFORMANCE ARE JUST BEGINNING. BUT IT'S NOT ONLY ABOUT DESIGN, IT'S ALSO ABOUT CONTRACTS, EXPECTATIONS, AND (SURPRISE, SURPRISE) MONEY.

THE LUXURY CONDOMINIUM building Riverhouse in lower Manhattan has attracted considerable attention since it opened in 2007, usually in regard to such things as celebrity residents or a management power struggle over slow sales. But the latest news from Riverhouse, an environmentally friendly building that is a candidate for LEED Gold, has taken the legal and architecture communities by surprise: The owners of a condo in the building have filed a lawsuit charging fraud, misrepresentation, and breach of contract because Riverhouse allegedly does not meet its much-touted sustainability-performance standards.

Now that sustainability is an integral part of design practice and the business and marketing strategies of architecture firms, it's inevitable that legal claims and liability issues concerning green building performance will appear. Currently, case law is scant—one reason the Riverhouse lawsuit has drawn so much attention. Meanwhile, another dispute has played out in Eagle River,

Wis., after a group of area residents challenged a LEED Gold rating of the local high school, which was completed in 2006. They claimed the facility did not meet the U.S. Green Building Council's gold-standard requirements; this was rejected by the USGBC. An appeal was also rejected after the USGBC conducted a challenge review and ordered two additional technical reports. "There is no reason to believe the project failed to meet all the LEED prerequisites and credits it has attempted," the USGBC wrote in a letter to the school district last April.

"These issues will come up more often," predicts Jeff York, associate general counsel at HOK, especially because a growing number of clients, such as schools, are requiring LEED certification. What's more, cities and states are encouraging sustainable projects by offering tax abatements—usually for property taxes—that are tied to LEED status. Currently, LEED initiatives are found



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—STEPHEN DEL PERCIO, ARENT FOX LAWYER AND LEED AP



in 45 states, 14 federal agencies or departments, 17 school jurisdictions, and 41 institutions of higher education.

When New York firm Gwathmey Siegel & Associates Architects took on the renovation and expansion of the building now known as the Yale Arts Complex, LEED Silver was mandatory for all new Yale University buildings. What if LEED and performance goals had not been met? Elizabeth Skowronek, a senior associate who worked on the project, says the answer is clear: “In that regard, we don’t guarantee anything. We can’t,” she says, adding, “except that we will do everything in our power to provide the highest professional standard of care.” The Yale Arts Complex, completed in 2008, achieved LEED Gold.

Guarantees, or the lack thereof, are part of ongoing discussions among architects, lawyers, and clients about the legal liability of LEED-certified and other high-

performance, sustainable buildings. As such, firms are fine-tuning how they talk about these topics in contracts and in client conversations.

“Early on we may say, ‘Let’s try for gold,’ and the team has a good-faith intention of achieving that, but as the project goes along the scope may change, so we always have to ask: ‘Are we still on track?’” says Ken Sanders, a principal and managing director in Gensler’s San Francisco office. “You have to talk about this with the client in real time.” As for contracts, Sanders notes that while striving for LEED adds to project objectives, “we don’t see a need for special language beyond the stated goals we are working to achieve.”

HOK’s York describes the firm’s LEED contract as a



Northern Quest Resort and Casino,
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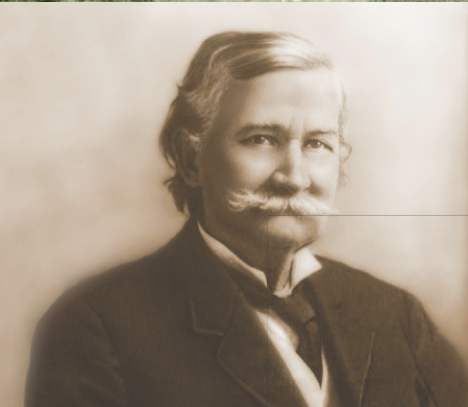
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→ “completely normal” design contract, in that it spells out goals and objectives. But it also has a paragraph stating that “the owner recognizes that LEED ratings are subject to many outside factors,” which, York notes, means that the architects “can’t guarantee achieving that goal.” It’s all about “expectation management,” he adds, since “unmet expectations can spark lawsuits.”

Another issue is the extra cost required to gain LEED certification, especially LEED Platinum. Paul Stoller, a director in the New York office of environmental design consultancy Atelier Ten, says that Atelier Ten’s contracts contain a disclaimer noting that if a project is going for LEED, it will require extra work and cost more for items such as energy analysis and building commissioning. “This can easily add \$100,000 to the price, and for a full-scale building, hundreds of thousands of dollars,” paid for by the client or owner, Stoller says. He adds that about half of Atelier Ten’s LEED projects have come in at the anticipated level; apart from a couple of projects not yet completed, the rest have come in at a higher rating.

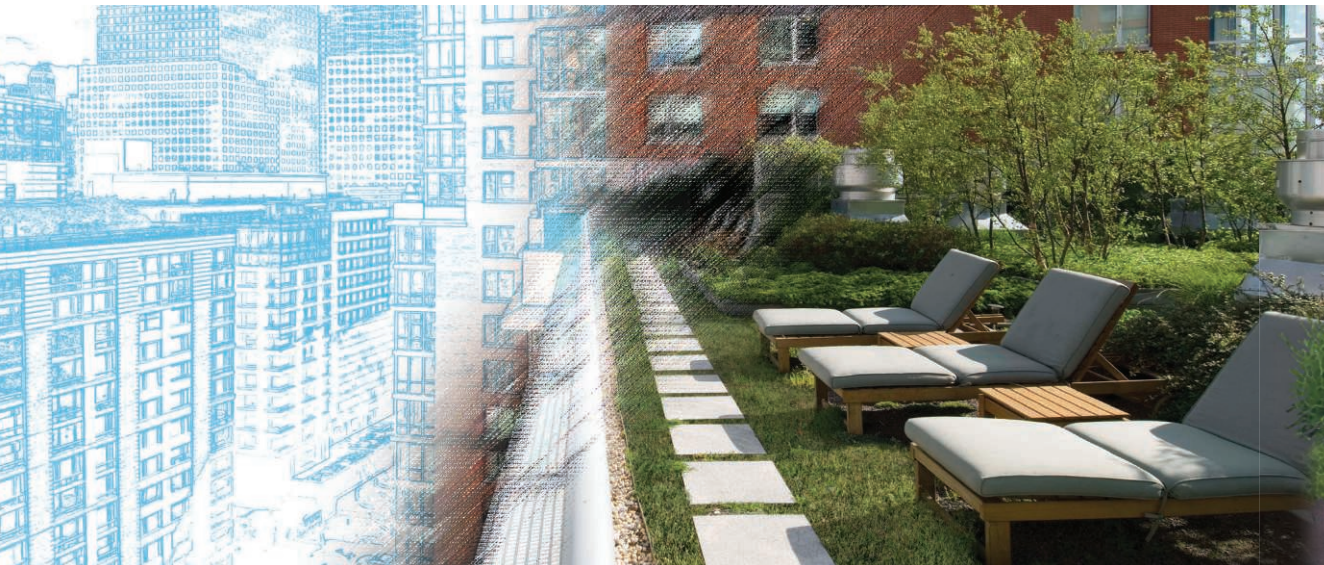
One factor complicating the legal liability aspect of LEED buildings is that so many hands are involved, from the design team on through the construction contractors, as well as independent commissioning inspectors and, finally, the USGBC and its autonomous certification body, the Green Building Certification Institute (GBCI). “The

design team takes on implied obligations to deliver some sort of LEED certification, but what is tricky is that ... it’s in the hands of the GBCI,” Stoller explains.

Nicholas Holt, director of the technical department at Skidmore, Owings & Merrill’s New York office, suggests that LEED certification levels should be talked about as an aspiration rather than a guarantee. “Some clients come in saying, ‘Guarantee me gold,’ but that’s usually because they don’t know the process,” he says. After explaining how LEED is achieved and pointing out all of the parties involved in certification, Holt continues, “we say, ‘We need to have realistic aspirations.’”

Of course, much depends on a building owner, who might cut a budget, backtrack on original plans, not follow through on maintenance and operation, or perhaps pave over a green roof. This could lead to a lower certification level or dropping down from a level already awarded, according to LEED 2009 regulations. (The USGBC will review certifications, but it does not “decertify” a building or monitor ongoing operations. There is discussion in the industry over whether either or both of these actions should be included in the next iteration of LEED.)

“Once the owner is in the building and operating it, all bets are off, so it’s dangerous to make promises,” advises lawyer Stephen Del Percio, a LEED accredited professional in the New York office of Arent Fox. □



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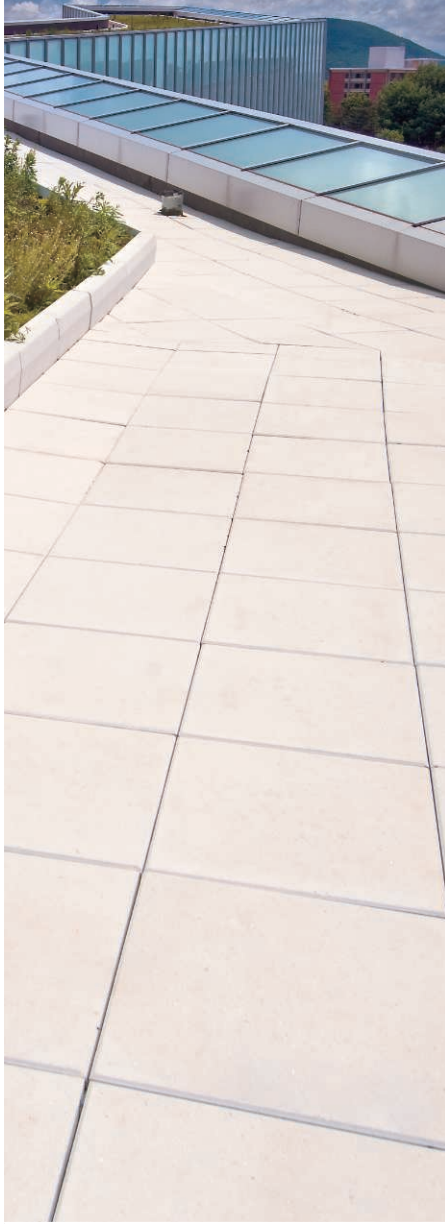
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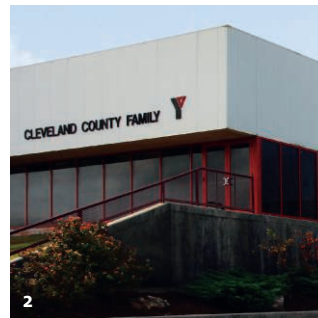
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business

→ LOCAL MARKET

Norman, Okla.

TEXT BY MARGOT CARMICHAEL LESTER



NORMAN, OKLA., founded in 1889 about 20 miles to the south of Oklahoma City, may be best known for the Sooners, the legendary college football team that calls it home. And the University of Oklahoma is certainly a major development driver for the city. But there's more here than just a large college campus.

"Norman is a midsized community that ... has big-town amenities and small-town charm and accessibility," says Don Wood, executive director of the Norman Economic Development Coalition. The city also boasts a vibrant downtown, historic neighborhoods, and so many special events that it's known as the City of Festivals.

Norman is also known for its weather, sitting as it does in Tornado Alley. And architects working here have to know a thing or two about structures that can withstand 250-mph-plus winds and flying debris. "Few buildings are designed to be self-contained tornado shelters, but I think most architects consider the effects of such storms," says Larry Stubblefield, principal at local firm LWPB Architecture. He adds that clients are requesting spaces that can be used as shelters and serve other functions. LWPB included just such a room in a Hitachi plant addition it designed (see No. 3, at right).

More notably, the Hitachi project was partly funded through the Oklahoma Community Economic Development Pooled Finance program, which provides taxable bond proceeds for investments in local projects. The funding kept Hitachi in Norman, enabling the company to more than double its capacity, retain jobs, and add new positions. It's the first project in the state to use the program.

With incentives like this and an educated labor pool (51 percent of residents have at least a bachelor's degree), Norman's more than OK with business. "Norman is definitely a significant power in the region that both retains and attracts creativity and intellect," says Boynton Williams & Associates project architect Christian Ballard. □

1. Armed Forces Reserve Center
ARCHITECT: LWPB Architecture, Norman. **COMPLETION:** 2010.
BRIEF: \$50 million, 204,000-s.f. facility features tilt-up concrete construction and is expected to achieve LEED Gold.

2. Cleveland County Family YMCA
ARCHITECT: Boynton Williams & Associates, Norman.
COMPLETION: 2009. **BRIEF:** \$598,000 renovation of, and 20,000-s.f. addition to, the community center.

3. Hitachi Manufacturing Plant Expansion
ARCHITECT: LWPB. **COMPLETION:** 2010. **BRIEF:** \$20 million, 200,000-s.f. addition includes an interior storm shelter for 150 employees; first project in state to use Oklahoma Community Economic Development Pooled Finance program funding.

4. Norman Regional Hospital Healthplex Campus
ARCHITECT: PageSouthernland-Page, Dallas. **COMPLETION:** 2009. **BRIEF:** \$101 million, 400,000-s.f. structure houses a vascular center, a pavilion for women and children, and a center for orthopedic services.

POPULATION/EMPLOYMENT

Current population: 112,551; annual growth over several years: a steady 2%.

OFFICE MARKET

Vacancy rates across the city are less than 5%.

RESIDENTIAL MARKET

Median home sale price, midyear 2010: \$166,977.

MARKET STRENGTHS

- Major research university
- Well-educated workforce
- Proximity to Oklahoma City

MARKET CONCERNS

- Inadequate infrastructure
- Dwindling water supply
- Rising home prices

FORECAST

"Norman will continue to revitalize its downtown and ... fill in its boundaries," says Christian Ballard, project architect at local firm Boynton Williams & Associates. "This growth will continue to be deliberate and steady. An economic boom is not anticipated, but the desirability of living in this town will continue."

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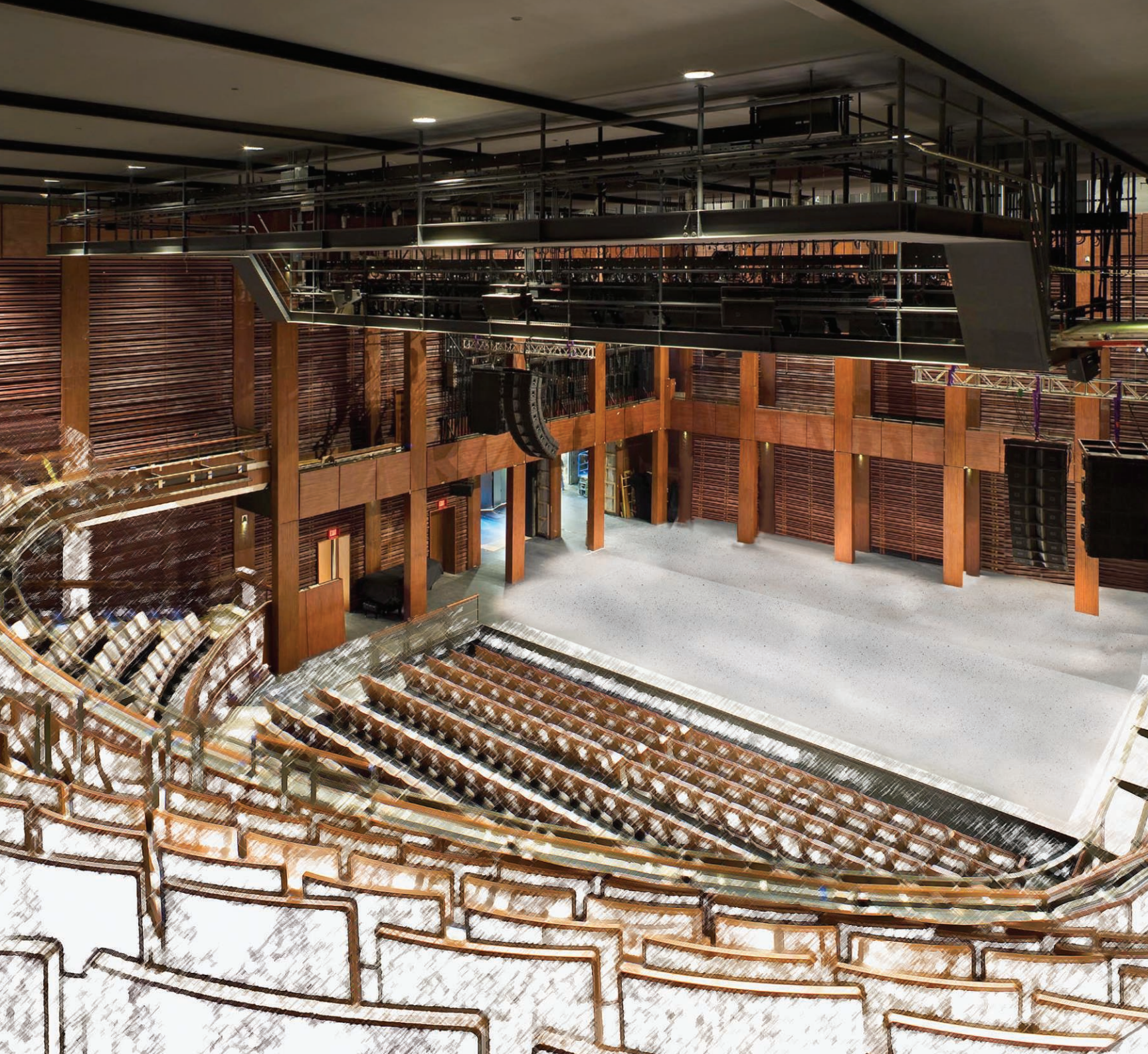
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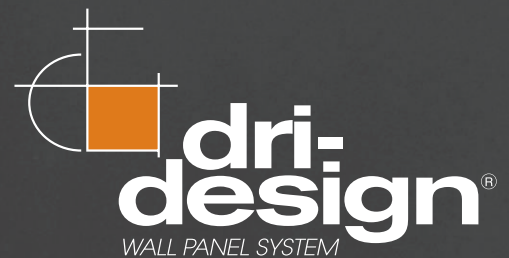
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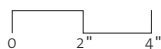
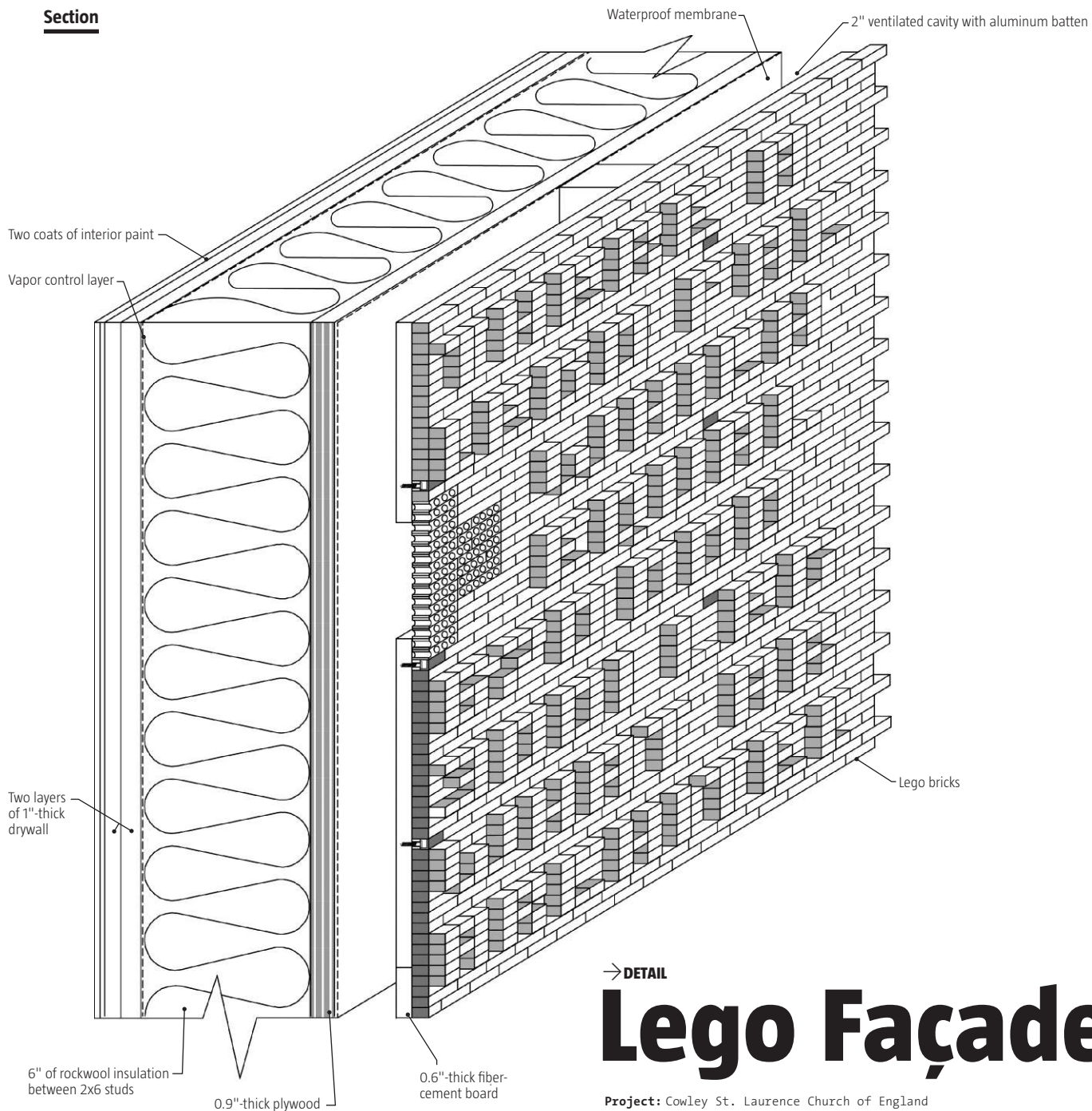
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TECHNOLOGY

Section



→DETAIL

Lego Façade

Project: Cowley St. Laurence Church of England Primary School and Children's Centre

Architect: What_architecture

Location: Hillingdon, Greater London

TEXT BY BARBARA HORWITZ-BENNETT





The Lego façade of What architecture's addition faces the courtyard of the Cowley St. Laurence Church of England Primary School and Children's Centre, where it is visible to students, teachers, and visiting parents. The structure to the right is for administrators, while the one to the left is part of the children's center. In between them, above the entrance gate, is a room for school staff.



HILLINGDON, THE WESTERNMOST borough of Greater London, may be best known as the home of Heathrow Airport. But a stroke of design ingenuity on the part of London firm What_architecture has created a playful new landmark for the local community.

As part of its design for a structure connecting the Cowley Children's Centre with the St. Laurence Primary School, this London-based, 12-person firm, which specializes in public design and community outreach, had the idea of using 1.2 million off-the-shelf Lego blocks to clad one side of the building, and involved school children in the design and the construction. The Lego wall runs across the entire façade fronting the inner courtyard of the newly christened Cowley St. Laurence Church of England Primary School and Children's Centre and has earned the project a Guinness World Record for the largest on-site interlocking Lego build.

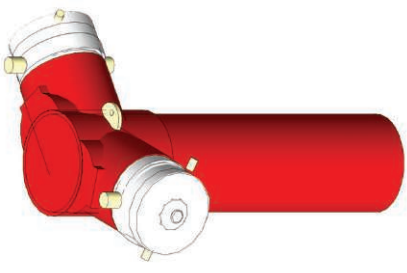
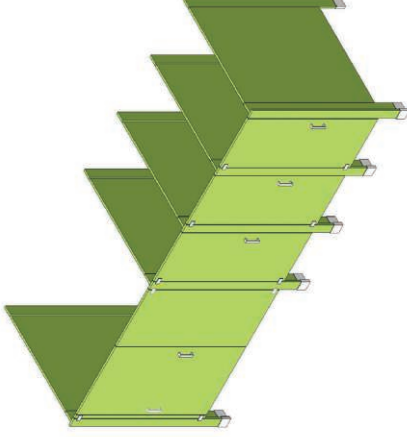
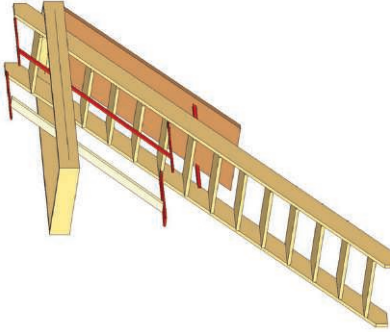
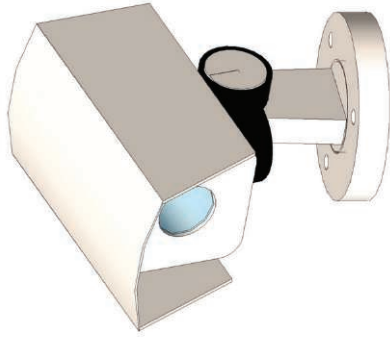
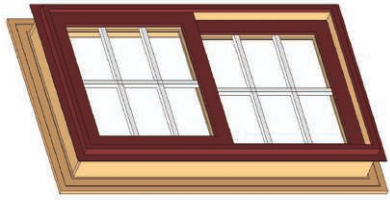
"The use of Lego was empowering in the sense that it allowed maximum public participation and facilitated the design process—as a building material implicit to child's play that is both fun and educational," says What_architecture director Anthony Hoete.

The 2,700-square-foot façade is affixed to 0.6-inch-thick fiber-cement board. Because the board expands and contracts at the same rate as the Lego bricks, this provides the wall with dimensional stability. As an added measure, the architects placed expansion joints along the Lego façade every 13 to 16 feet.

As it planned its design, What_architecture made a happy, useful discovery in the Lego catalog: bricks of various sizes with holes already in them. To ventilate the 2-inch cavity that separates the fiber-cement board



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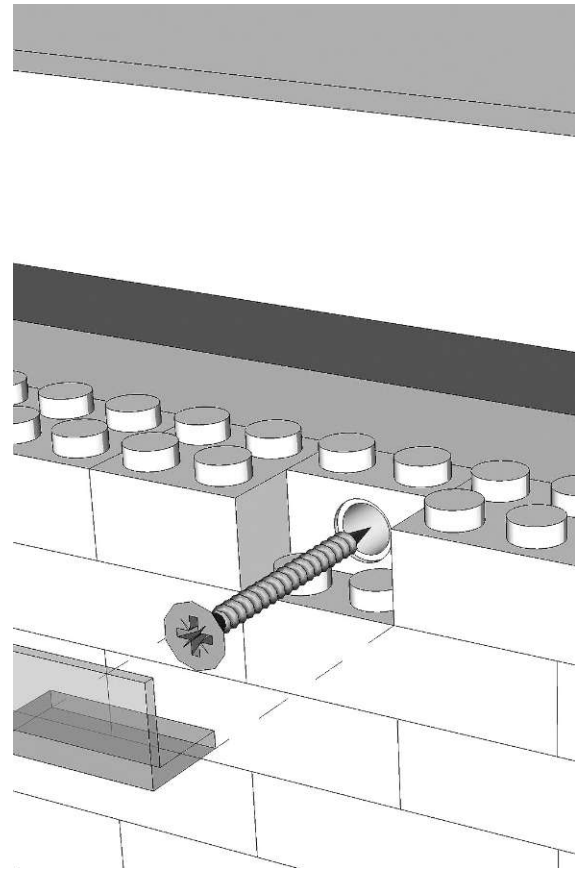
“We put the info in BIM”



Students designed icons for the Lego walls and helped with construction (below). The original plan was for the icons to be multicolored, but the number of available hues proved overwhelming, so a decision was made to go with black. (The red bricks throughout the façade delineate the layout grid.) As What architecture director Anthony Hoete notes, "The school was very keen that this populist façade attempt be a little timeless ... and so it borrows the black and white from modern architecture's palette."

To fasten the Lego wall to the underlying fiber-cement board, standard Lego bricks with holes that can accommodate screws were used and then hidden behind another Lego piece (right). The covering pieces are all colored yellow, for easy location.

Fastener Detail



from the plywood at the heart of the wall, eight-stud versions of these bricks compose 32 cruciform shapes, 4 inches square, spaced every 2 feet along the top of the façade. And two-stud versions were used to attach the Lego façade to the board: for every 11 square feet of bricks, approximately five screws, threaded through the blocks with holes and hidden behind solid blocks, hold the Lego wall fast.

Of course, Lego bricks are not a code-compliant building material, so to address the issues of safety and longevity, What architecture brought 3M Netherlands on board to custom-manufacture a clear, spray-applied coating for fire, anti-fungal, and UV protection. The coating was applied to the exterior once the entire Lego façade was complete.

In all, the structure and its Lego façade took nearly two years to work their way through planning and building code regulations. Once the structure was complete, 38 volunteers and 420 students pieced the façade together in just under three months.

Ultimately, the concept of turning school children into designers and builders was a highly successful one. "It was a pretty bleak-looking school before we began," recalls Hoete. "The idea that the learning environment can be fun definitely manifested itself with this project." □

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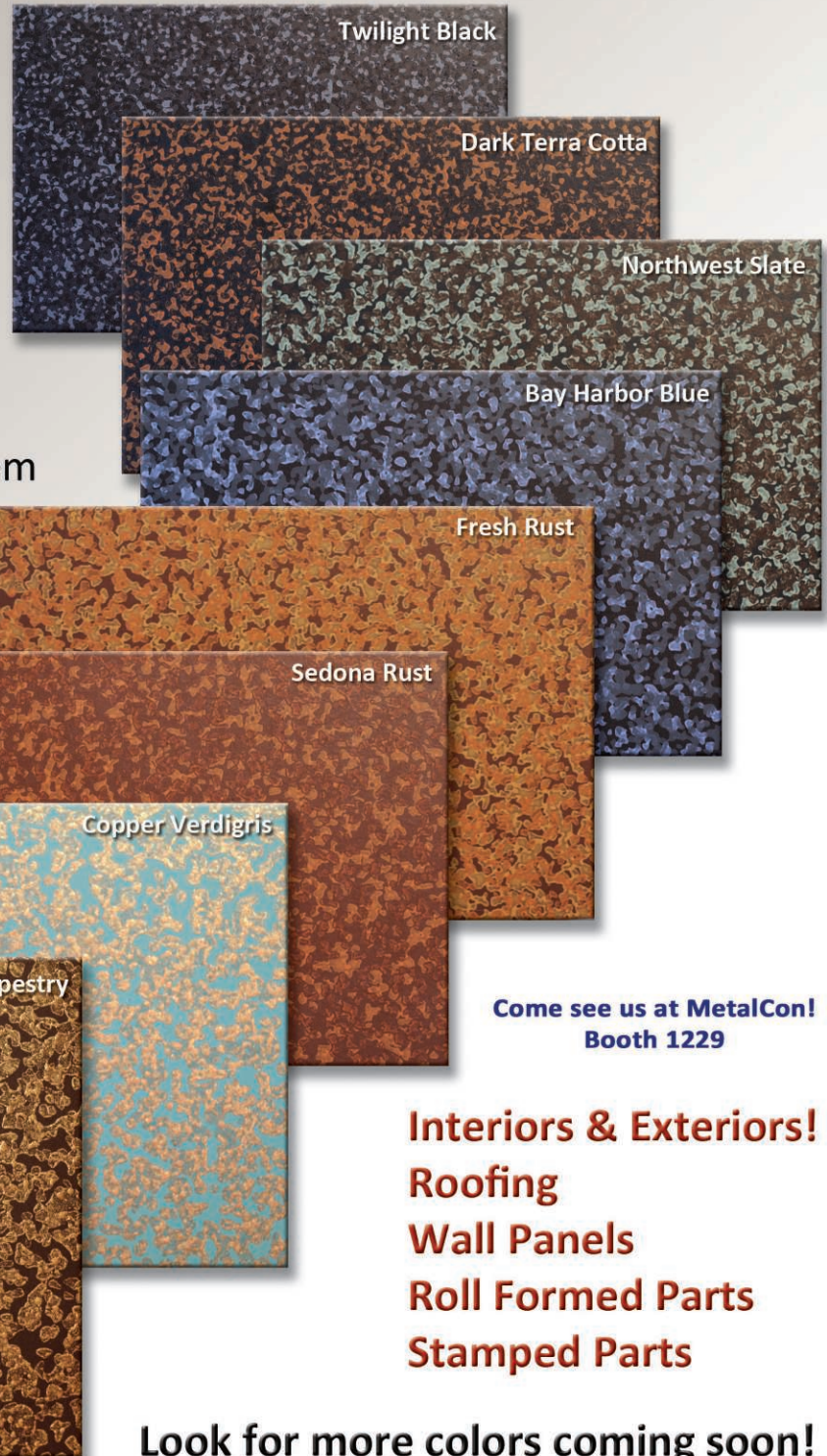
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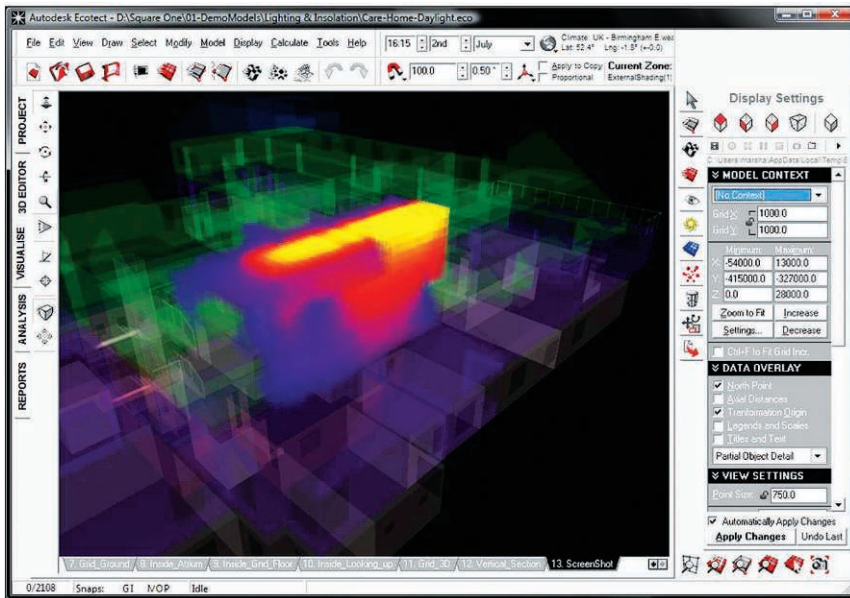
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TEXT BY MIMI ZEIGER

Simulating and analyzing the daylighting aspects of a building's design are just two of Ecotect's capabilities.

THE STATISTICS HAVE BEEN quoted time and time again since they were first released by the U.S. Energy Information Administration in 2005, but they still have the power to shock: In the U.S., buildings account for 40 percent of total energy consumption and 72 percent of total electricity consumption. To bring these numbers down to a level compatible with a sustainable future, architects need to make their buildings perform better when it comes to energy efficiency.

A number of energy-modeling software packages on the market offer various tools to forecast a building's energy use and predict its performance. Running a schematic design through a rough simulation helps identify energy-saving strategies in building massing, façade components, and orientation. It can also help analyze overall lighting and cooling loads, a boon for clients trying to reduce energy costs.

Energy-modeling software runs the gamut, from quick-and-dirty applications to specialized, data-driven platforms that only an engineer can love, which makes finding the right combination of analysis tools for a given project tricky. Steve Sanderson, a founding partner of Case Design, a New York-based technology consultancy, and Buro Happold's Matthew Herman helped ARCHITECT steer through the offerings.

Free and Fast

EQUEST is an energy simulation tool available for free download (doe2.com/equest). It's made available and supported as part of the Energy Design Resources program, which is funded by California utility customers. The PC-only program, upgraded to version 3.64 in August, is geared toward compliance modeling for ASHRAE Standard 90.1 (Appendix G), the code that corresponds to LEED certification requirements. Although the software purports to be intuitive and has some tools for inputting and exporting designs, eQUEST is really focused on getting people to build the model in the program itself. "The first thing that will turn an architect away is learning a new software," Sanderson cautions.

The U.S. Department of Energy offers its EnergyPlus analysis and thermal-load simulation program (version 5.0)—which models heating, cooling, lighting, and ventilation—as a free download for Windows, Mac, and Linux platforms (apps1.eere.energy.gov/buildings/energyplus). The EnergyPlus OpenStudio plug-in for Google SketchUp makes it possible to edit a building's geometry and launch simulations while in the drawing software. Additionally, the cloud-based EnergyPlus Example File Generator produces a rough analysis based on a few parameters, including building activity, location, and basic form.

Software maker and green consultancy Integrated Environmental Solutions (IES) offers VE-Ware (version 6.1), a free energy- and carbon-usage software for PCs and Macs that works in conjunction with SketchUp and Autodesk's Revit (iesve.com/Software/VE-Ware). The "VE" stands for "Virtual Environment," and the program models performance and efficiency. Unlike eQUEST, however, for which the building model has to be within






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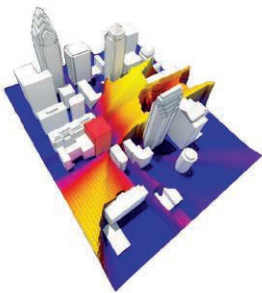


the program, with VE-Ware, users can assign data such as building or room types and HVAC systems within SketchUp and then import the data, rather than the model, into VE-Ware. The full VE-Ware suite, IES VE-Pro (price depends on configuration), combines VE-Ware's ease of use with the level of quantitative analysis required for high-performance engineering.

Good Graphics

"Ecotect is accessible and gratifying to new users because it gives you so much graphical output," Sanderson points out. The software, Ecotect Analysis 2011, by Autodesk, offers a whole suite of tools for sustainable building design. These include energy analysis and thermal loads, but also daylighting, solar radiation, and solar position in relationship to the building. Autodesk acquired Ecotect in 2008, and the company's Green Building Studio works in conjunction with Ecotect to support server-based analysis. Designed for PC platforms, it is \$2,995 for a stand-alone license.

Engineering-performance calculations would require more-specific sun data, but Ecotect's modeling is effective for rough comparisons between different design schemes. "It helps to visualize abstract phenomena," Sanderson says, "and gives you an intuitive sense of how the sun tracks or how much direct sun a particular surface is receiving."



Ecotect, from Autodesk, can also model a building's effects on the surrounding environment.

Similarly, Graphisoft's EcoDesigner for ArchiCAD provides users with an idea of their building's energy performance early in the design process. Launched in April 2009, the software runs on PC and Mac platforms and costs \$645 (\$275 for ArchiCAD subscribers). Architects can enter the structure's location, function, orientation, openings, and HVAC and M/E/P systems and get charted estimates in return. "Because the graphics are great for clients, these programs cater toward architects and designers," Sanderson notes. "You can take the output and show it directly to a layperson."

Supporting Multiple Systems

"Energy is just one of several factors we look at," says Buro Happold's Herman, offering a perspective into how engineers approach environmental modeling. "We think of energy as part of a much larger picture that includes thermal comfort, carbon dioxide emissions, and cost."

Software such as Bentley System's Hevacomp and Trane's Trace 700 is geared to the kind of specificity needed by engineers and consultants. Hevacomp runs on Windows 2000 and XP operating systems and offers integrated mechanical and electrical engineering packages; the full suite runs in the \$5,000 range. Hevacomp's energy analysis and performance tools



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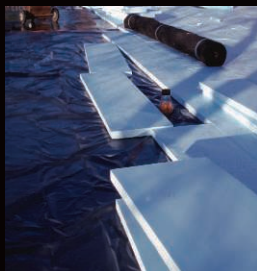
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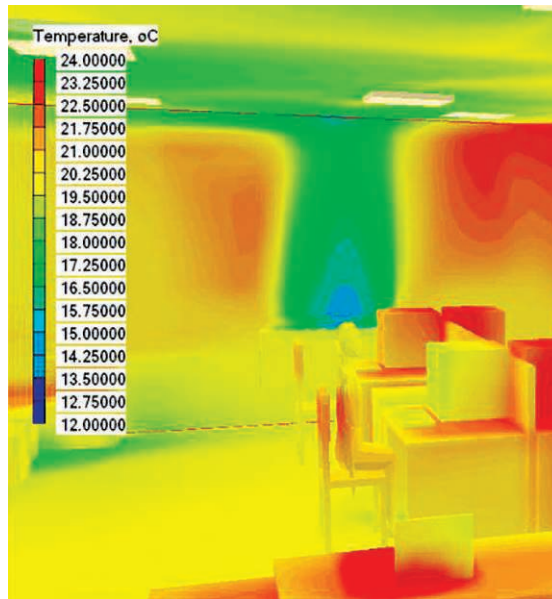
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Unlike the graphic-friendly programs described earlier, both Hevacomp and Trace 700 produce data-driven outputs in the form of spreadsheets and quantitative logs. Interpreting the information requires engineering skill and experience. "[These programs] are about the quality of the data, not rainbow diagrams," Sanderson says. □

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COMMUNITY PLANNING CAN ATTACK OBESITY AND LIBERATE CHILDREN.



TEXT BY LANCE HOSEY
 ILLUSTRATION BY PETER ARKLE

IN MAY, THE WHITE HOUSE'S Childhood Obesity Task Force released a plan to eliminate U.S. childhood obesity within a generation. According to Michelle Obama's organization, Let's Move, only a third of high schoolers get sufficient exercise, and the average 8- to 18-year-old spends nearly eight hours a day with TVs and electronic devices. The number of overweight adolescents has tripled since 1980, partly due to the environments architects and planners have created, since sprawl discourages exercise and increases the risk of obesity. Yet the plan says little about urban design. Combating children's health risks requires another kind of community: the free-range city.

In her 2009 book, *Free-Range Kids*, syndicated columnist Lenore Skenazy writes that virtually every minute of a child's time is scheduled in advance, and a big reason is fear. "Parents are afraid to send their kids outside, even to play in the yard," she tells me. "But kids don't need a security detail every time they leave the house." Skenazy points out that crime in the U.S. has dropped by half since it peaked in 1992—a time when, not coincidentally, the term "play date" was surging in popularity. Today, the crime rate is about what it was in 1970, when I was a toddler, playing outside all day without supervision. (I survived.)

Of course, once you let kids loose, the community needs to sustain their interest. An excellent model for how planning can liberate children is the *Active Design Guidelines*, produced by the City of New York (where 43 percent of children are overweight). The guide outlines the "Five Ds" of an "active city": Density (concentration of jobs, people), Diversity (variety of land uses), Design (safe, vibrant, accessible streetscapes), Destination Accessibility (ease of travel), and Distance to Transit (railway and bus-stop locations).

Providing more, and better, play areas can boost activity and, studies show, lower obesity among youth. Recently, Washington, D.C., began an overhaul of its recreational facilities, spending tens of millions on school yards, playgrounds, and athletic fields. Improving the quality of public space is especially important in lower-income neighborhoods, where both obesity and access to play areas tend to be worse. Additionally, smart zoning can locate produce stores and farmers' markets strategically to encourage street activity and make better foods more readily available.

All of these factors can increase childhood activity and enhance quality of life for people of every age. But they won't work unless parents loosen their apron strings. □

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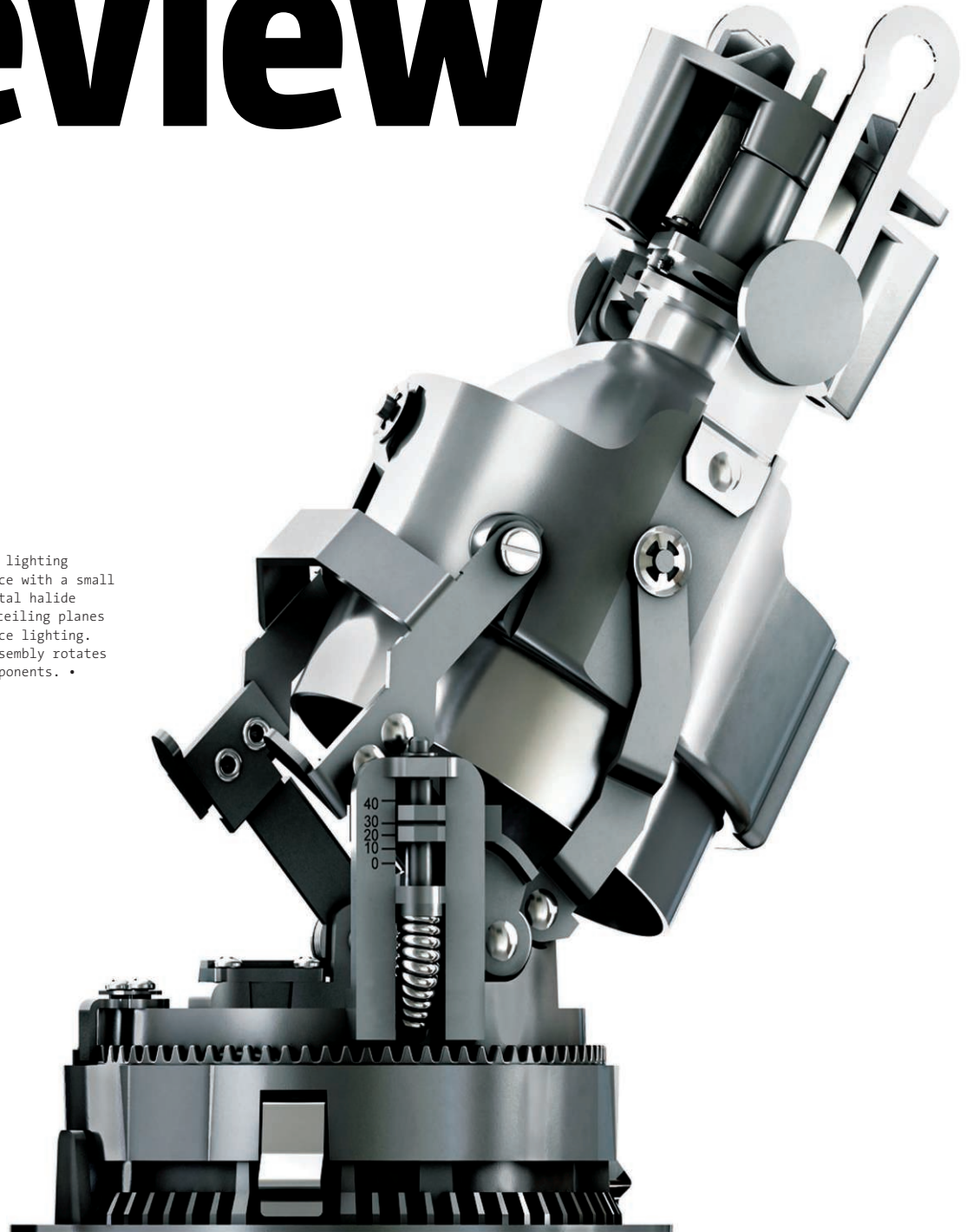
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→ PRODUCTS

Greenbuild Preview

 TEXT BY LAURIE GRANT

USAI has introduced **NanoLumen**, a recessed lighting fixture that marries optics and performance with a small aperture. Designed around a T4 ceramic metal halide lamp, the 2 1/2" aperture sits flush with ceiling planes to allow for precise, flexible point-source lighting. The light achieves 60% efficiency. The assembly rotates for easy relamping without separating components. • usaillumination.com • Circle 100





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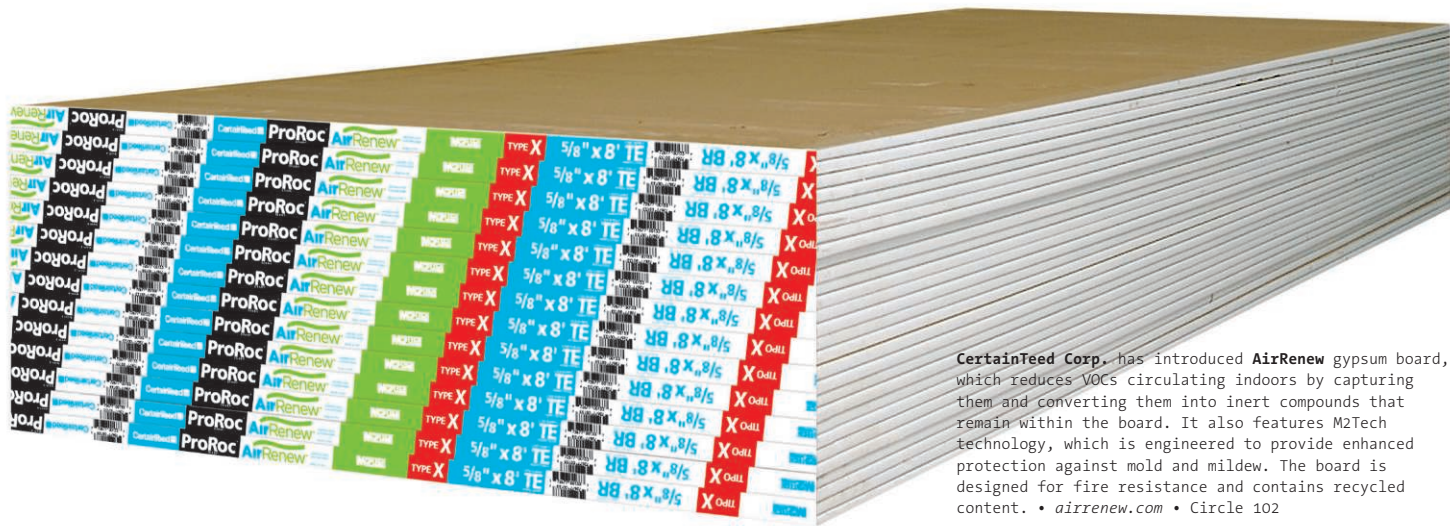
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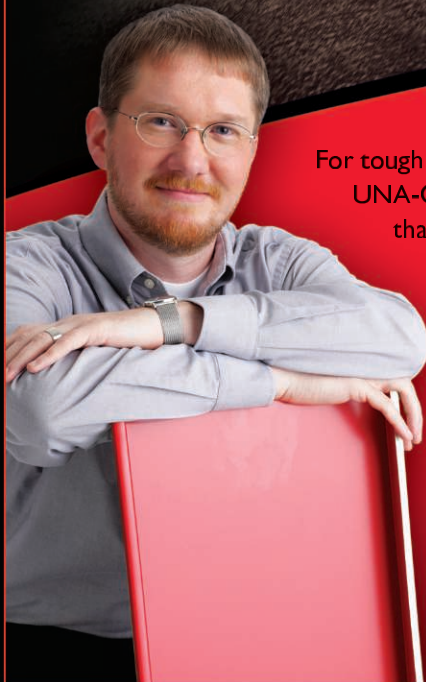
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Haworth's new task chair, **Very Task**, boasts a clean, crisp design. Material choice includes seven mesh colors, two trim colors, and a painted, polished, or plastic base. The chair features asymmetrical lumbar support with supporting mesh and arms that can adjust in height and width, as well as move forward, backward, and pivot. The chair is BIFMA-level certified. At the end of its life, Haworth will recycle the chair through its Very take-back program. • haworth.com • Circle 103

The **Discera 4 LED** from **Selux** delivers 3,464 lumens using 30 high-flux LEDs with precisely engineered lens optics. The LEDs produce low glare with very low backlight and the fixture is International Dark-Sky Association-approved. Suitable for street lighting, parking areas, pedestrian walkways, and egress applications, it has a die-cast housing, sealed optic chamber, and a polyester powdercoat finish. • selux.com • Circle 104

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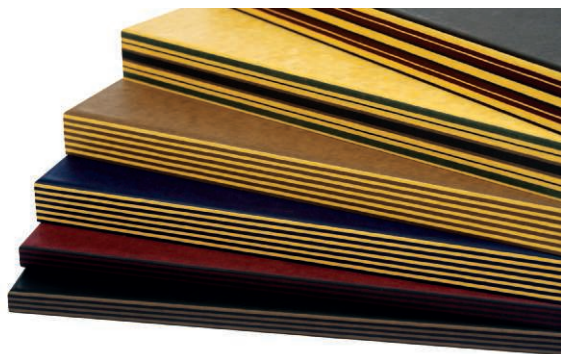
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The multicolored surfaces of **Richlite Co.'s Cascade Range** blend natural and design elements to create a surface with a solid-color top and two- or three-tone edges. Six color schemes are available: Rainier, Shasta, Adams, Hood, Little Tahoma, and Baker. Standard surface thickness is $\frac{3}{4}$ ", 1", and $1\frac{1}{4}$ ", with custom thicknesses up to 3". The material is both FSC and Greenguard certified. • richlite.com • Circle 107



M•Power sensor-operated faucets from **Moen** feature a motion sensor that starts and stops the flow of water to reduce daily water usage and limit hot-water consumption. Additional features include a 30-second auto-off feature to prevent possible overflow in the event the sensor eye is obstructed, $\frac{1}{2}$ -gallon-per-minute low-flow aerators, a high-arc gooseneck deck mount, and all-metal chrome-plated construction. • moencommercial.com • Circle 106



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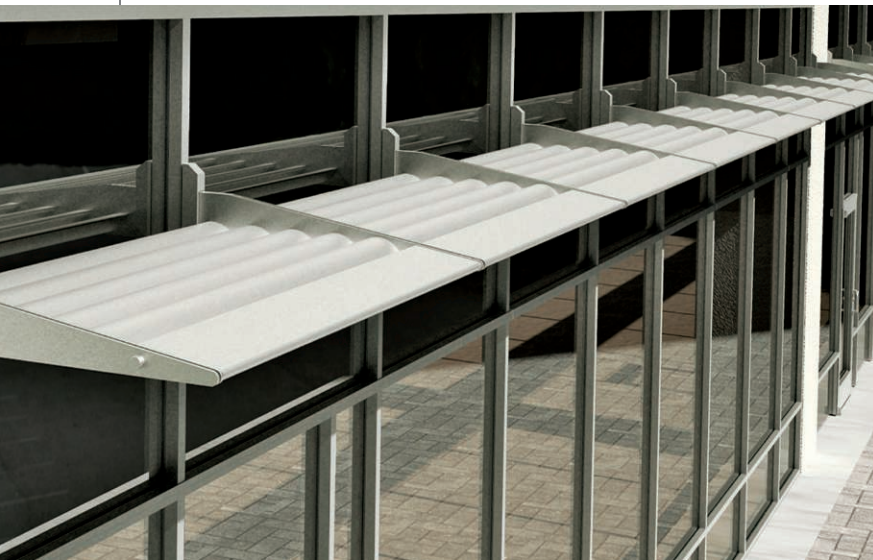
METAL COATINGS

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Philips Hadco's B4 LED Bullyte features a 50,000-hour life at 70% lumen maintenance and has an integral driver, eliminating the need for a ballast box. Narrow, medium, and wide (10-, 30-, and 50-degree) applications are available, as are cool-white and warm-white color temperatures. The mercury-free product is a suitable solution for uplighting, sign lighting, task lighting, moon lighting, or spot lighting. • hadco.com • Circle 108

As part of YKK AP's EnerGfacade line, the ThermaShade sunshade system features a thermal barrier to reduce a building's overall energy consumption. The system can be applied across the entire building façade to maintain a consistent and aesthetically pleasing appearance. Pre-engineered solutions are available in more than 100 configurations, including standard outrigger designs, eight standard lower options, and five standard fascia options. • ykkap.com • Circle 109



The Modlet from ThinkEco is a smart outlet that reduces energy waste by monitoring real-time equipment power consumption and creating an automated savings program. Plug the modlet into an existing wall outlet and then plug appliances into it. The wireless software automatically creates an energy-savings plan, turning off appliances when not in use. Users can see real-time energy use data from connected equipment and learn about plug-load management. • thinkeco.com • Circle 110



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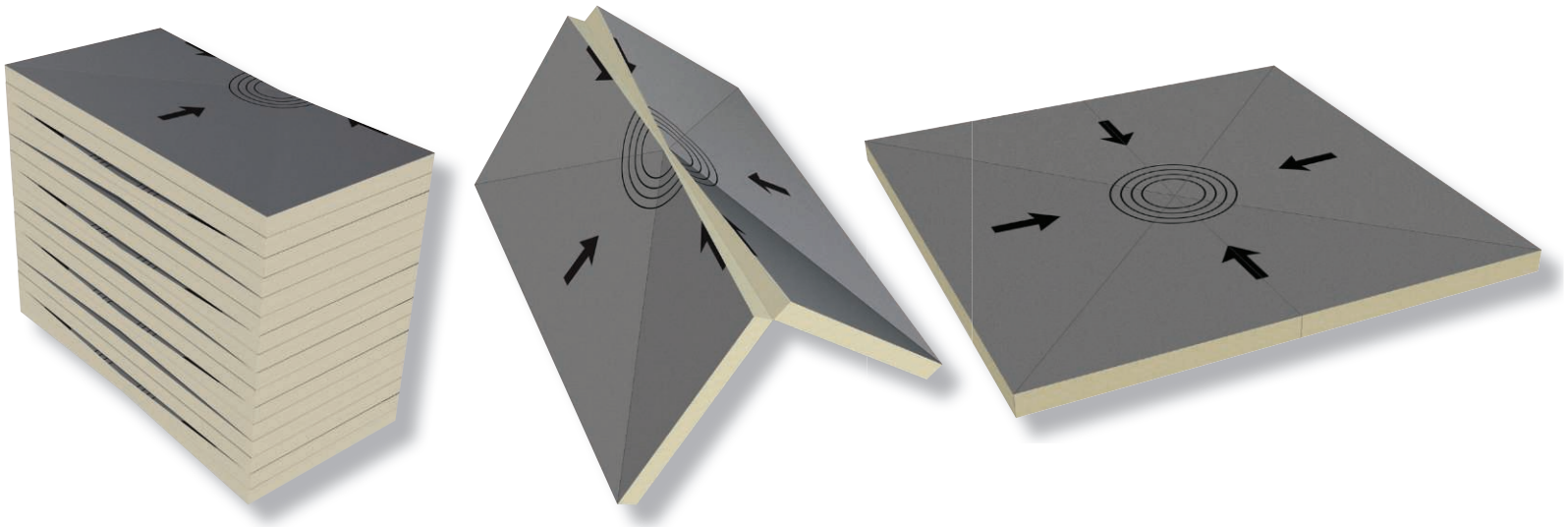
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CULTURE



→BOOK

The concept of the house has deep cultural, psychological, and emotional roots, making it a fertile source of artistic inspiration. Published in conjunction with a Barbican Art Gallery exhibit of the same name, **The Surreal House**, edited by curator Jane Alison, brings together the work of first-generation Surrealists and their associates—including Claude Cahun, who questioned sexual identity and gender roles in *Je tends les bras* (left) and other artworks—as well as more-contemporary allies such as John Hejduk, Gordon Matta-Clark, and Rem Koolhaas. At a time when the rational-minded talked seriously about the house as a “machine for living,” others viewed it as the stuff dreams are made of. \$70; Yale University Press

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→ EXHIBIT

To celebrate the 50th anniversary of Brazil's built-from-scratch capital, Brasilia, New York's 1500 Gallery, which specializes in Brazilian photography, has mounted a small exhibit of vintage photographs curated by Murillo Meirelles. **Brasilia** includes Gervasio Batista's photo of construction workers (right) and other images showing the planning and building of the city. Devotees of Oscar Niemeyer—who was the principal architect for the project—won't be disappointed: there are photos of his National Congress and presidential palace. Through Nov. 27. • 1500gallery.com

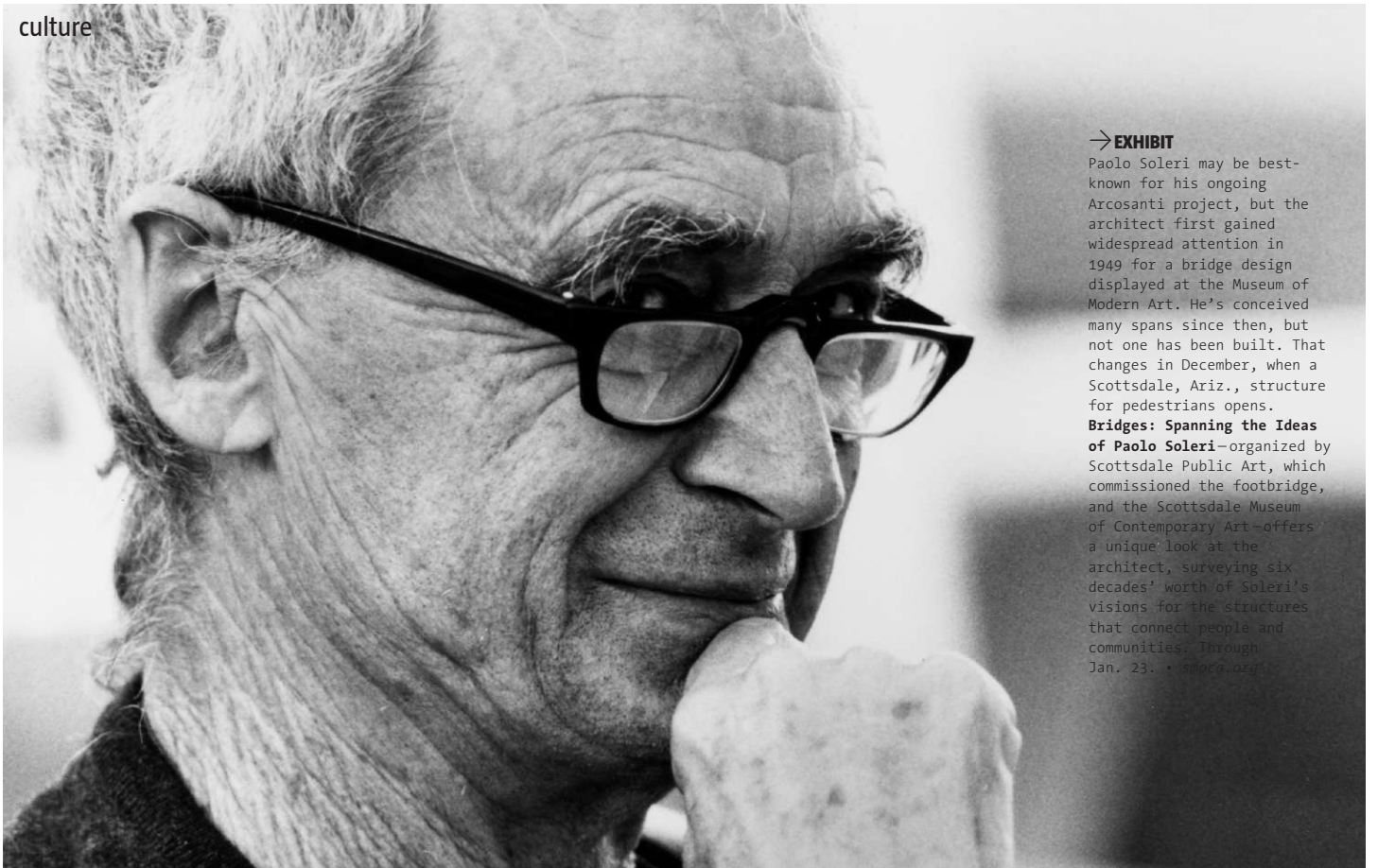
→ BOOK

Don't be fooled by the textbooklike cover of **The New Mathematics of Architecture**. Authors Jane Burry and Mark Burry, researchers and educators at the Royal Melbourne Institute of Technology's Spatial Information Architecture Laboratory, take a systematic approach to the topic—covering packing and tiling, datascares, topology, and other mathematical concepts—but this image-rich, beautifully designed tome offers plenty of compelling, on-the-ground design to balance out the heady world of numbers and geometry. It's not often that architects and designers share the page with such mathematical heavyweights as Euclid, Gauss, Mandelbrot, Descartes, and Voronoi. \$55; Thames & Hudson



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TOP: COURTESY 1500 GALLERY, NEW YORK; BOTTOM: MIKE MORGAN

culture



→ EXHIBIT

Paolo Soleri may be best-known for his ongoing Arcosanti project, but the architect first gained widespread attention in 1949 for a bridge design displayed at the Museum of Modern Art. He's conceived many spans since then, but not one has been built. That changes in December, when a Scottsdale, Ariz., structure for pedestrians opens.

Bridges: Spanning the Ideas of Paolo Soleri—organized by Scottsdale Public Art, which commissioned the footbridge, and the Scottsdale Museum of Contemporary Art—offers a unique look at the architect, surveying six decades' worth of Soleri's visions for the structures that connect people and communities. Through Jan. 23. • smoa.org

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Detail of
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→ EXHIBIT

Engineers may traffic in science and numbers, but the best ones also bring an aesthetic eye to their work, as **The Art of Structure**, now on display at Pittsburgh's Carnegie Museum of Art, demonstrates. The exhibit comprises two shows: "The Art of Structural Design: A Swiss Legacy," which focuses on the projects of four 20th century Swiss engineers, including Christian Menn's Sunniberg Bridge (left); and "Félix Candela: Engineer, Builder, Structural Artist," which posits that the Spanish architect's distinctive, thin-shell concrete designs are more than just elegant engineering. Through Jan. 17. • cmoa.org



→ INSTALLATION

The designer who became known for confrontational performance art back in the 1970s is still pushing limits—but now it's the limits of his materials. In the lobby of the Bronx Museum of the Arts, Vito Acconci and colleagues have created a large sculptural installation called **Lobby-For-The-Time-Being**. Their medium was DuPont's Corian solid surface, which the Acconci Studio cut into ribbons, stretched, twisted, wrapped around columns, and filigreed. As visitors pass through, sensors trigger projections that start a play of light and shadow. Through Jan. 2. • bronxmuseum.org

CLOCKWISE FROM TOP LEFT: COURTESY THE COSANTI FOUNDATION; COURTESY CHRISTIAN MENN; COURTESY ADAM JAKUBOWSKI AND BRADLEY ROTHENBERG



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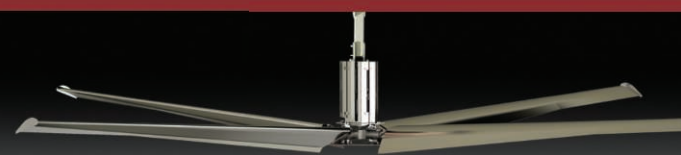


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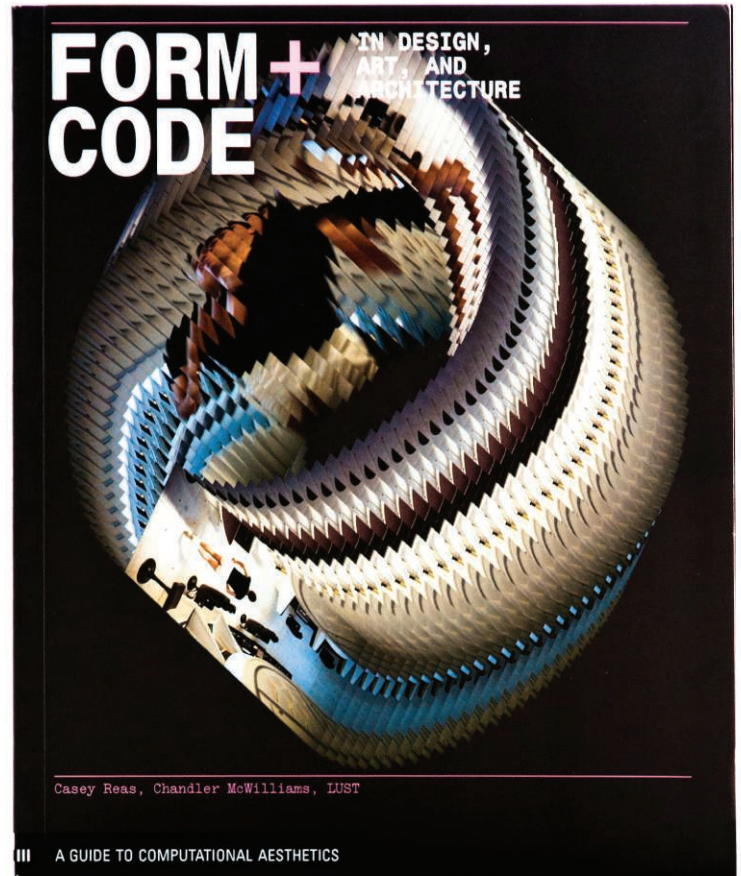
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→BOOK

Photographer Lee Friedlander's *America by Car* is an artist's version of typical road-trip mementos: images from the highway. Instead of sticking the camera out from his rental car to capture a view, however, Friedlander uses the windshield, door windows, and rear-view mirrors to frame roadside Americana and urban environments, including Las Vegas (below). Taken over the past decade, Friedlander's images reflect the artist's ongoing exploration of the tension between photography as "art" and as snapshots. \$49.95; D.A.P./Fraenkel



→BOOK

Artists and designers have explored the creative possibilities of programming since the 30-ton ENIAC was state of the art, but the last 20 years have seen an explosion in code-based forms as PCs have become cheaper and more powerful. Casey Reas and Chandler McWilliams survey digital media's past and current practices in *Form+Code in Design, Art, and Architecture*. With more than 250 examples from a range of creative disciplines, it's a wallet-friendly, slickly designed primer on the topic. \$24.95; Princeton Architectural Press

→EXHIBIT

Typography didn't end with Helvetica: Much has changed since 1957, especially the tools available to graphic designers. **Types We Can Make: A Selection of Contemporary Swiss Type Design**, now at the Massachusetts Institute of Technology Museum's Compton Gallery, showcases Swiss typography today and examines how it has changed. Young designers—all of whom graduated from Switzerland's University of Art and Design Lausanne—show off new fonts, while the influence of open-source design and new technology is explored through posters, magazines, corporate identities, and interactive projects. Through Feb. 25. • mit.edu/museum



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"Your Split Second House,"
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TEXT BY CATHY LANG HO



Cathy Lang Ho is a writer and editor based in New York and a past recipient of the Rome Prize in Design. She has contributed to many design publications.

ONE OF THE FIRST DISPLAYS one encounters at the Venice Biennale's 12th architecture exhibition, directed by Kazuyo Sejima, is a short 3D film of the Rolex Learning Center in Lausanne, Switzerland, completed by Sejima's Tokyo-based firm SANAA earlier this year. Directed by Wim Wenders, *If Buildings Could Talk* pans lovingly through the sprawling complex, with sensuous forms that pop into space. Viewers are swept smoothly through bright rooms, pausing momentarily on pensive readers (a reminder of the dreamy library scenes in Wenders' *Wings of Desire*). No matter how gimmicky or gratuitous 3D technology seems (in cinema, it always smells like a last-ditch effort to heap interest on a weak storyline), applied to architecture, it makes total sense. Finally—a solution to architecture's perennial representation problem!

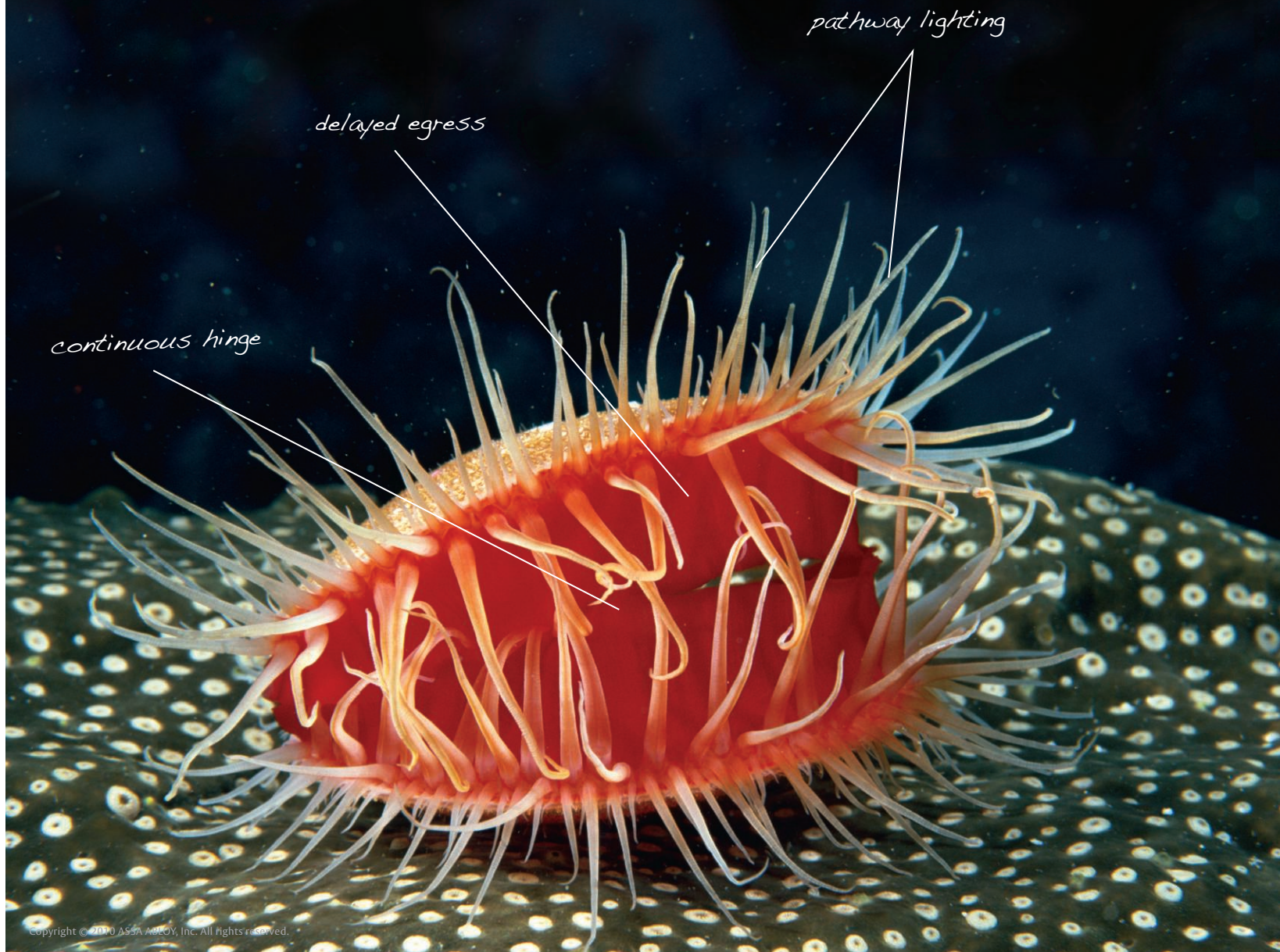
Architecture on display is always problematic because it is always a degree (or several) removed from the real thing. But what does "the real thing" mean

anymore? It depends on who you ask. For the vast number of nonarchitects, the answer is clear (physical buildings), but for professional insiders, the rendering of an idea—whether in words, drawings, or some other media—has become a wholly acceptable proxy. The debate about architecture's dependence on, or inextricability from, its representation has only gotten more complex as architects' representational tools have grown more diverse and sophisticated, and as new media have enabled architects to blast their work, real and unreal, into the far reaches of the digital universe.

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 “Cloudscapes,” by
 Transsolar and Tetsuo Kondo
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installations in the Biennale—this year, 48 participants were invited by Sejima to exhibit in the Arsenale and the International (formerly Italian) Pavilion, and were joined by 52 national contributions and 20 collateral events scattered through Venice—means that visitors can expect to encounter the full gamut of ideas and presentation tactics, from low-tech to high-tech, abstract to pedantic, minimalist to over-the-top, messy to precious, you name it. Model-making is taken to new heights. Videos have the slick broadcast quality one might see in a BMW commercial or arthouse flick. Some installations attempt to eschew materials altogether, while others are so physically intricate that they must be admired purely for the amount of manual labor they represent.

On the whole, this Biennale ranks as one of the artier and more conceptual in recent memory. Sejima’s vague, open-ended theme, “People Meet in Architecture,” combined with her directorial approach—to allot participants generous spaces and command them to self-curate—clearly liberated a good many of them to give in to their fantasies and artistic urges. Madrid-based firm Antón García-Abril & Ensamble Studio set gargantuan concrete I-beams in improbable repose—a super-scaled complement to displays of the firm’s real buildings, including models of houses that embody extreme balancing acts, either of cantilevering forms or of elements such as light and air. German climate-

engineering consultancy Transsolar teamed with Tokyo-based architect Tetsuo Kondo (a former SANAA employee) to transform a 2,600-square-foot room into “Cloudscapes,” a dreamscape with a floating, spiraling ramp that ushers visitors through an artificial (and surprisingly warm!) cloud. It’s not the best designer cloud (Diller + Scofidio’s Blur Building for the 2002 Swiss expo at Lake Neuchâtel would get that honor), but the idea of engineering an atmosphere and giving visual presence to a science that’s invisible, yet so integral to architecture, is forceful.

Air is crucial to another installation, by another Japanese architect and SANAA disciple: Junya Ishigami. “Architecture as Air: Study for Château la Coste” is a near-invisible installation composed of superfine carbon fibers and filaments arranged to outline a structure, which oddly has real dimensions (about 46 by 13 by 13 feet) as well as references to real building elements, such as columns and beams. Though there’s an undeniable emperor-has-no-clothes bent to the work, it impressed the Biennale jury enough to win the Golden Lion for best project. The jury commended it for pushing “the limits of materiality, visibility, tectonics, thinness, and ultimately of architecture itself.” The setup is so delicate that the whole thing was knocked down the second day of the press opening, purportedly by a stray cat. I don’t know if

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culture

→ the architects intended constant vigilance and maintenance to be part of the installation, but inadvertently, it alludes to the impermanence of building and our ceaseless striving to build the impossible.

A more deliberate exercise in ephemerality was Olafur Eliasson's "Your Split Second House." In a long, darkened hall, strobe lights capture, for alternating split seconds, the fanciful swirls of water released by free-hanging whiplashing hoses. The constant sound and smell of water splashing on the stone-block floor offset the blinking image of water spirals, creating a mesmerizing, multisensory

THERE'S NOTICEABLY LESS OF THE AWKWARD SELF-CONSCIOUSNESS THAT HAS PLAGUED ARCHITECT-MADE ART IN THE PAST, IN PART BECAUSE CROSS-DISCIPLINARY COLLABORATIONS HAVE BECOME DE RIGUEUR.

spectacle. The Berlin-based, Danish-Icelandic artist oversees a 35-person studio that includes architects, artisans, and an assortment of technicians, resembling very much the operation of a design firm.

Equally enchanting is the sound installation of Berlin-based Canadian artist Janet Cardiff, "The Forty Part Motet" (a reworking of "Spem in Alium" by Thomas Tallis, 1573), which is a reinstallation of a piece from 2001. Forty separately recorded voices are played on 40 speakers, arranged in the shape of an oval around a few benches. Listeners can move around the speakers to hear individual voices up close or sit surrounded by speakers and hear overlapping waves of singing coming from different directions. It's a fantastic demonstration of the possibility to build a space aurally. Separately, these pieces all get at a similar point: that so much of what shapes architecture—gravity, light, climate, and sound—is intangible.

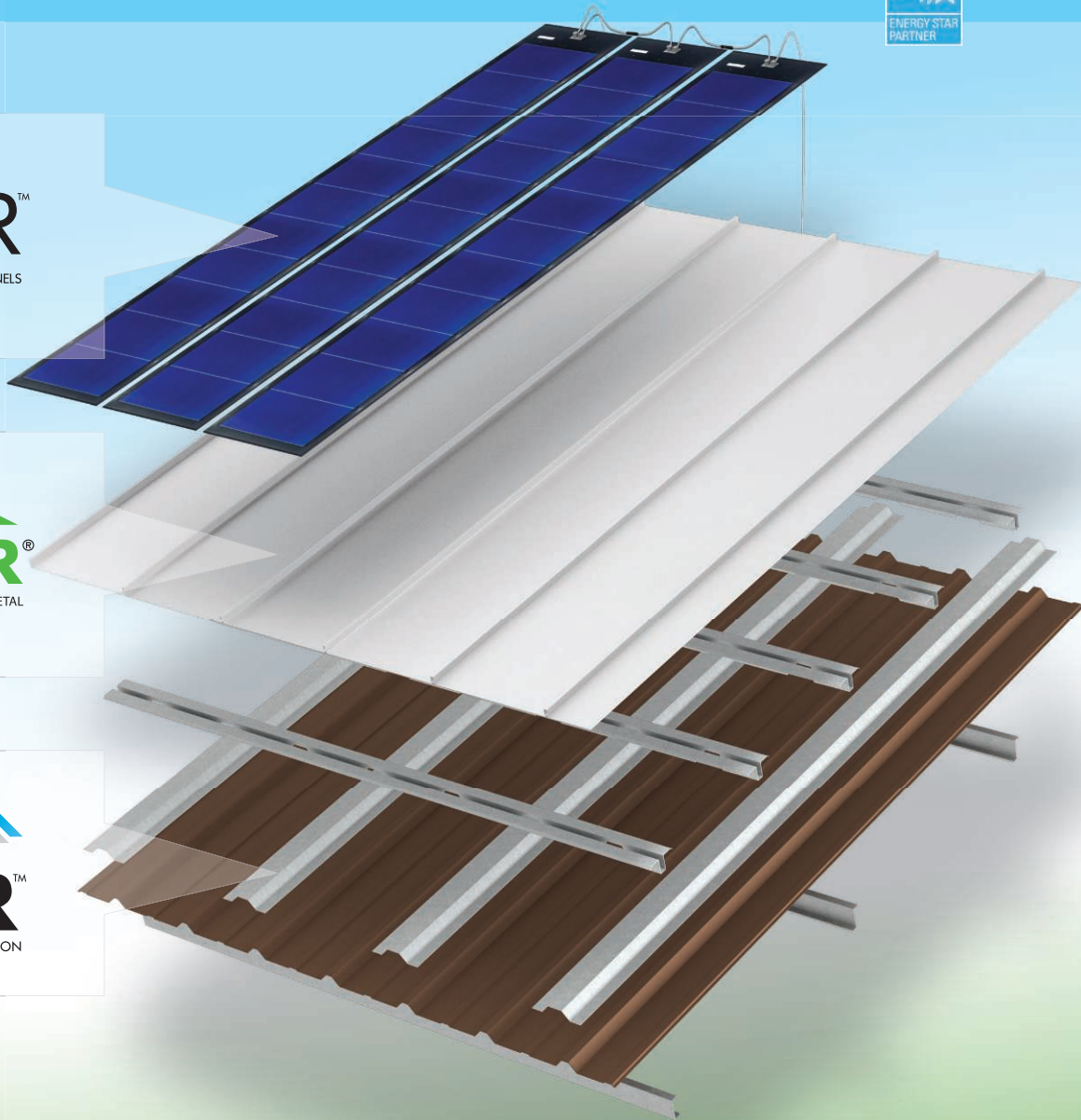
Works by artists, architects, and engineers intermingle comfortably. There's noticeably less of the awkward self-consciousness that has plagued architect-made art in the past, no doubt in part because cross-disciplinary collaborations have become practically de rigueur, and the creative fields seem to absorb each other's discoveries more quickly. The Belgian Pavilion exemplifies the capacity for an architectural exploration to rival the best contemporary art. In "Usus/Usures," Brussels firm Rotor has collected worn, discarded remnants of common building materials, such as scratched vinyl upholstery, tatty linoleum tiles, stained wooden panels, and a chipped, peeling section of a metal staircase. Salvaged and hung in a gallery setting, they assume an affecting beauty, evoking not so much the cheekiness of Marcel Duchamp's decontextualized readymades but the raw power of Donald Judd's sculptures.

Several of the national pavilions also opted for singular, room-filling objects, the better to induce a contemplative atmosphere. Romania offered a room within a room—an enormous, softly skewed white clapboard box with an oculus and one peephole on each side. Called "1:1," the object just

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Philip Beesley's "Hylozoic Ground"

barely leaves enough space along its edges to walk around it. The size is symbolic—it measures just over 300 square feet, the amount of land per capita in Bucharest, heightening awareness of the space in which people live. It's a simple point, conveyed via a rather intimate experience, but infinitely more affecting than maps or data.

Canada, meanwhile, filled its pavilion with a captivating, feathery, breathing, lilting creature-environment by Philip Beesley, called "Hylozoic Ground." Resembling the glow-in-the-dark living forests in *Avatar*, the delicate, complex work is indeed an interactive, organic system, with thousands of tiny white acrylic fronds triggered to wave gently in reaction to the softest breath or touch. The installation is undergirded with sophisticated sensors, chemistry-driven moisture filters, micromechanics and other technologies that Beesley has been researching for over a decade as part his investigations into responsive or living architecture.

By focusing on architecture as spaces rather than objects—as containers or backdrops for atmospheres, experiences, actions, emotions—Sejima's theme mercifully nudges the conversation away from the mindless formalism that's had such a strong grip on the profession in recent years. Still, something felt missing. Participants seem to have zeroed in on the "meet" part of the theme, re-creating sensations one feels in spaces. "Meet" is actually quite a passive word. People meet, and then what? For me, the more important word in the theme is "people," but scant attention was paid to social issues, and what architecture can do not only to provide pleasurable experiences, but to improve people's lives.

Two exceptions were the contributions of Studio Mumbai Architects and the Kingdom of Bahrain. Studio Mumbai appears to have shipped the entire contents of its studio to its allotted Arsenale hall: "Work-Place" is a complete workshop, replete with groupings of stone pavers, pigment samples, carved wooden furniture joints, and other ephemera "that [draw] from traditional skills, local building techniques, materials, and an ingenuity arising from limited resources." The hundred-strong firm includes artisans and builders who are usually directly involved in project construction. The piece acknowledges the importance of crafts and tradition in a practice that strives to be sustainable, environmentally and culturally.

Ecology and cultural continuity are also central to Bahrain's impressive first-time Biennale participation, "Reclaim." Three precarious-looking wooden fisherman's huts have been



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"Balancing Act," by Antón García-Abril & Ensemble Studio

reconstructed, their interiors outfitted with carpets and benches that invite visitors to stay. A flat screen in each hut runs filmed interviews with fishermen who woefully recount their lost livelihoods and sense of selves as a consequence of land reclamations, mostly driven by high-rise developments that capitalize on postcard sea views. The Biennale jury was evidently moved by these intensely personal installations, as it awarded a special mention to Studio Mumbai and the Golden Lion for best national pavilion to Bahrain.

The U.S. pavilion, too, has an appealing activist bent, highlighting projects that cast "architects as a force for change." "Workshopping: An American Model of Architectural Practice" gathers self-initiated projects, which tend to be driven by passion. Architect and critic Michael Sorkin has been generating his own projects for a long time, and one of the ongoing research initiatives of his nonprofit Terreform is a proposal to make New York City entirely self-sufficient. Chicago's Archeworks presents its Mobile Food Collective; Hood Design attempts to green an underprivileged quarter of Pittsburgh; the team of Catherine Seavitt, Guy Nordenson, Architecture Research Office, and Anthony Fontenot address climate change with "soft" infrastructure.

These projects deserve public airing, but their presentation is one of those conventional, piecemeal assemblages with hit-or-miss moments. (Though Italy and Austria win the prize for overzealousness, with their respective directors, Luca Molinari and Eric Owen Moss, each roping in dozens of architects to produce massive information overload.) I would love to see the U.S. pavilion give in some day to a big concept or risk being freewheeling and chaotic.

One positive consequence of the disastrous post-bubble, speculation-averse economic climate is that it has made grandiose building projects and sprawling new towns seem even more misguided and vulgar than before. This Biennale promotes a more measured, contemplative approach that can be a source of not simply immediate pleasure, but optimism for the future. □

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TEXT BY BRAULIO AGNESE
PHOTO BY JEFF WILSON

Architerials author **Alli Dryer** writes about cutting-edge building materials not from a detached point of view, but from a personal one. “I read a lot of nonarchitecture blogs,” she says, “and the ones I’m drawn to are those where you get a sense of the person behind the blog.”

THE ONLINE LOG of one architect’s off-the-clock research into the world of building products, Architerials is informed as much by the artist’s holistic eye as by the geek’s technophilic heart. In contrast to a researcher such as University of Minnesota professor (and ARCHITECT contributing editor) Blaine Brownell, whose *Transmaterial* books and website posts are succinct and precise, Alli Dryer writes about cutting-edge technologies and materials in a conversational way. Using the Chinese philosophy of Wu Xing—the idea that everything can be considered wood, fire, earth, metal, or water—as an informal framework, Dryer, an architect at the Dallas firm Good Fulton & Farrell (GFF), blends science with pop-culture references and personal observations: one post, on advances in graphene production, is titled “Is Graphene Elvis or the Russell Brand of Materials?,” while another, on a new HVAC product, opens with lyrics from a Journey song. “I wanted to make it humorously informative, to appeal to a wide audience,” she says.

Launched at the start of the year, Architerials is a way for Dryer, who was licensed in 2009 and spends her days at GFF dealing primarily with construction documents, “to step around some of the limitations in my job and explore new technologies and materials that I think are really interesting,” she says. Dryer has always been drawn to materials, but she first delved into them as an artist, attending Georgetown University for a double major in studio art and psychology. By sophomore year, however, she knew her career would be in architecture, thanks to a summer internship at an Atlantic City, N.J., firm. (Among her tasks? Organizing the materials library.) Dryer finished her undergraduate time at Georgetown—largely because of her love for rowing—and immediately moved on to the University of Virginia, earning an M.Arch. in 2007.

Although Dryer started Architerials as a personal pursuit, with the idea of incorporating materials research into her career at some undefined future point, the crossover is happening a little more quickly than she’d anticipated: Fellow GFF architects now turn to Dryer on a regular basis with questions about building products—and sometimes, the answers she finds fuel posts for the site. “I feel like I’m getting ahead of myself a little bit,” she says with a laugh. “I’m thrilled.” □

LINKS

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Thanks to funding from the U.S. Department of Energy, the 2009 International Energy Conservation Code is available for free download. It’s expected to produce about 15 percent in residential energy-efficiency gains over the 2006 version.

commoncensus.org

Political science major Michael Baldwin launched the CommonCensus Map Project in 2005 as a way to discover how people, not politicians, define where they live. Continually rebuilt from responses to a short series of questions (What do you consider to be your local community? What’s the natural cultural and economic center of your area? etc.), the map reveals local and regional “spheres of influence” that pay no respect to government-defined boundaries.

thedianerehmshow.org

How can bike lanes, pedestrian plazas, and attention to scale transform city life? Radio talk-show host Diane Rehm chats with architect Jan Gehl; Urban Land Institute fellow (and former Pittsburgh mayor) Thomas Murphy; urban planner Kristina Ford; and Barbara McCann, executive director of the National Complete Streets Coalition. • bit.ly/rehmcities

photoephemeris.com

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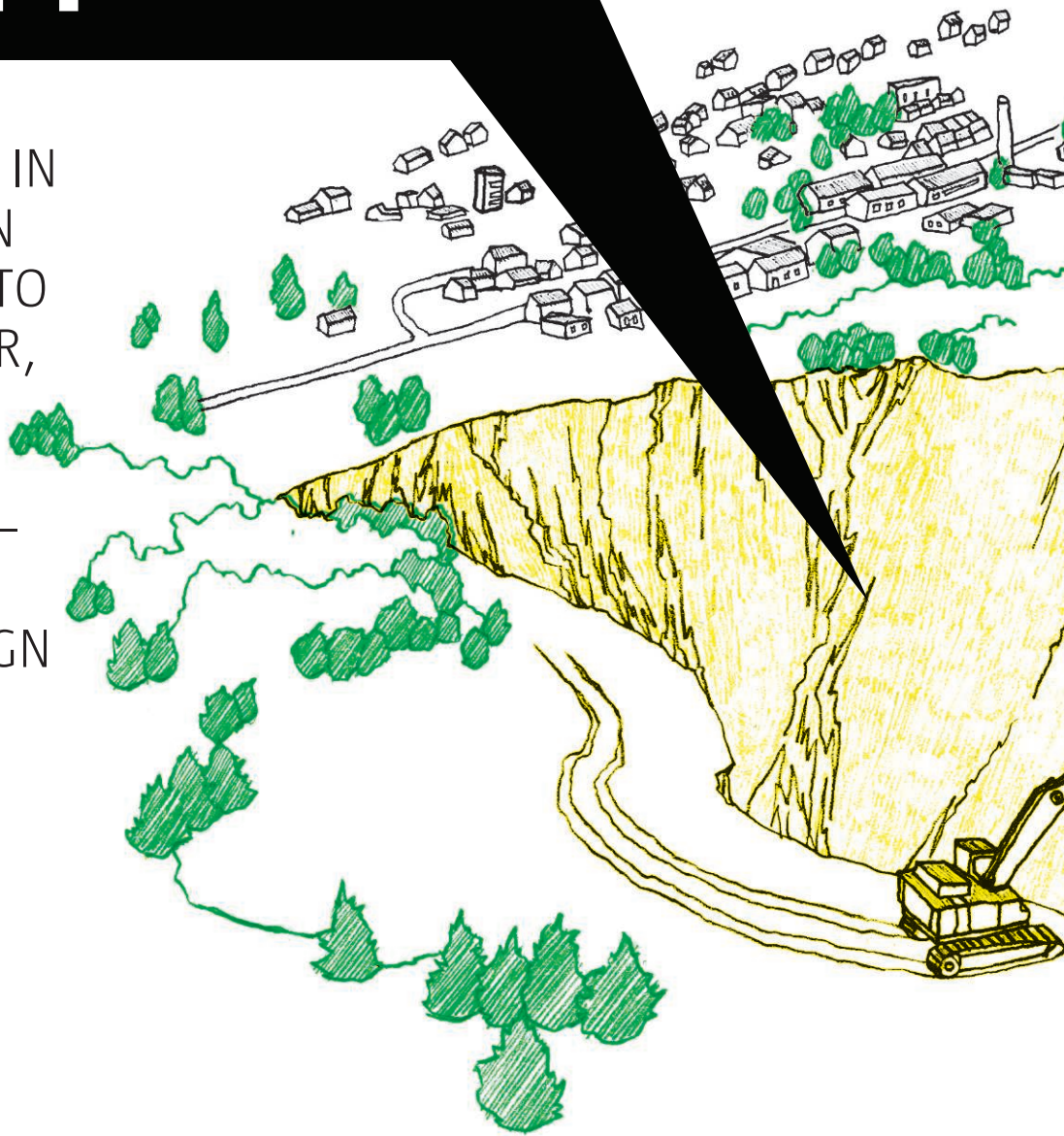
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THE **PIT** THAT SWALLOWED A CITY

WHEN A TOWN IN SWEDEN BEGAN CRUMBLING INTO A GIANT CRATER, THE LOCAL AUTHORITIES TOOK ACTION—BY CONVENING A GLOBAL DESIGN SUMMIT.





FOR MORE THAN 250 YEARS, the northern Lapland region of Sweden has supplied the world with iron ore. Today, some of the most fruitful mines in Europe exist here, feeding the global appetite for steel, an appetite that is almost as voracious as the one for oil.

Mining for ore is not a gentle prospect. Earth is blasted away with powerful explosives and gouged open with machinery to access hidden rock deposits. This industry has rewritten the very topography of Lapland, and the transformation is most notable in the small town of Malmberget, located in the municipality of Gällivare, just north of the Arctic Circle. The town's name translates as "the Ore Mountain," a nod to the rich deposits discovered near the Illuvaara mountains when the mine opened in the 1740s.

In the beginning, there were plenty of jobs but few places to live; workers built impromptu shacks from leftover dynamite crates. Today, a proper town has grown up around the mining industry, but the houses and buildings of Malmberget are no more stable than they were when those pioneering workers tacked boxes together.

Malmberget, you see, is being swallowed by a giant crater.

As the mining industry grows, an ever-widening pit some three miles deep and almost half a mile across metastasizes across the landscape. **The ground is literally crumbling under Malmberget. Viewed from Google Earth, the dark pit that is the mine resembles a massive lake.** Buildings and roads seem to spiral toward it, ending abruptly at the edge, as if consumed by a black hole.

"Right where the pit is now is where the center of the town used to be," says Lars Albinsson, a consultant who has been hired by the mine (which is owned by the Swedish government) and the Gällivare municipality to help relocate Malmberget's residents. "People have been moving from this expanding mine for 150 years. It's a kind of tradition."

In recent years, some houses in the path of the pit have been uprooted and moved via flatbeds to safe land. Other homes were abandoned as occupants sought new shelter in nearby towns or left the area altogether. Today, this slow migration is speeding up. More iron ore has been discovered under what remains of Malmberget. Blasting it out will render the entire city uninhabitable. As many as 3,800 people will need to leave, and within about 20 years, Malmberget will cease to exist.

Last year, the Swedish Industrial Design Foundation (SVID) focused on the curious reality of Malmberget. The group posed a question: Is it possible to relocate an entire town while protecting the very things that make it a community? SVID partnered with the International Council of Societies of Industrial Design (ICSID), a nonprofit based in Montreal, to create an intensive two-week workshop called City Move Interdesign. Since 1971, ICSID has hosted Interdesign workshops in numerous countries, matching designers from around the world with local experts to solve problems that are of international relevance.

Claes Frössén of SVID saw a global opportunity in Malmberget. "When we started this project, we thought that this was a very unique need—but it isn't," Frössén says. He points to cities all over the world suffering from manmade or natural disasters. Floods in New Orleans and Pakistan; earthquakes in Haiti and Chile; mining in Brazil and Colombia; postindustrial exodus in Detroit. "This is one of the main problems for cities of the future. Communities are going to have to move," he says.

SVID issued an international call for participants, and out of the 200 or so respondents, 40 were invited to come to Malmberget in the spring of 2009. "We realized that we were not just moving houses; we were moving society, and that is a very complex thing," Frössén says. So SVID made sure that the group included people not only from different geographies, but also from different industries. "We looked for architects, engineers, industrial designers, doctors, psychologists, preservationists," Frössén notes. The 7.3 million kronor (roughly \$1 million) cost was funded by the European Union, national and local governments, and the mining company.

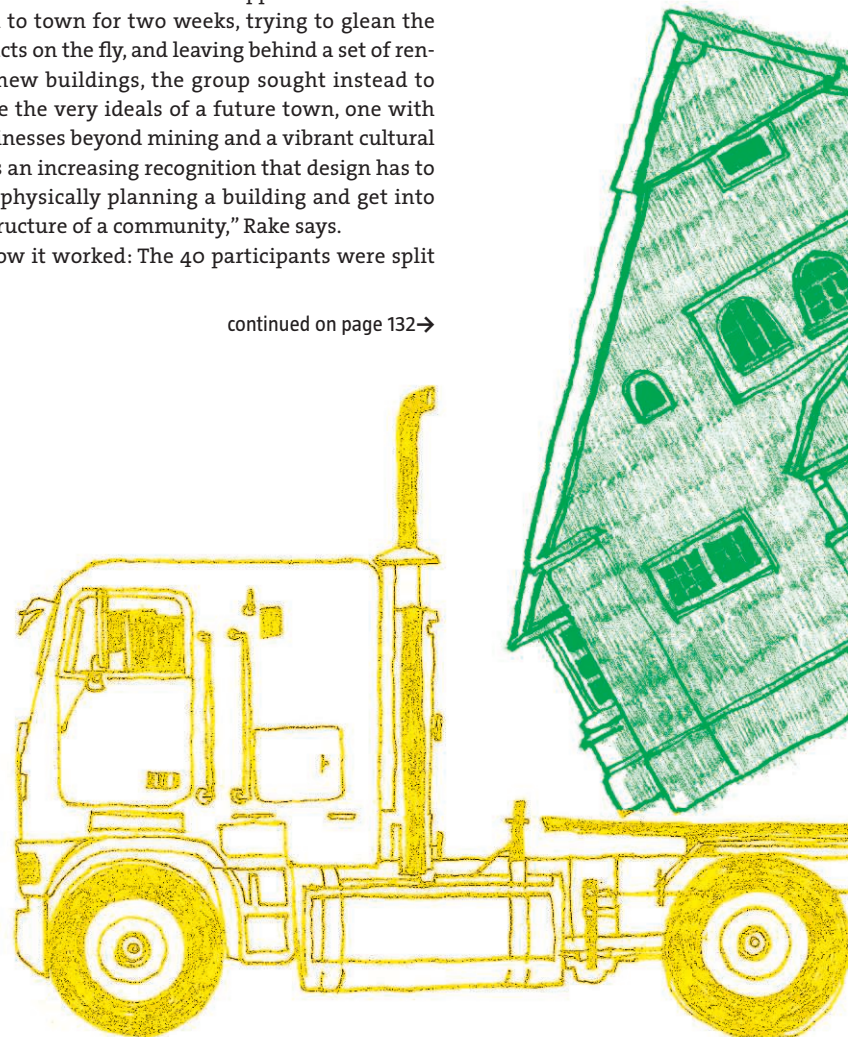
The goal of City Move Interdesign was to start a dialogue with community members, as well as the mining company and the government, in order to conceive of a new town. Organizers also aimed to develop a process for relocating cities that could be exported. "This kind of problem is going to be a trend for the 21st century," says participant Felipe Francisco de Souza, an urban manager with the city of São Paulo, Brazil, echoing Frössén.

Lance Rake, a professor of industrial design at the University of Kansas, took part in the workshop as well. "When Pakistan flooded, the U.S. sent rolls of plastic sheeting for housing. Is that really the best we can do? What's happening to help move people?" he asks. "You'd have to say: not very much."

Creating a new methodology for moving people meant reconsidering traditional urban planning. Albinsson calls this the "content before containers" approach. Instead of swooping in to town for two weeks, trying to glean the important facts on the fly, and leaving behind a set of renderings for new buildings, the group sought instead to help imagine the very ideals of a future town, one with thriving businesses beyond mining and a vibrant cultural life. "There is an increasing recognition that design has to extend past physically planning a building and get into the whole structure of a community," Rake says.

Here's how it worked: The 40 participants were split

continued on page 132 →



MORE IRON ORE HAS BEEN DISCOVERED UNDER WHAT REMAINS OF MALMBERGET. **AS MANY AS 3,800 PEOPLE WILL NEED TO LEAVE,** AND WITHIN ABOUT 20 YEARS, MALMBERGET WILL CEASE TO EXIST.

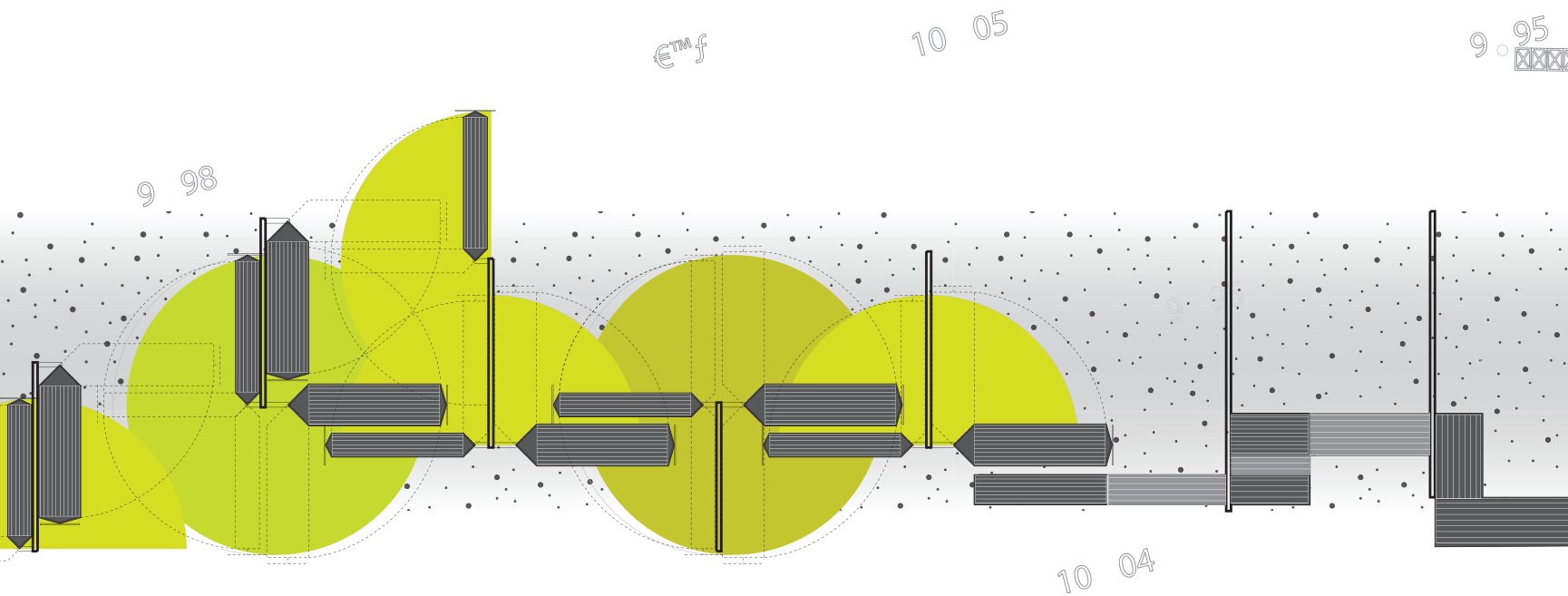


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THE UNSTOPPABLE RISE OF LANDSCAPE URBANISM

NOT LONG AGO, landscape architects were often dismissed as the consultants who put finishing touches on a building site—the broccoli around a steak. But with landscape architects increasingly taking lead positions on large-scale projects, winning urban design competitions around the world, and expanding the design market share, broccoli, clearly, is a thing of the past.

In many ways, the bellwether for these changes was James Corner's career arc. As a young designer in Richard Rogers' office, he grew frustrated by a lack of collaboration between disciplines on the postindustrial London Docklands project. Setting out on his own, he founded Field Operations, which has transformed itself from a boutique landscape practice turning out small projects and academic essays into a significant urban design firm with high-profile projects around the world. The critical step in that transition was when Corner won the competition to turn Freshkills, a huge former landfill in New York City, into a public park.

Underscoring this trend, the Harvard University Graduate School of Design (GSD) is in the midst of expanding its landscape faculty by six professorships over two years, and its landscape student body by 50 percent. And landscape architecture's academic expansion holds up with the most tried-and-true indicator: It's following the money. Large corporate architecture firms are ramping up their urban design and landscape divisions, as AECOM notably did in 2005 when it acquired EDAA, then among the world's largest landscape firms.

On the Way to the Sea / Dexman Verbakel Architecture
Part of the second Bat Yam biennale of landscape urbanism in Israel, this unfolding series of public spaces—including picnic and performance areas, and a sunbathing deck—connects the town of Bat Yam (far right) to the seashore (far left).



Qianhai Water City / Field Operations



There are several reasons for this shift toward landscape. Most pressingly, around the world, people are moving to cities at unprecedented levels, forcing a re-evaluation of city design. But there are other forces, too. In the years that followed Frank Gehry's Guggenheim Museum opening in Bilbao, conventional wisdom held that an iconic monument could revive a district or an entire city. But the capacity for these architectural landmarks to resuscitate urban areas is finding itself subject to the laws of diminishing returns. As image-ennui sets in, cities are looking for ways to refashion themselves that are both subtler and more substantive.

At the same time, sustainability has become an urgent concern, and cities, beset by infrastructural and environmental challenges, are responding with green initiatives that privilege landscape. Finally, as the "post" in postindustrial becomes emphatic, cities are forced to consider the afterlives of derelict sites, which, as it turns out, are often in advantageous spots—waterfronts, city centers, and rail corridors.

Taken together, these developments mark a shift in urbanism at the most fundamental level. If the 20th century city was defined by the introduction of the automobile, rationalist grids, and industrial economies, the 21st century city is setting itself up—quite necessarily so—to be remembered as the sustainable city, anchored by landscapes rather than grids.

Changed cities, new models

Predicated on issues of ecology and based on an orchestration of large surfaces with many overlapping and competing systems, landscape architecture is a discipline that is perfectly equipped to untangle these urban issues. To reflect this change in the scale of their work, and to distinguish themselves from garden designers of the past, many in the field have taken to calling the discipline "landscape urbanism," a term coined in 1996 by Charles Waldheim, who, last year, became chairman of the GSD's Department of Landscape Architecture. "The urban design models we were given in school were built on a premise that was difficult to apply in a contemporary American context," Waldheim explains. He formulated the landscape urbanism model as a way to rethink, simultaneously, the contemporary city and the discipline of landscape architecture.

"Using this model," Waldheim says, "landscape becomes the agent through which the city can be designed and conceived." In this way, parks are no longer spaces simply to be excavated from

urban fabric, but rather become active generators for future urban growth.

Take Toronto's waterfront. Toronto, around the turn of the millennium, was faced with a large, environmentally compromised site near the city center. Rather than parcel it out for redevelopment, the city hired a clutch of landscape firms—including West 8 Urban Design & Landscape Architecture, Michael Van Valkenburgh Associates, and Field Operations—to oversee a landscape-driven renewal of Lake Ontario's urban edge.

"The Toronto waterfront had been developed with industry two blocks deep," explains Adriaan Geuze, one of the founding principals of West 8. "It was highly disconnected from the downtown by a highway that ran along the water's edge." Although much of that property had been abandoned when industry packed up and left, the hazardous residues remained. "The waterfront had severe ecological problems," Geuze says, and as brownfields, these prime locations were unfit for public use. Taking this into account, the landscape strategies coupled intensive environmental remediation with the creation of public spaces.

West 8 and the Toronto firm du Toit Allsopp Hillier won their segment—the Central Waterfront—in competition. As Geuze remembers it, "most of the competitors called for icons, a series of piers with landmarks on them. Our

proposal came up with a series of criteria where every intervention was based on environmental remediation." These strategies, though, remain entirely invisible. Undulating boardwalks, custom furnishings, a maple-leaf-shaped island—all exquisitely detailed—conceal the fact that this landscape is doing some serious environmental heavy lifting.

And this is one of the central tenets of the discipline. "Landscape urbanism makes an environmentally based critique of urban design," Waldheim says. Landscape urbanism begins with the environment, looking to work with the ecological systems of a particular site. "A building can challenge its environment in the most aggressive way," contends Jason Prior, executive director of practice at AECOM Planning, Design + Development. "As a landscape architect, it's harder to impose foreign things into a site. The origin of landscape is in place and environment." AECOM's master plan for the 2012 Olympics, in London, is predicated on the idea of time. Prior considered the site over the long course, considering its impact far beyond the Olympic event itself.

London 2012 / AECOM Planning, Design + Development



PREVIOUS PAGE: COURTESY DERMAN VERBAKEL ARCHITECTURE
TOP: COURTESY ©JAMES CORNER FIELD OPERATIONS
BOTTOM LEFT: COURTESY WEST 8 URBAN DESIGN & LANDSCAPE ARCHITECTURE
BOTTOM RIGHT: COURTESY LONDON OLYMPICS



CAN THIS PLANNER SAVE DETROIT?

INTERVIEW BY FRED A. BERNSTEIN
PHOTOS BY NOAH KALINA

TONI L. GRIFFIN HAS JUST ACCEPTED A UNIQUE—AND DAUNTING—JOB: THE RESHAPING OF DETROIT. SHE TALKS TO *ARCHITECT* ABOUT POPULATION DECLINE, URBAN AG, DOWNTOWN'S REVIVAL, AND MORE.

TIME MAGAZINE CALLED **TONI L. GRIFFIN** a “star urban planner,” which doesn’t have quite the same ring as “starchitect,” but properly describes the 46-year-old. A graduate of the University of Notre Dame and a Loeb Fellow at Harvard University’s Graduate School of Design, where she still teaches, Griffin began her career in the private sector, working first for Skidmore, Owings & Merrill (SOM) in her native Chicago. While at SOM, she helped turn the Renaissance Center, John Portman’s office and hotel complex in downtown Detroit, into General Motors Co.’s world headquarters.

From SOM, she went to work for the Upper Manhattan Empowerment Zone Development Corporation, focusing on planning and heritage tourism initiatives, and then to the Washington, D.C., planning office, where she oversaw redevelopment projects. From Washington, she moved to Newark, N.J., where, within three years, the planning office she rebuilt was winning awards—among them, an award from the New Jersey chapter of the American Planning Association for its work on sustainable infill housing guidelines.

This spring, Griffin signed on for what may be America’s toughest urban planning challenge: helping to remake Detroit, a city that has seen its population decline by half over 60 years. In September, Griffin helped Mayor Dave Bing’s administration launch the Detroit Works Project, a 12- to 18-month effort to map the city’s future. It began with a series of widely attended public forums.

A Manhattan resident, Griffin spends most of the week in an office in Detroit City Hall. In an arrangement that reflects the strong interest of philanthropists in Detroit’s future, her salary is paid by the Kresge Foundation (which has an endowment of over \$3 billion). Rip Rapson, Kresge’s president and son of architect

Ralph Rapson, is also giving the city funds for Griffin to hire a team of local, national, and international consultants, from the private sector and four Michigan universities. Several other foundations are expected to provide funding to support both the technical and civic engagement components of the project.

Author Fred A. Bernstein first met Griffin in 2004, when they were both participants in the Mayors’ Institute on City Design in Charleston, S.C. She spoke to him on a recent weekend from her apartment in Harlem.

How did the Detroit job come about?

When Mayor Bing began his first full term in January, leaders of the private sector were determined to help him tackle the extraordinary challenges facing Detroit. At the same time, Kresge and other foundations wanted to make sure their investments aligned with the city’s needs, both programmatically and spatially.

This leadership saw now as the opportunity create a shared vision for the city, across sectors and inclusive of broad civic engagement. I was asked to join the mayor’s team to assemble and manage a team to create this vision with members of his staff.

What are some of those extraordinary challenges?

In many ways, Detroit is struggling with the same chronic urban issues that many of our nation’s older postindustrial cities face—high unemployment, population loss, deteriorating infrastructure, and property abandonment.

Detroit at its peak, in the 1950s, had nearly 2 million people. It is down to about 800,000—we won’t know for sure until next year, when we start to get preliminary numbers from the Census Bureau. That population





decline translates into approximately 40 square miles of unused land, in a city of about 139 square miles. So, the real challenge becomes: How do you plan for a city that was built with an infrastructure too large for its present population?

Newark, too, has seen a population decline over the past half-century. Did you learn lessons from Newark that may be helpful in Detroit?

Newark has always been a denser city, with a greater mix of housing types. In fact, there was one point in Newark's history when over 40 percent of its residents lived in multifamily buildings, predominately public housing. Detroit is quite different. Close to 80 percent of the city's housing stock is single-family detached houses, most of them on 50-by-100-foot lots. But not everyone wants to live in a single-family home, so in order to both retain residents, including young people, and attract new ones, Detroit needs a greater variety of housing types.

Are long-time residents fearful?

Given all the challenges facing the city, some residents are nervous about what's going to happen to their homes and to their neighborhoods. In fact, some have been worried that the city already had a plan to relocate people from their homes.

Won't some people, in fact, have to move, if the city can no longer provide fire, sanitation, police, and other services to their present locations?

The city is not looking at a forced relocation strategy. The team is sensitive to the scars left by federal urban renewal programs in the mid-to-late '60s, which in fact did uproot people. So we're talking about giving people choices to live in neighborhoods that can best provide the services they need.

It's going to be tough, but the planning process seeks to create more efficient and sustainable patterns of development and growth, as well as seeking new possibilities for the repurposing of land. The city must continue to provide its residents with quality services. With the availability of underutilized land and housing stock—by the way, there is still a good amount of affordable housing stock in rehab condition—we have an opportunity to strengthen the city's traditional neighborhoods as well as create new, compact, and more diverse neighborhood typologies.

But how can people continue to live in neighborhoods that can no longer support police and other services?

We're talking about giving people choices to live in parts of the city that can best provide access to the services and amenities they need. Remember, people have been voluntarily choosing to relocate, depopulating sections of the city. So now we have to figure out, "What does a more efficient, more sustainable city look like?"

Are people ready to accept a smaller city, with fewer services?

It is going to be extremely tough to talk about that. But it is imperative that we get to a redesign of the city that the government can support. The government can't continue to maintain an infrastructure meant for more than twice the present population.

Isn't part of the problem for Detroit that so much of the economic activity occurs outside the city limits? Even Kresge is located in a distant suburb.

Currently, over 50 percent of Detroiters work outside Detroit, so there are definitely discussions to be had with surrounding municipalities. However, Detroit is still one of the top three largest employment centers in the region. I think everyone agrees: A strong region requires a strong urban core.

Are there limits to what government can do?

Government can make some transformative moves, but those are going to be combined with a lot of smaller-scale efforts that bubble up from the grass roots. There are already examples of that happening. For example, people are using public art projects and community agriculture to transform entire neighborhoods.

Some people have suggested turning swaths of Detroit into farmland.

Community gardening is already having an amazing impact by providing access to healthy food in communities where it was not readily available. Whether that can be ratcheted up to a scale where it significantly alters the urban form remains to be seen.

Is lead in the soil a problem for urban farmers?

One of these things we're going to try to get a handle on is what the general levels of toxicity are, and what impact they have on farming at any large scale. We do think that there are opportunities for other natural ecologies to play a role in the transformation of the city. For example, there are a number of underground rivers that we are looking at, with the idea that they can be resurfaced to create new naturalized areas in the city.

How has Detroit changed since you worked on the Renaissance Center in the 1990s?

Back then, there was no street life in downtown Detroit. The majority of ground-floor retail was boarded up, and there were talks of creating an entertainment district, based on bringing a sports team back to downtown.

And now?

There is a vibrancy to the downtown. At ground level, local and national retailers are thriving. [Campus Martius Park] has become a hub—a local version of New York's Bryant Park. Meanwhile, a number of corporations have located their headquarters in downtown; it isn't just GM. The Lions and the Tigers both play in downtown. Between that and the convention business, there are 50 million visitors to the city each year. Given the tough economic times, I think that's a lot of progress.

What advice has the mayor given you?

"Change is hard, but we've got to make the city better."

And Rip Rapson, the president of Kresge?

"Make no little plans."

Given your public and private sector roles, do you feel pressure to serve two masters?

I feel like I'm serving many masters: the current and future residents of Detroit. □



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→ BUILDING

① 2 3



TEXT BY EDWARD KEEGAN
PHOTOS KEVIN REEVES
(UNLESS OTHERWISE NOTED)

BERTRAM AND JUDITH KOHL BUILDING

OBERLIN, OHIO
WESTLAKE REED LESKOSKY



1. The building's exterior wall system is a Reynobond composite metal panel of which the provenance has a local connection: Bauxite was first processed into aluminum in Oberlin by scientist Charles Martin Hall. The milled brush finish plays with the light in a way that evokes the adjacent Yamasaki buildings; their white concrete has an opalescent aggregate that gives the white a great deal of depth.

2. Sustainably harvested ipe is used as part of the LEED Gold strategy—it will weather to gray, relating in tone to the metal panels. The building's top floor is a fully glazed box that floats over Kohl plaza on the building's west face. A custom frit pattern helps increase the glazing's shading coefficient to 0.28 while adding another shade of gray to the palette. Over time, "The building will become a series of gray tones as a backdrop for a vibrant art," Kurtz says.

RIGHT: NIC LEHOUX

IN LEAFY OBERLIN, OHIO, the central Tappan Square is dominated by the town's namesake college—an example of a town-gown relationship that can't be ignored. The well-regarded liberal arts school provides lots of architectural interest, with notable buildings by architects ranging in era from Cass Gilbert to William McDonough. "Oberlin is branded by innovation," says Paul E. Westlake Jr., principal-in-charge of Cleveland-based architecture firm Westlake Reed Leskosky. It was the first American college to regularly admit female and black students, and today it's positioning itself as number one in green building, having established LEED Silver as the minimum standard for new buildings on campus. "They make sustainable design a challenge to all their designers," Westlake says of college leaders.

The world-renowned Oberlin Conservatory of Music occupies a corner off Tappan Square. Minoru Yamasaki—best known for the World Trade Center's towers—designed the original 1963 buildings; his low-scale complex is a series of indoor and outdoor spaces defined by the architect's signature narrow, pointed arches, rendered in white precast concrete. Westlake Reed Leskosky has added its new Bertram and Judith Kohl Building to the Yamasaki original. The bar-shaped structure attaches to the old complex via a vertical circulation tower and third-story bridge. The building

is situated between a parking lot to the east and the Yamasaki complex to the west.

The architects planned the building to create a north-south axis. Accessed from Tappan Square to the north, students proceed through a plaza between the old and new structures, and an exterior stair moves up the Kohl building façade and terminates the axis in another green space: a third-story roof garden. "We wanted to redirect the energy," project designer Jonathan C. Kurtz says. "It's a dense, urban landscape—where the rest of the campus is more bucolic." David H. Stull, dean of the conservatory, notes that the addition's location behind the Yamasaki complex "isn't where you'd [choose to] put it—it doesn't have any street frontage."

Stull isn't a big fan of the Yamasaki buildings—although the architect "brought natural light into all the spaces through courtyards and windows"—a strategy Stull and the Westlake Reed Leskosky architects tried to reprise. "We wanted to bring nature into the building," Kurtz says. The team was able to accomplish this through several primary moves. First, the building's narrow footprint allows ample daylighting in all spaces. Second, a central "terrarium" on the third floor brings light and colorful winter-blooming flowers into the public spaces and adjacent faculty lounge. Third, the south roof garden is always open to the public.

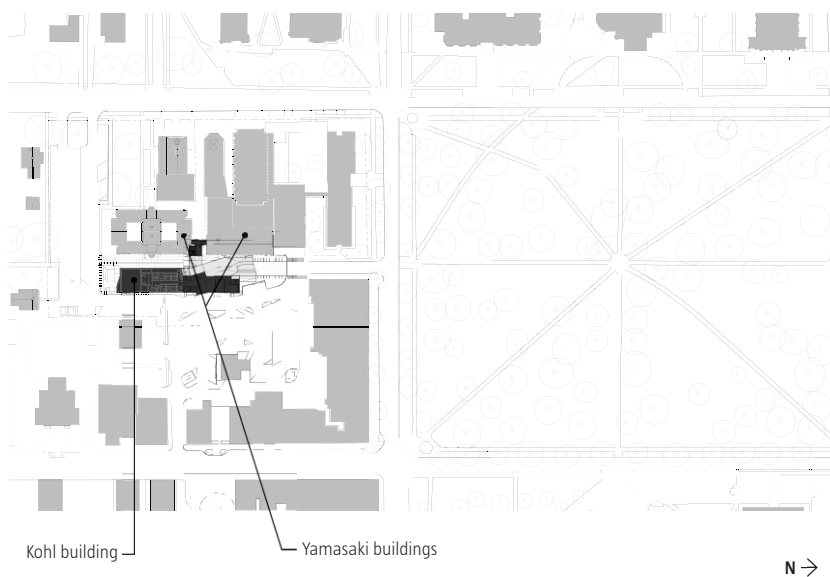


The 37,000-square-foot addition is three stories tall, plus a basement, and houses the jazz studies department. Other facilities include a recording studio, rehearsal and performance spaces, teaching studios, practice rooms, and archives. The building's program is stacked in a way that makes sensible use of the material mass necessary to acoustically isolate each of these spaces. The ground floor has percussion practice rooms and rehearsal studios that require the densest construction. Standard practice rooms, needing slightly less dense construction, are on the second floor, and offices—the closest the Kohl Building gets to conventional construction—are on the third floor.

While spaces focused on individual students are private and isolated, the public spaces encourage interaction. "We wanted to create unplanned social learning environments," Kurtz says. Sometimes this is as simple as a bench in the corner of a corridor; other times it's more elaborate, like the stairs that rise in unison from the ground floor to the third level, both inside and outside.

"The influence of jazz on the building is interesting," Stull says. "The windows on the east façade are syncopated and the color of the anodized aluminum changes. It's improvisational." Paul Westlake has a more straightforward way to describe the intended excitement. "We wanted to design the place where the lights go out last," he says. In the Kohl Building, they have.

Site Plan





1

1. The Reynobond cladding is treated with a specially formulated stain from PPG Industries that “takes it from aluminum to a deeper shade, more like zinc,” Kurtz says. The team selected the coils of metal used for the panels and then took samples to the plant, where the coating was tested.

2. The pattern of windows on the east façade is a nod to the neighboring Yamasaki buildings. The rhythm of panels was intended to recall, but not mimic, the windows and arches of the older buildings.

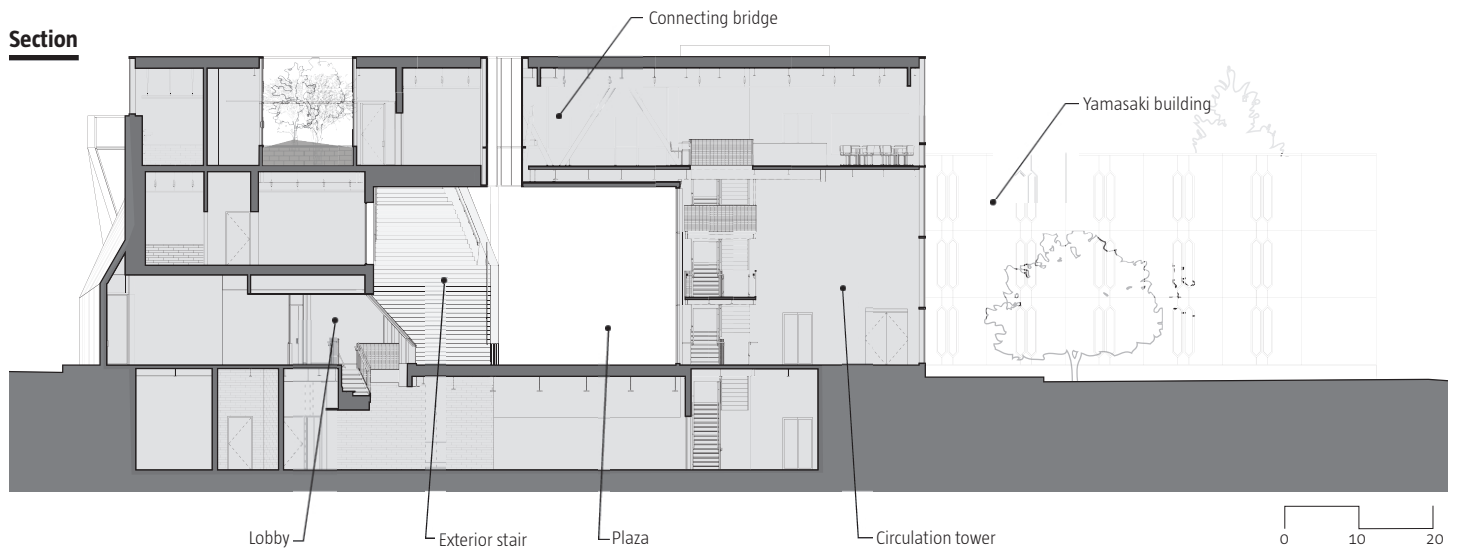


2

TOP: NIC LEHOUX

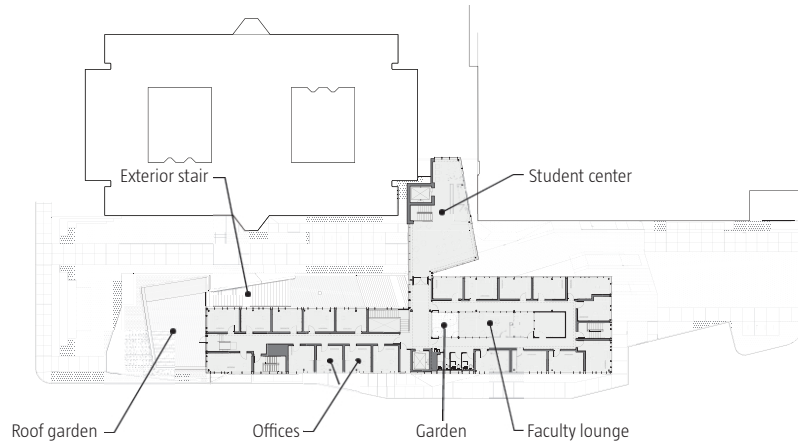


Section





Third Floor Plan

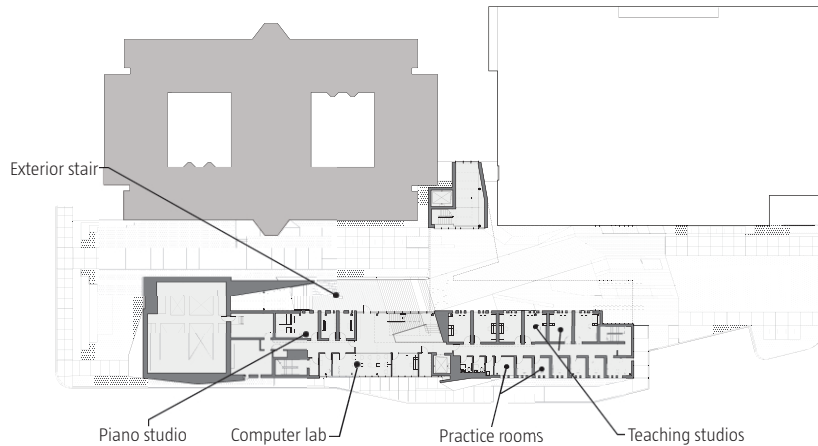


Interior circulation centers on a series of stairs on the west side of the building. The first flight mirrors an outdoor staircase, which doubles as seating for performances. Standing on the second floor landing, students can see up into a courtyard on the third floor.

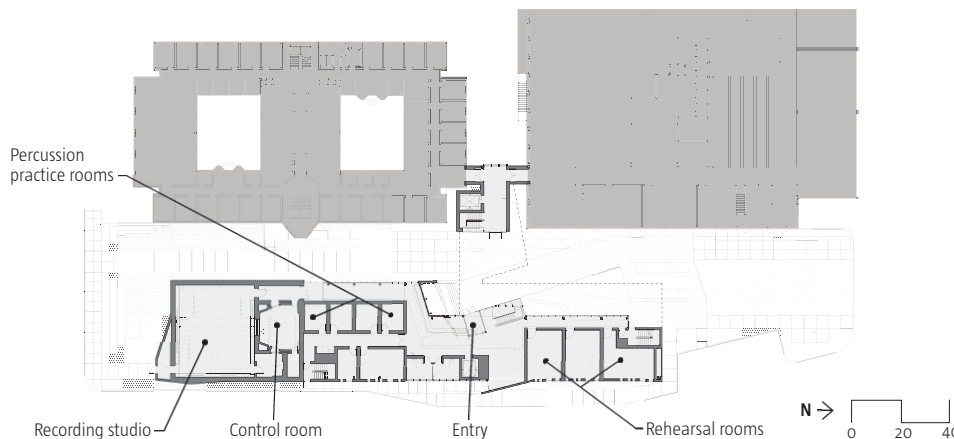
Project Credits

Project The Bertram and Judith Kohl Building, Oberlin, Ohio
Client Oberlin College
Architect, Interior Designer and M/E/P and Structural Engineer Westlake Reed Leskosky, Cleveland—Paul E. Westlake Jr. (managing principal, principal-in-charge); Jonathan C. Kurtz (associate, project designer); Rhonda Hansal (associate, project director); Lyle Satterlee (construction administration); Raymond Kent (associate, theatrical consultant); Matthew J. Murphy (lead mechanical engineer); Megan Blank (mechanical project engineer); Stephanie Banfield (associate, lead structural engineer); Robert J. Smolinski (associate principal, lead electrical engineer); Carmen Mazzant (electrical project engineer)
Civil Engineer KS Associates, Elyria, Ohio—Jeff Keefe
General Contractor Krill Construction, Cleveland—Doug Fishback
Landscape Architect GroundView, Somerville, Mass.—Wilson Martin
Acoustic Consultant Kirkegaard Acoustic Design, Chicago—Dana Kirkegaard
Cost Estimator Project and Construction Services, Cleveland
Size 37,000 square feet
Construction Cost \$15.5 million
Project Cost \$24 million

Second Floor Plan



Ground Floor Plan



BUILDING ① 2 3

1. A third-story bridge links the Kohl Building to a new circulation tower that nestles between two of the Yamasaki volumes. The bridge doubles as a student lounge. Polished concrete floors and white walls create a neutral backdrop for the space, which can be used for everything from group study to impromptu performances.

2. The faculty lounge is also located on the third floor, next to the enclosed garden. Growing in the garden are two specially bred witch hazel trees, which bloom in late January. When students return for the spring semester, the vibrant orange and lime green blooms provide a respite from the snow-covered Ohio winter.

3. The corridors offer benches and nooks that are intended for use as casual social spaces. The hope is to promote more interaction between students and the faculty who have offices nearby.





Materials and Sources

Acoustical System RPG Diffuser System (panels and diffractals) rpginc.com;
Mason Industries (hardware) mason-ind.com

Carpet Lees Carpets leescarpets.com

Ceilings Knauf Drywall (MP75 Projection Plaster) www.knaufdrywall.co.uk; BEKA beka-klima.de/en

Coatings and Sealants L&M Construction Chemicals lmcc.com;
 FinalFinish finalfinish.biz

Concrete Akron Concrete Corp. akronconcrete.com; Pompili Precast Concrete pompiliprecastconcrete.com;
 Mack Industries mackconcrete.com

Exterior Wall Systems Riverside Group (fabricator) riversidegroup.net;
 Reynobond reynobond.com

Fabrics Knoll Textiles www.knolltextiles.com; Maharam maharam.com;
 Verosol verosol.com

Glass Viracon viracon.com

Gypsum National Gypsum nationalgypsum.com; Acme Arseno Co. (contractor) acmearseno.com

HVAC Reliance Mechanical reliancemechanical.com; Mammoth (ground-source heat pumps) mammoth-inc.com; Munters Corp. (energy recovery ventilator) munters.us

Insulation Fibrex Inc. fibrexinsulations.com; Owens Corning owenscorning.com; Acme Arseno (contractor)

Lighting Control Systems Lutron Electronics Co. (EcoSystem, SoftSwitch 128) lutron.com

Lighting Strand Lighting strandlighting.com; Bega bega-us.com; Color Kinetics colorkinetics.com; The Lighting Quotient (Elliptipar) thelightingquotient.com;
 GVA Lighting gvalighting.com; Ledalite ledalite.com; Litelab litelab.com;

Metalux by Cooper Lighting metalux-lighting.com; Neoray by Cooper Lighting neoray-lighting.com;
 Rambusch rambuschlighting.com;
 Selux selux.com

Masonry and Stone Grand Blanc CMU grandblancement.com; VIP (contractor) viprestoration.com

Paints and Coatings PPG Industries ppg.com

Renewables Middleton Geothermal Services middletongeothermal.com

Seating Wenger Corp. wengercorp.com; Allermuir allermuir.com;

Steelcase steelcase.com; Davis Furniture davis-furniture.com

Site and Landscape Products Hanover Architectural Products hanoverpavers.com; American Hydrotech hydrotechusa.com

Structural System D&J Structural Contract; Thomas Steel tsifab.com

Walls Dietrich Metal Framing dietrichmetalframing.com; Acme Arseno (contractor)

Windows, Curtain Walls, and Doors Tubelite tubelite.com

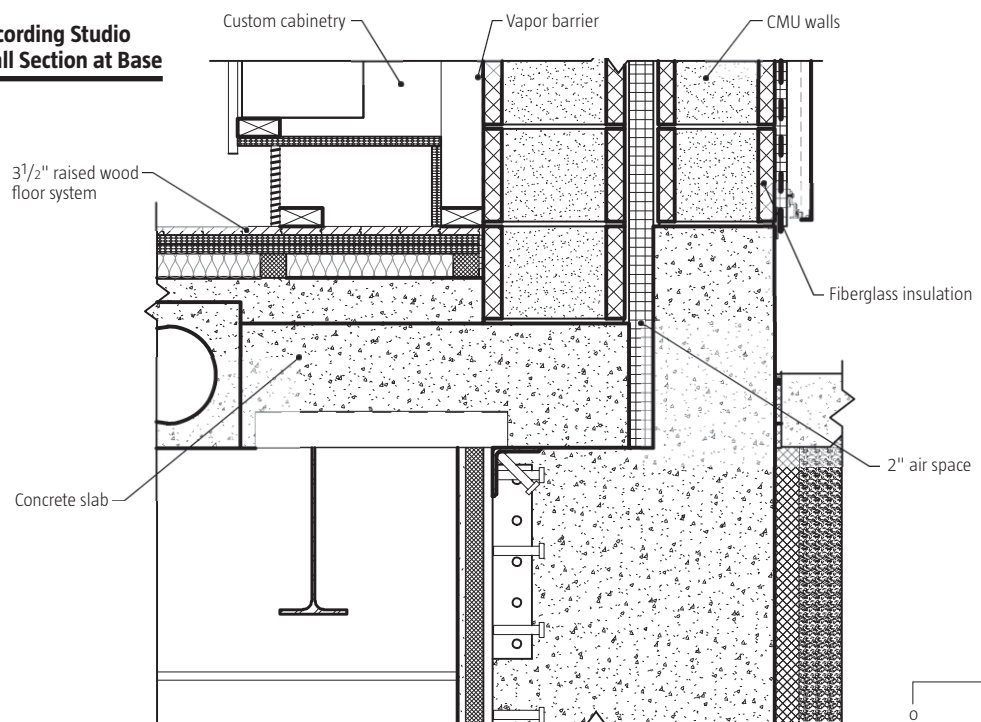
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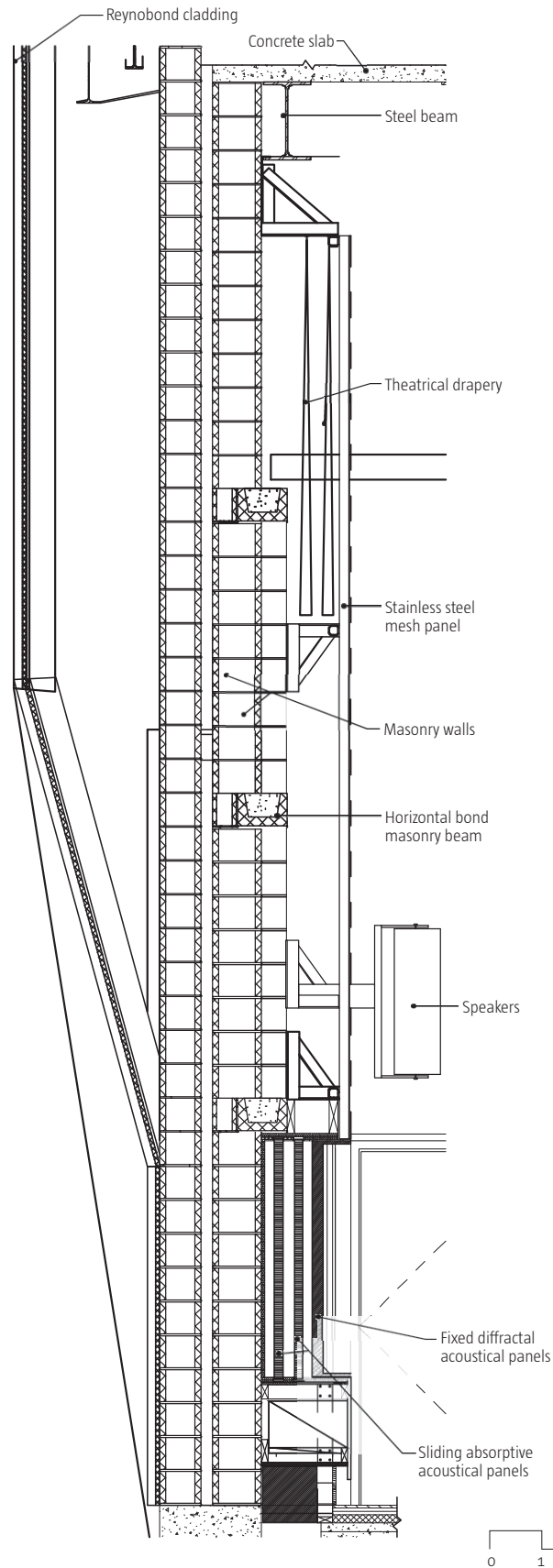


The recording studio—located on the south end of the building—is the most acoustically sensitive room in the building. To isolate the room from the rest of the facility, the walls are a massive 4 feet, 1 inch thick. The ceiling has to protect the studio from airplane noise and vibrations, because the building is on the flight path to the Cleveland airport. The green roof directly above the studio adds extra mass that helps block the roar of 747s passing overhead.

Recording Studio Wall Section at Base



Recording Studio Wall Section



TOOLBOX

One way to build green is to build lightly on the land—but that strategy runs counter to some of the critical, and hidden, acoustical needs of the Kohl Building. “It’s as dense with materials as you can get,” project designer Jonathan C. Kurtz says. As many as eight (that’s right—eight) layers of gypsum board are used in a single wall assembly, and one composite concrete masonry unit and drywall partition type tops out at 21½ inches wide.

The wall assemblies vary from floor to floor with the acoustic needs of the space. Separating the third floor offices (which double as teaching spaces) are two sets of metal studs floated on isolation pads, sheathed in different quantities of gypsum board on either side. This is to give more mass to one side of the wall than the other—if the same number of sheets were used, sound waves from one side of the wall assembly to vibrate in tandem. More mass on one side stops the sound waves, providing more acoustic isolation.

In classrooms, the gypsum boards are separated by masonry walls, adding extra insulation. But the most complex wall system is found in the recording studio. Used for both student and professional recordings, the room must be completely cut off from any sound outside. Nine-inch-thick diffractal panels are placed in a 21-inch-deep acoustical assembly. This is then placed in front of a 12-inch-thick masonry wall, followed by a layer of insulation, a 2-inch air space, and another insulated masonry wall. The total thickness of this system is 4 feet, 1 inch.

The suspended ceilings within the acoustically sensitive areas such as the practice rooms on the first and second floor are equally sophisticated—and complicated. The building’s geothermal radiant heat and cooling system is embedded in the ceiling construction. Mason Industries’ acoustical hangers support BEKA radiant tubing, which is adhered to cement board panels. These panels are then embedded in Knauf Drywall MP75 Projection Plaster. It’s one of the first times that the BEKA system has been installed in the United States, according to principal-in-charge Paul E. Westlake Jr.



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PHOTOS BY CHRISTIAN RICHTERS
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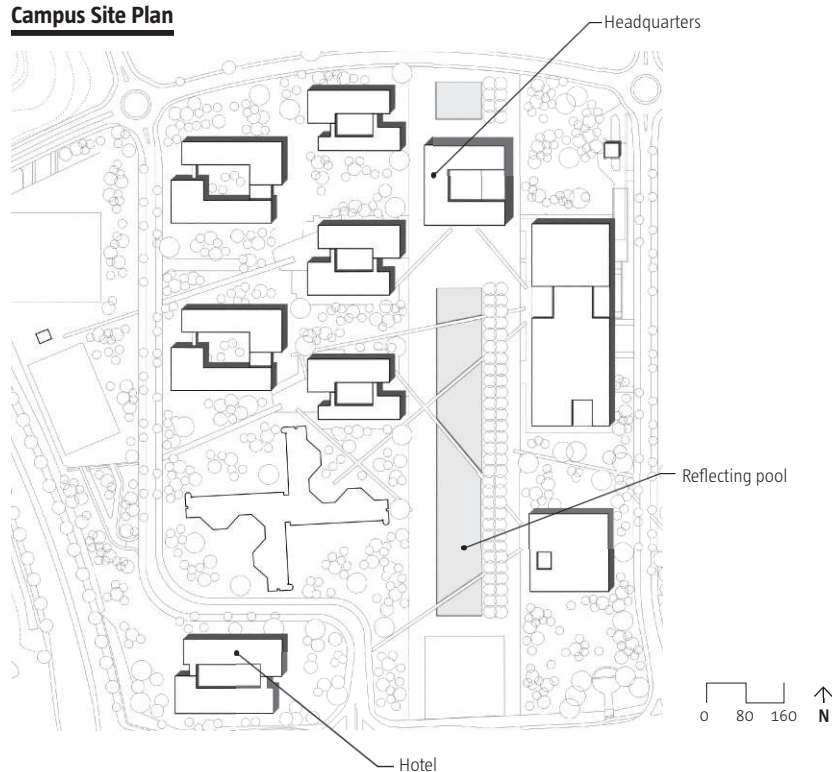
THYSSENKRUPP QUARTER

ESSEN, GERMANY
JSWD ARCHITEKTEN AND CHAIX & MOREL ET ASSOCIÉS





Campus Site Plan



OUTSIDE OF ESSEN, Germany, sits the Krupp Belt, a 568-acre redevelopment that has, until recently, been very nearly empty. Much of the site was littered with rundown and largely abandoned factories until Krupp Park, a 57-acre public greenspace opened last year. Now, new construction is revitalizing the site's built landscape as well: The ThyssenKrupp Quarter is a multibuilding campus that houses manufacturing conglomerate ThyssenKrupp AG's main offices. Designed by the team of JSWD Architekten in Cologne, Germany, and Chaix & Morel et Associés in Paris—who together beat out more than 100 submissions in an international competition—the campus had to answer the need for not only a cornerstone for the larger development, but a signature identity for the company.

But before construction could begin, the site's industrial past had to be reckoned with: Nearly two hundred years of steel production meant that extensive soil remediation had to be completed. This required the sifting and cleaning of 15.9 million cubic feet of earth, and during the process, the cleaned soil was moved to create small hills and a parkscape around the site.

For the design, the team shied away from a traditional corporate tower. "We decided not to do a high-rise building like you would find in New York," JSWD co-founder Jürgen Steffens says. "The gesture was too big for ThyssenKrupp, so we decided instead to make a small high-rise." Rising 165 feet, and standing at the head of a long reflecting pool that leads some 980 feet to an access road, the headquarters building (otherwise known as Q1) is the clear center of operations on campus; the eight surrounding buildings have a maximum height of 82 feet to give the complex "a

more human scale," Steffens says. Every building is situated around an atrium or courtyard to "signal that the people work together and have a dialogue," he adds. And the organization of the program also helps this cross-pollination. More than 500 people work in the headquarters building, and meeting rooms and the employee canteen are located in other buildings on site.

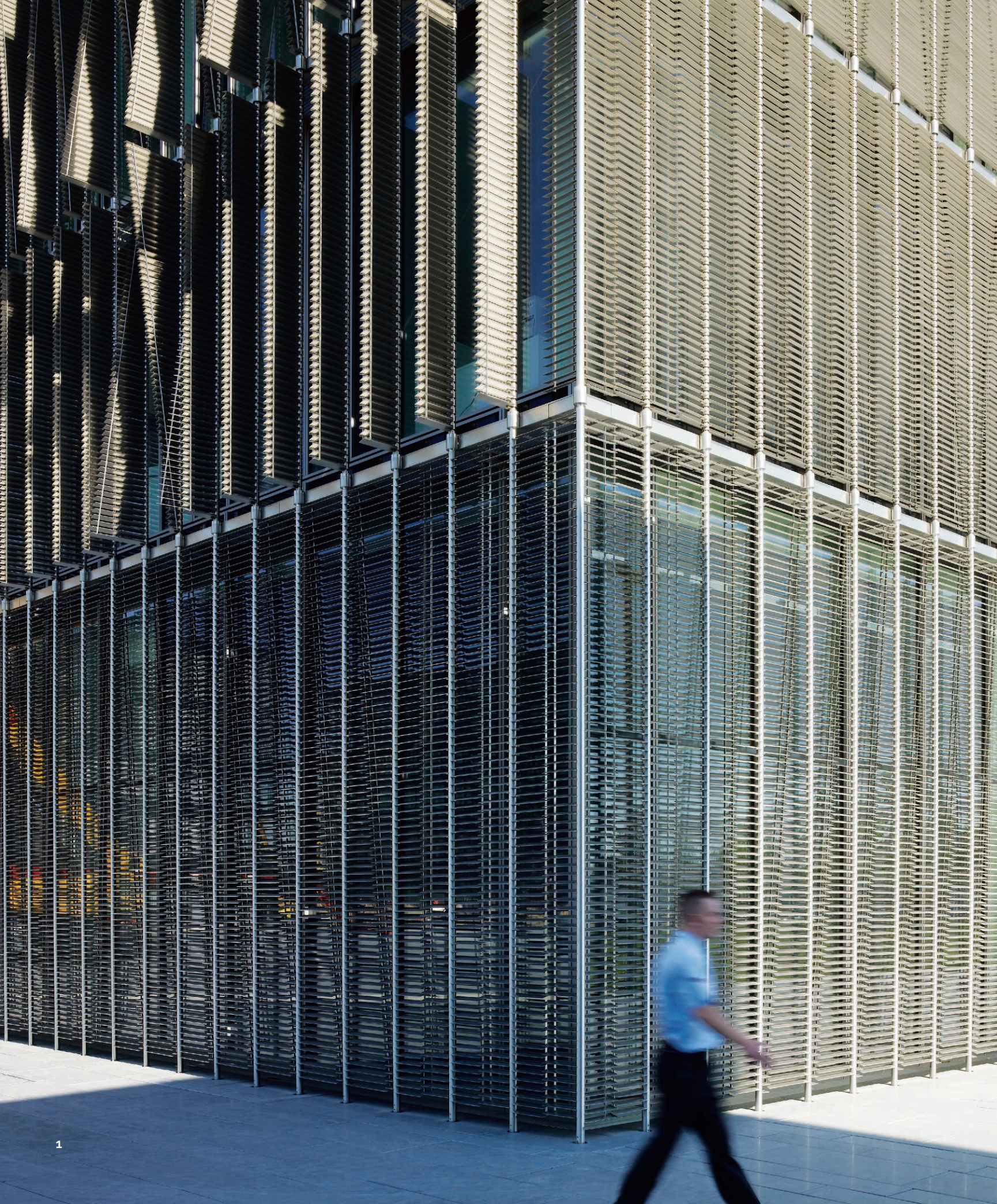
One thing employees do not need to go outside for is fresh air. All of the buildings on the campus follow stringent German sustainability standards and, as such, are naturally ventilated. This is particularly notable in the headquarters building, where offices surround a vast 10-story atrium that is not air-conditioned. "The idea was not to heat or cool the whole atrium, which is a huge volume of air," Steffens says. "It would cost a lot of money, and not be sustainable." Exceptions are made for employee comfort in targeted zones, which the team refers to as "microclimatic interventions." In these spaces, radiant heating is employed and reflected off of canopies to create a zone of warmer air.

A complex sunshading system makes the lack of air conditioning possible in the glazed structures. Stainless steel louvers and fins open and close based on the sun's path to maximize views out, while reducing glare and cutting down on heat gain. But the sunshading system—with its triangular, square, and trapezoidal fins—also serves to give the campus buildings their signature appearance.

"The detail of the sunshading system is the character of the whole," Steffens says. "When you look at the building in the evening when the sun is going down, it is absolutely amazing to see what the stainless steel does with this red light."

1. The headquarters building houses offices for more than 500 employees. A sunshading system controls glare and heat gain in the office spaces; the exposed glazing encloses a multistory atrium.

2. The entire nine-building campus was designed by the same team, allowing the glass and steel vernacular to be carried through from the headquarters tower to the other buildings. The complex is programmed to encourage movement back and forth between structures (and thus interaction among employees).





1. In bright sun, the fins of the sunshading system fold flat against the building to block as much heat as possible. On the shaded side of the building, the fins open to allow in the maximum amount of daylight.

2. The motorized system is mounted vertically, allowing entire columns of fins to move in tandem.

TOOLBOX

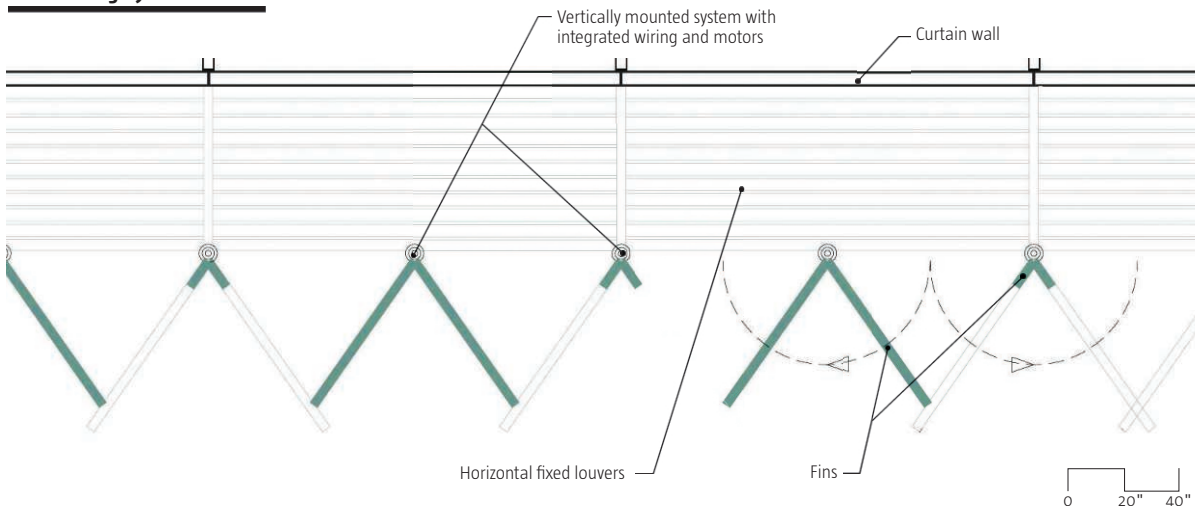
The sunshading system at the ThyssenKrupp Quarter consists of a series of stainless steel fins that open and close in conjunction with the sun's path across the façade. Based on an off-the-shelf system for moving horizontally mounted louvers, here the system is mounted vertically, with conduit housing wiring and motors running up and down the façade; the fins are mounted on either side of that conduit. This customized system allows for 180 degrees of rotation, and for each fin to move individually or in concert with its neighbors—so the effect can either be a sequence of fins lying flat (as in the photo, left) or fins lapped in a V-shape (as in the detail drawing, below).

Each of the fins is made up of a series of 2mm-thick and 7cm-deep horizontal louvers (roughly 400,000 of them cover the façade of the headquarters building). Whereas the fins move back and forth to shield large areas of glass, the mini-louvers move up and down, increasing or decreasing the porosity of the fins. This means that employees can still have a clear view out if the fins are flush against the façade but the louvers are perpendicular. When the louvers close, against bright sun or high wind, they turn each fin into an opaque shield. The motorized system is controlled by sensors which feed data to a computer.

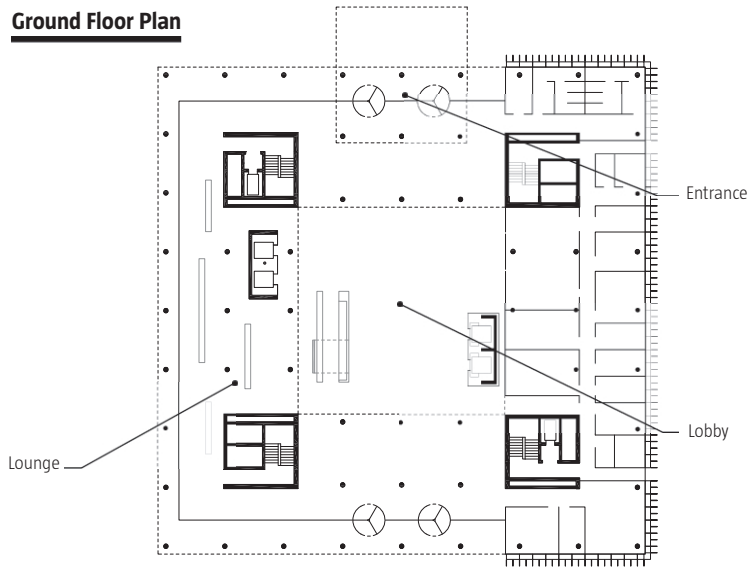
One additional benefit: Sunlight bounces off the fins and into the interior, with the louvers acting as mini light shelves and augmenting daylight in the offices. But those same louvers can catch wind as it whips around the building, causing potentially damaging uplift. During storms, the louvers and fins are closed completely to minimize loads on the system.

THIS PAGE: GÜNTER RICHARD WETT

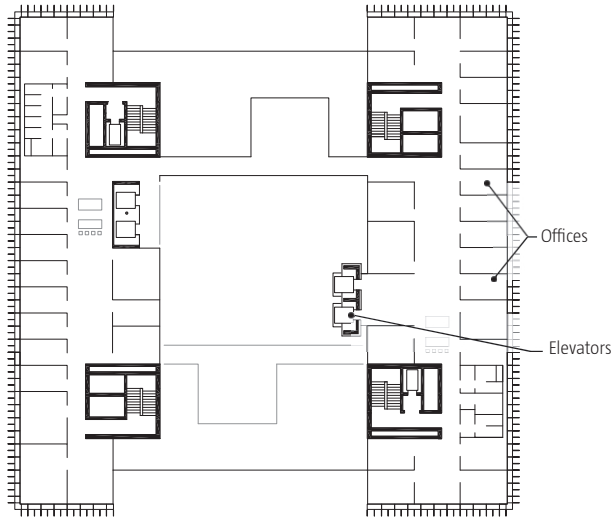
Sunshading System Section



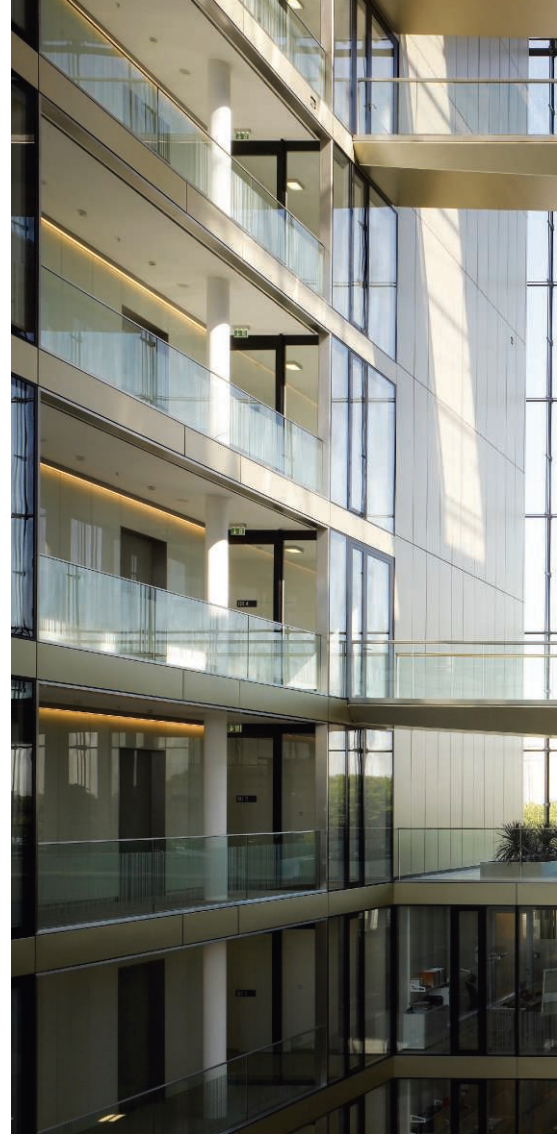
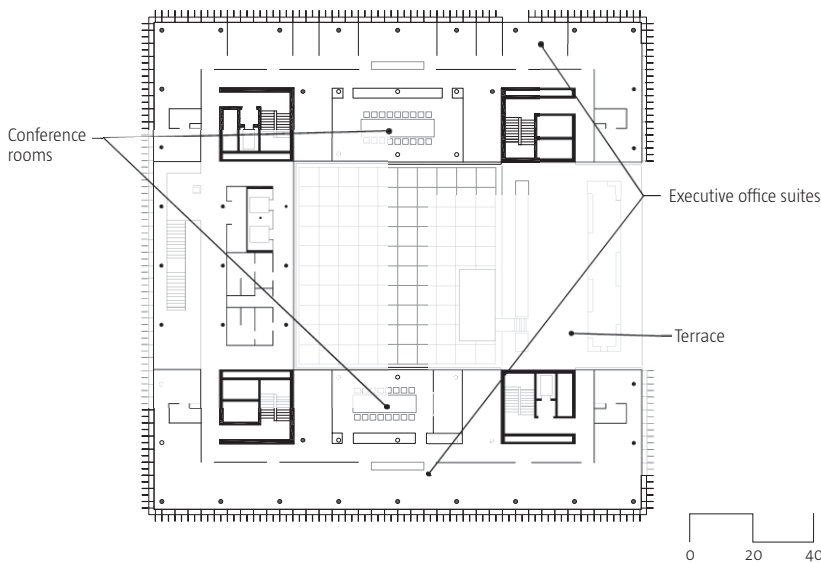
Ground Floor Plan



Typical Office Floor Plan



13th Floor Plan





1

1. To regulate temperature in the non-climate-controlled atrium, the design team employed skylights that release pent-up hot air and promote passive ventilation. Plants are set out on the bridges that traverse the space, and a garden is installed at the base so that workers who have offices looking into the atrium have a view that includes greenery.

2. The atrium is designed to host different functions, including presentations and other events. Small seating areas were designed into the bridges to serve as breakout areas and informal social hubs for the workers in the building.



2

1. The client brief mandated that a sunshading system be employed on the campus buildings, but that the view for employees not be obstructed. Even when closed, the small louvers that make up each fin allow for views while maximizing shading of the actual glazed façade.

2. The perimeter offices receive abundant natural light. They feature glass walls with frit patterns so that the light can penetrate deeper into the interior without compromising privacy.

3. The majority of the interior finishes and furniture on the office floors is white, in order to reflect the daylight and maximize its throw into the floorplate.



TOP: GÜNTER RICHARD WETT
BOTTOM: COURTESY THYSSENKRUPP AG



Project Credits

Project Q1 Building, ThyssenKrupp Quarter

Location ThyssenKrupp Allee 1, D-45143 Essen, Germany

Client/Owner ThyssenKrupp AG

Architect JSWD Architekten | Chaix & Morel et Associés

Team Patrick Jaenke (responsible partner, JSWD); Maic Auschrat (project director, JSWD); Walter Grasmug (responsible partner, C&M); Misha Kramer (project director, C&M)

General Planning & Project

Management ECE Projektmanagement, Hamburg

Structural Engineer IDN Ingenieure, Duisburg

Electrical Engineer Dörflinger & Partner, Erfurt; ITS Ingenieurtechnik Scholz, Essen

Civil Engineer IDN Ingenieure, Duisburg

Geotechnical Engineer Asmus & Prabucki Ingenieure, Essen

Landscape Architect KLA Kiparlandschaftsarchitekten, Andreas Kipar, Duisburg and Mailand

Lighting Designer LichtKunstLicht AG, Bonn and Berlin

Specialist Consultant Panoramic

Window Q1 Werner Sobek, Stuttgart

Sunshade/Solar Protection Consultant Fraunhofer Institute for Solar Energy Systems ISE, Freiburg

Façade Area Consultant Priedemann Fassadenberatung, Berlin (L.P.H. 2–4 Planning); AMP Beratende Ingenieure, Neuss (L.P.H. 5–8 implementation planning)

Wind Consultant Ingenieurgesellschaft Niemann & Partner, Kassel

Size of Headquarters Building 118,295 square feet (active space)

Size of Campus 325,070 gross square feet

Total Cost 85.2 million € (\$115.96 million)

Materials and Sources

Building Management Systems and Services Siemens Building Technologies buildingtechnologies.siemens.com

Ceilings Lummel lummel.de/en

Exterior Wall Systems (Façade) Schüco International schueco.com

Elevators ThyssenKrupp Elevator (Twin elevator system with stainless steel cladding) thyssenkruppelevator.com

Glass Innoverre innoverre.de; Hefi Glaskonstruktiv hefi-glaskonstruktiv.de

Interior Doors Hörmann hoermann.de

Metal ThyssenKrupp Steel Europe

(sunshading fins and louvers) thyssenkrupp-steel-europe.com/en

Plumbing and Water System Kaldewei www.keuco.de

Walls (Partition Panels) Strähle

Raum-Systeme www.straehle.de

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TEXT BY VERNON MAYS
PHOTOS BY BRUCE DAMONTE

WATSONVILLE WATER RESOURCES CENTER

WATSONVILLE, CALIF.
WRNS STUDIO

FEW ISSUES ARE as critical in California's Pajaro Valley as water: 85 percent of the valley's water use supports its \$400 million farming economy. So when heavy demand for water led to saltwater intrusion in the local aquifer, three public agencies — The City of Watsonville Waste Water and Water Departments and the Pajaro Valley Water Management Agency — pulled together to address the problem, and in so doing formed the Watsonville Area Water Recycling Project, based at the new Watsonville Water Resources Center in Watsonville, Calif.

Designed by WRNS Studio, of San Francisco, the center is both a functional and didactic extension of the water

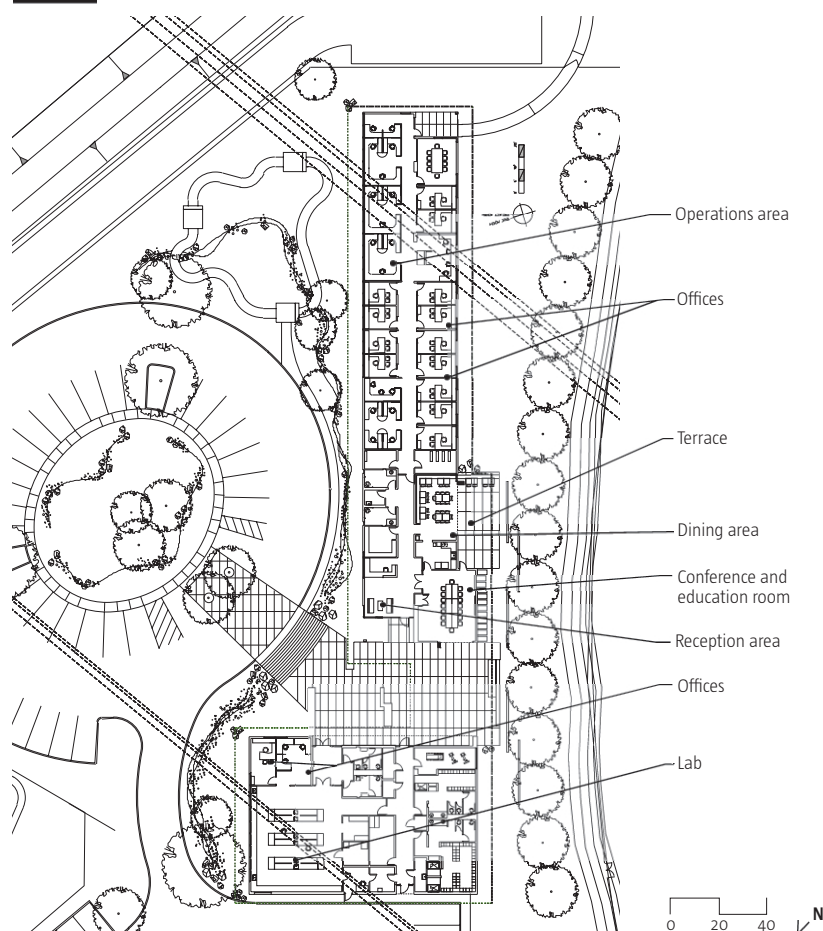


recycling plant it supports. The 16,000-square-foot building joins three separate but related departments to coordinate action on issues of water management and quality in coastal areas of south Santa Cruz and north Monterey counties. Administrative offices, a water quality lab, and education space form a comfortably scaled complex designed to achieve LEED Platinum certification. The building and landscape weave a narrative about water use and conservation that raises public awareness through exhibitions and tours. “On the experiential side, the entry sequence focuses on water,” notes project designer Adam Woltag. “Cars circle around a detention bioswale and, as people approach the building, they cross a footbridge over water. That really sets the tone.”

Active participation by the client group enriched a collaborative process with clear goals from the outset. “The layout of the plan was a critical first step,” says project manager Pauline Souza, WRNS’ sustainability director. A public patio divides the building into two parts, separating the office-heavy operations center from the laboratory. This yielded huge energy savings, allowing for energy-gobbling mechanical systems to be dedicated to the lab space while relying on natural ventilation in the office wing. In addition, the site afforded the long, narrow building a favorable east-west orientation, allowing for large glass surfaces on the north façade and small



Site Plan



punched windows and long roof overhangs on the north and south. Interior planning took its cues from the resulting distribution of daylighting and views.

The building configuration, in tandem with landscape screens, creates exterior spaces protected from chilly ocean winds. Both the large public conference room and an employee dining room are placed next to exterior patios. With accordionlike glass walls, each of these rooms can be opened to the landscape, creating interesting indoor-outdoor relationships and accommodating public gatherings.

When possible, design elements were finessed to convey the idea that water is a finite, precious resource. A water feature in the main courtyard, for example, operates only when recycled water is available. During rainfalls, water flows off the shedlike roof, down rain chains, and into rock-lined swales, where it is directed to retention basins and treated before infiltrating the ground. Even the use of native and drought-tolerant plants reinforces the message. Along with the use of low-flow fixtures, such steps lower potable water consumption by half and reduce the need for energy-intensive water transport. "Seventy-five percent of the cost of water is tied to energy—how you clean it and move it from place to place," Souza says. "People don't normally connect that."

The facility's heating and cooling system is all about energy conservation too. Most of the building is tempered with a radiant floor system that circulates heated or cooled water; air flows with ceiling fans and operable windows. Vent stacks on top of the operations wing draw warm air out, while high-efficiency mechanical equipment in the conference room and lab reduces energy loads.

WRNS designed the center with materials selected for durability and low maintenance. Placing 2x6 studs at 24-inch intervals reduced the number of support members needed and allowed for more insulation. California redwood was an ideal choice for the exterior rainscreen, in part because of its resistance to mildew and decay. The wood was offered to the team when the city decided to clear several trees for fire protection. "They were going to use it for mulch," Woltag says. Because it was sourced locally, the wood didn't need to be acclimated and was milled nearby.

All of which adds up to a boon for a public project predicated on demonstrating environmental stewardship in ways that are apparent and direct. "It was really the simple things—the orientation, the thermal envelope, the tweaks on the mechanical system—that made this building a success," Souza says. "That's why the client bought in."

1. The Water Resources Center has to lead by example in the drought-prone and water-conscious Pajaro Valley. To that end, the landscaping features native and drought-tolerant plantings that require less than 70 percent of typical water usage. These plants are watered only when recycled water is available.

2. The water feature in front of the building entrance also uses recycled water. When there is a surplus, the water runs constantly; when there is none, the fountain remains dry.

1. Operable windows throughout the building allow for natural ventilation, and several public areas feature indoor-outdoor space, including this employee dining area.

2. The reception area serves as the main point of entry, not only to the operations and laboratory area, but also to the education area, which is the part of the program most accessible to the public. Visitors enter into a space lined with Heath Ceramics tile, another local resource, and can proceed to conference rooms and other areas beyond.

3. Outdoor space is a critical element of the building program. Patios—like this one off of the employee dining room—provide permanent outdoor seating, while benches and pathways encourage visitors and staff members to engage with the surrounding landscape.



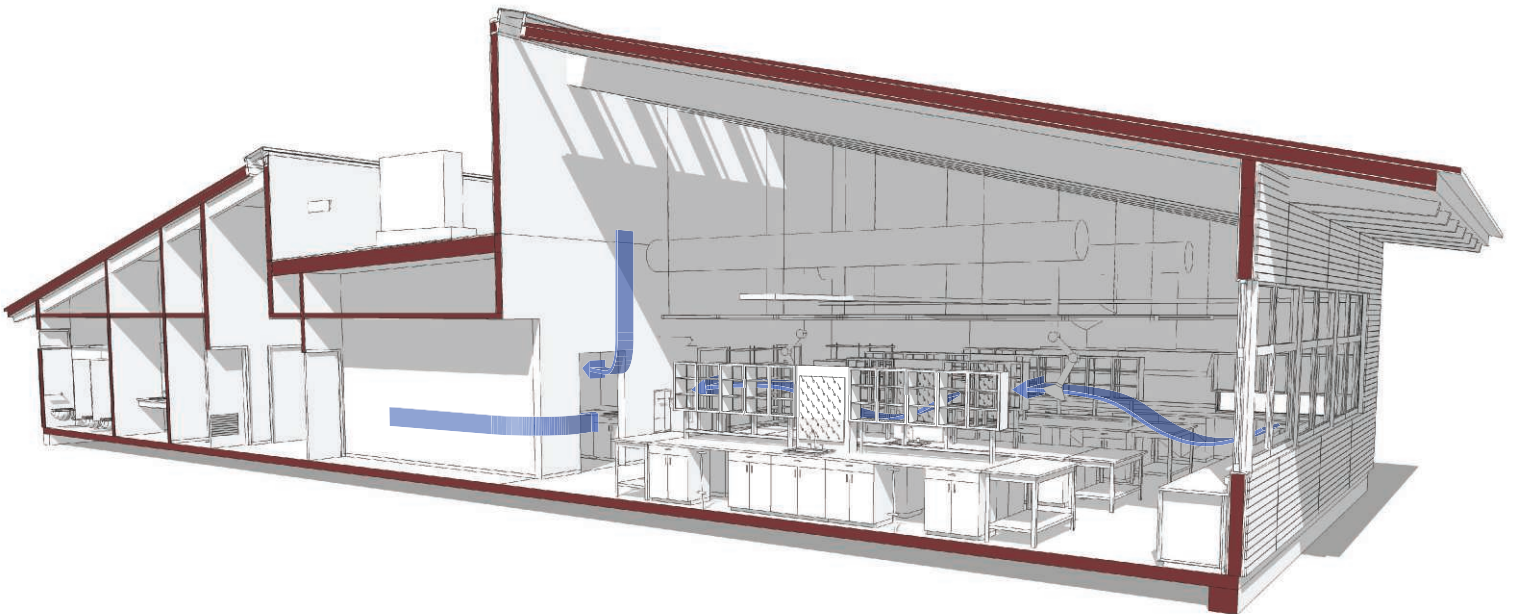


1. The long, barlike volume of the building is only 38 feet wide, so the interior of the single-story structure is airy and daylit from both sides. This reduces the need for artificial lighting during the day, especially in the relatively densely packed operations area, where there are no walls to inhibit daylight penetration. White walls and neutral finishes highlight the Douglas fir ceiling, which is constructed from tongue-and-groove decking over glulam beams. "Often there is so much attention paid to photovoltaics or geothermal as a way of saving energy," Souza says, that low-tech solutions such as these are ignored.

2. In the water-testing lab, high-efficiency mechanical equipment provides the services needed by a traditionally power-hungry setting without blowing the energy budget. Occupancy sensors ensure that the lights are off whenever the lab is empty.



Section Airflow Diagram





Project Credits

Project City of Watsonville Water Resources Center

Architect WRNS Studio, San Francisco—Sam Nunes (principal in charge); Pauline Souza (project manager, sustainability director); Adam Woltag (project designer); Eileen Ong (senior technical architect); Lihsing Kuo (project architect); Jeff LaBoskey (junior designer)

Landscape Architect Bellinger Foster Steinmetz

Contractor Devcon Construction

Electrical Engineer and Lighting Designer Integrated Design Associates

Structural Engineer JEC Structural Consulting

Civil Engineer RI Engineering

Commissioning Agent Rick Unvasky Consulting Services, San Francisco

Mechanical & Plumbing Engineer Rumsey Engineers

Size 16,000 square feet

Materials and Sources

Building Management Systems and Services Automated Logic Corp. automatedlogic.com

Exterior Wall Systems Rainscreen with locally-sourced redwood; Trespa (Meteon) trespa.com; VaproShield (WrapShield) vaprosshield.com

Flooring Heath Ceramics (tile) heathceramics.com; Daltile (Porcelain, Glass Reflections) daltile.com

Furniture Herman Miller (Vivo, Intent, Aeron, Eames) hermanmiller.com; Custom Desk customdeskinc.com; Bernhardt Design (Balance) bernhardtdesign.com; Krug (Dorso E) krug.ca; Allseating Corp. (Inertia) allseating.com; Humanscale (Saddle) humanscale.com; Nienkämper (Vox and Vox Fliptop) nienkamper.com

Glass PPG Industries (Solarban 60) ppg.com; Lane-Aire (flat skylight) lane-aire.com

Lighting Humanscale (Diffrient light)

Millwork SierraPine (Medite II) sierrapine.com; Environ Biocomposites (Dakota Burl) environbiocomposites.com; Thomas Fisher Scientific (oak veneer) hamiltonlab.com

Paints and Finishes ICI (low-VOC paint) icipaints.com; Cabot (low-VOC stains) cabotstain.com

Plumbing and Water System CustomCascade (2000 Series) oreqcorp.com; Sloan Valve Co. (WES 111, WES-1000, EAF-275) sloanvalve.com; Takagi (T-K3 and T-K1r) takagi.com

Roofing Firestone Building Products (UltraPly TPO Roofing) www.firestonebpc.com; Metal Sales Manufacturing Corp. mtlsales.com

Walls Kawneer (Flushline and Wide Stile Doors) kawneer.com; NanaWall (SL70) nanawall.com

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continued from page 93 →

into several interdisciplinary groups and partnered with Swedish locals who served as guides and translators. SVID also employed facilitators whose jobs were to help keep the groups on task. Participants avoided drawing specific buildings or city plans, instead trying to compel the community into a dialogue about the potential uses of the new town. “We wanted to understand what goes on in this new city,” Albinsson says. “We wanted to talk about the social

plan first. It’s not a traditional planning process.”

The Interdesign group spent several days getting to know the region. “We were living around the edge of the pit, some of us in vacant houses that were abandoned,” says Frank Mruk, associate dean at the architecture school of the New York Institute of Technology (NYIT). Every night, just after midnight, the mine operators would set off an explosion to expand the mine. “Sometimes the blast would start small earthquakes,” he recalls.

On the third day, the group descended into the mine. “It’s more complex than the subway of Paris down there,” says de Souza. “They have an enormous amount of infrastructure inside the underground layers.” Including a restaurant at 1,600 feet below grade, where the group sat perched on the edge of the crater while eating lunch.

Above ground, however, life was far less organized. “There were streets leading to nothing, that were not connected with the city,” de Souza says. “This is the urban disaster that they are creating [by moving houses] without an urban plan.”

After several days, it became evident that a few key areas needed the attention of the international group. First, there was poor communication among the citizens, the mining company, and the municipal government. “Lack of communication was a big problem, and it needed to be opened up,” Frössén says.

For instance: The group learned that the site chosen by the government and mining company for relocating residents was actually an active mining area, making it likely that another move would need to happen in 50 years’ time. “[The participants] said, ‘Absolutely not,’” Frössén explains. “They started trying to find new alternatives for where the new society would be built.” Among the proposals: to use an underdeveloped area around a river, or to create a New Gällivare, blending the towns of Gällivare (population roughly 8,000) and Malmberget.

The region surrounding Malmberget is not just rich in iron ore—it also has a wealth of natural beauty, from Arctic rivers and mountains prime for skiing to vast forest preserves. Some groups within Interdesign envisioned the development of a robust outdoor tourism industry (Gällivare has a small airport) and other business ventures. Finally, there were the buildings themselves. How do you create sustainable, energy-efficient structures in an Arctic setting? And what happens if, despite all best intentions, the citizens have to move again?

“My group looked at moving cities in a couple of different ways,” Rake remembers. “I was interested in the history and the culture of the [indigenous] Sami people who live there. They’ve been following reindeer herds for centuries. They are a nomadic society, but they’ve also managed to keep their families and community intact. The moving becomes part of the culture. I wondered if we could do that.” Rake’s team discussed possible techniques for fabricating movable structures. “What if we had a way of building buildings so that the core of it gets moved, and the rest could decay?”

Thinking progressed over two weeks at the group’s home base, a sports arena in Malmberget, outfitted with

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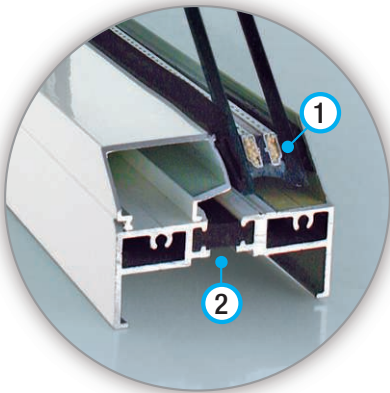
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all the supplies they needed to work—easels, paper, markers, computers. Residents were invited to stop by and participate. At first, few showed up, but as word of the project spread, more and more popped in.

The process of the workshop was not always easy. "It's a fashionable thing to do multidisciplinary, international projects, but making that work is pretty difficult," Rake concedes. There were language barriers, disagreements, egos to be checked. This is where the facilitators earned their keep. "A lot of teams had internal problems just getting their team together," says NYIT's Mruk. "The organizers had to work to mediate."

Before leaving, each group gave a final presentation to residents. The ideas ranged from the abstract to the concrete, but it was the process more than the product that was beneficial. "The citizens had the opportunity to talk and to criticize the government and the mining company. In small Scandinavian towns, I don't think this is an everyday possibility," de Souza says.

After the workshop, Albinsson was appointed to lead a second community project called The New Gällivare. A series of discussion groups—participants were asked to think about a perfect day in the new town—led to a wealth of planning priorities. Three key areas of urban development have been identified, and the collective vision will be ready by the end of this year, with the goal of getting approval from the municipality early next year. Planners, architects, and other experts are now being brought in to formulate plans.

Is the process exportable? In February, an earthquake hit the coastal community of Concepción, Chile, shifting the entire city 10 feet closer to the sea. City leaders determined that they must move the whole town farther up a nearby mountain to avoid the faultline. And they invited Albinsson for a visit. □

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In cities overseas, where urbanization is surging, landscape urbanism offers a promising way forward. Field Operations recently won a competition to design the Qianhai region of Shenzhen, China, a 4,500-acre area along the waterfront which has nearly 2 million residents. For Corner, who has probably done more to change contemporary landscape practice—or at least the public perception of it—than anyone else, landscape urbanism “is a systems-based way of understanding an environment, where you understand the flows, energies,

dynamics of an environment.”

In Qianhai, Corner’s strategy was based on three criteria: water-quality improvement, transportation, and building neighborhoods. **“Of the other invited entries,” Corner says, “none of them dealt with environmental issues; they were all just to do with creating cool cities.”**

This alternative strategy demands that designers relinquish the idea that architecture equals an autonomous building. “You don’t make cities from individual buildings,” Prior argues. “You make them from the infrastructure and organization of place, and as we understand more about the sustainability of cities, then starting with a robust position on how these city systems work in relationship to the natural environment and relationships to the anticipated community, we find ourselves upstream from the actual building.”

Earlier this year, Lars Müller Publishers released the book *Ecological Urbanism*, edited by GSD dean Mohsen Mostafavi and doctoral candidate Gareth Doherty. The hefty tome provides a framework for much of this thinking. In his introduction, Mostafavi voices support for the landscape urbanist approach, since sustainable design remains limited if LEED certification, for example, “deals primarily with the architectural object, and not with the larger infrastructure of the territory of our cities and towns.” Signaling widespread interest in this agenda, the editors assembled an impressive roster of contributors who attempt to reconcile urban design and theory with ecology.

In the U.S., this change in scale is beginning to be implemented in places such as the Gulf region, where the magnitude of the crisis has challenged most design proposals. Following Hurricane Katrina, a number of competitions and studies investigated new architectural projects that could withstand environmental catastrophe. Well-intentioned though they were, these proposals lacked the scale sufficient to address a regional issue.

Now, landscape strategies are beginning to emerge. New York’s Van Alen Institute, for example, is partnering with the Environmental Defense Fund to develop strategies for the New Orleans coastal delta region that endeavor not to make a series of hurricane-resistant houses, but to treat the issue as the far-reaching ecology that it is. When considering that same geography, back in 2001, long before Katrina, landscape architects Anuradha Mathur and Dilip da Cunha published *Mississippi Floods*; its subtitle, “Designing a Shifting Landscape,” highlights one of the hallmark distinctions of landscape architecture: conditions change.

Change is one of the tenets of landscape urbanism, too. Chris Reed, founding principal at Boston-based Stoss Landscape Urbanism, explains that the discipline begins by “understanding how things do change—not just that the vegetation grows, but that entire ecosystems change.”

Bat Yam, Israel, a small city just south of Tel Aviv, seized on this concept in launching the International Biennale of Landscape Urbanism two years ago.

This year, with “timing” as its theme, the program presents exhibitions and installations that look for ways to transform urban spaces affected by vacancy,

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construction, or even dereliction, acknowledging the temporary opportunities presented by those sites.

Growing pains

Old enough to drive but not yet fully mature, the field is still refining its approach and identity. One issue that even the field's vocal advocates will acknowledge is that it deals with landscape at the expense of urbanism—in other words, that ecology trumps development patterns, socioeconomic trends, and other urban considerations.

"Generally, I'm a proponent of landscape urbanism, since it has contributed to the idea that cities evolve over time, and to the idea of interdisciplinarity," explains Roger Sherman, director of the CityLAB at the University of California in Los Angeles. "But it needs to look more closely at the urbanism side of the equation. Nature changes by natural forces, and cities do too, but the forces and the logics by which cities change are fundamentally different [from] natural forces."

Sherman, author of the recently published book *L.A. Under the Influence: The Hidden Logic of Urban Property*, thinks urban designers should consider how "processes of urban development might be thought of in similar ways as ... ecological processes."

Some critics are more outspoken. "They have aestheticized landscapes," says the prominent New

Urbanist Andrés Duany. "But no one actually walks in that stuff." He dismisses the rise of the approach as political maneuvering to snatch up competition wins and academic positions. "It ain't that hard," Duany says, "but they've developed this exquisite vocabulary."

Pointing out that New Urbanists work mostly in medium- and small-sized cities, not large ones, he observes, "It's exactly like the Vietnam War: Those who control the cities cannot control the countryside, and those who control the countryside have a difficult time controlling the cities—unless they kill everybody." But he is willing to learn from the other side. "I have an attorney going through all their material to extract all their vocabulary." Waldheim, for his part, argues that New Urbanism suffers from a "fundamental inability to deal with contemporary culture."

Landscape urbanism may traffic in complex systems, environmental science, and large-scale master plans, but it continues to be, at its core, about creating vibrant public spaces—not so unlike the landscape architecture of old. "Parks and gardens and streetscapes are well understood, important contributors to sustainable city- and place-making," explains AECOM's Prior. "[Successful public spaces] are being seen more and more as an essential ingredient of making successful cities—successful places, where there is life and vitality." □

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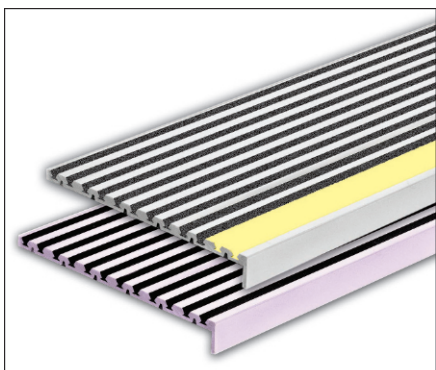


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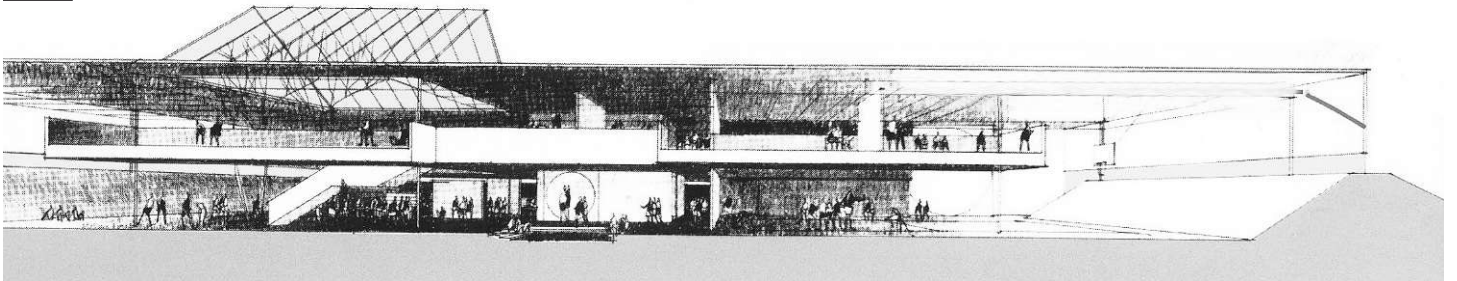
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TEXT BY THOMAS FISHER

1973 P/A Awards Jury

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Archibald C. Rogers
Donald L. Stull

CITED IN THE 1973 P/A Awards program, Bellflower Elementary School in Mentor, Ohio, designed by Richard Fleischman & Associates, epitomizes the earth-sheltered buildings popular 40 years ago and newly relevant in our energy-conscious era. The school has a porcelain-steel-clad cap, with a slot of windows that visually separate it from a grassy berm rising from the flat site. Square in plan and set at a 45-degree angle to the road, Bellflower looks longer and lower than you would expect from a two-story building; the reduction in scale is appropriate for an elementary school surrounded by modest suburban houses.

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with a skylit, two-story activity center just inside the glass entry doors, the school has two "streets" that cross at its center, with "learning centers" at its four corners that include stepped seating along the sloped inside of the berm. Its exposed steel-framed structure supports enclosed seminar, music, and speech rooms, as well as a teachers' room and administrative offices on the mezzanine. The visually and spatially dynamic interior provides a varied and highly stimulating learning environment, serving as a model of how we might rethink schools in our digital age, with technology enabling both teachers and students to be more mobile.

P/A juror Donald L. Stull appreciated the school's recognition that "a worthwhile educational experience is an evolving thing." That is as true today as it was in 1973. □

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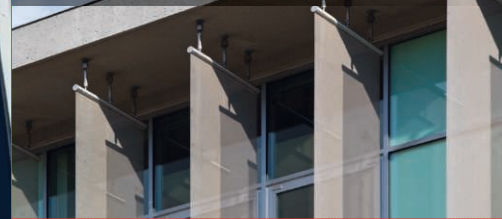
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- FSC-CERTIFIED WOODWORKS®
- 10 YEARS OF CEILING RECYCLING – 100 MILLION SQ FT RECYCLED
- GREEN GENIE™ LEED® CALCULATOR TOOL



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