THE MIDWEST
ARCHITECT'S NEWSPAPER
10__10.09.2013

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COURTESY PELLI CLARKE PELLI

Under scrutiny from its future South Loop neighbors, a new arena and event space has emerged from a conceptual design competition with a low profile, literally. In late September, officials approved a design by Pelli Clarke Pelli (PCP) for the new arena sited near Chicago's McCormick Place Convention Center, which will host DePaul University's Blue Demons. City Council will still vote on the design, which could change based on neighbors' concerns.

PCP's design tucks 10,000 seats into a sunken bowl with a court one level below grade and a roof that wafts up toward the middle. The arena's event floor is on grade, leaving space for functional programming underground—mechanical rooms, locker rooms, operations, maintenance, storage. As opposed to many arenas, where visitors are greeted with the back-of-house spaces and have to ascend for event-level amenities, the new facility has a street-level presence.

"The main concourse is actually at street level," said PCP's Mitchell Hirsch, who also led design on DePaul's new theater school building, "thereby allowing complete energy and activity around the entire bowl." The building's roof **continued on page 6**

LANDMARK HOTEL IS REBORN AS AFFORDABLE, GREEN HOUSING

NEW HARVEST

While restoring Chicago's Viceroy Hotel, workers sandblasted a XXX-movie advertisement from the building's eastern facade, revealing a brick-pattern architectural embellishment from the West Loop structure's better days. The art deco building had fallen into disrepair, mirroring the misfortune of its clientele, many of whom struggled to pay the single-room occupancy's rate of $20 per night.

And like the building itself, the new tenants of 1519 West Warren Boulevard are making the most of a second chance.

Built in the 1930s as the Union Park Hotel, the six-story structure is on the National Register of Historic Places. Chicago's Landon Bone Baker Architects, working with First Baptist Congregational church and Heartland Housing, did not stop at restoration—they reinvented the building as Harvest Commons, a sustainable low-income housing community.

A solar-thermal hot water system and geothermal heating **continued on page 8**


COURTESY LBBA

SPECIALISSUE:ENVIRONMENTAL

ARCHITECTS AND ENGINEERS SEE WOOD AS AN ALTERNATIVE TO CARBON INTENSIVE MATERIALS LIKE STEEL AND CONCRETE FOR TALL BUILDINGS.
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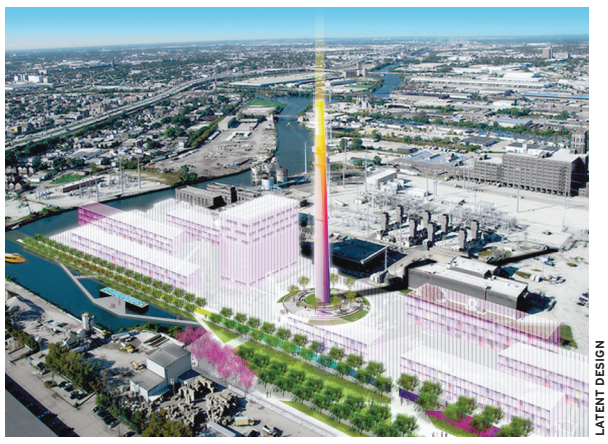
MINNEAPOLIS LAW MAY ALLOW ACCESSORY DWELLINGS

Bringing Granny Back

They've been called "granny flats," "carriage houses," and "in-law suites." And if discussions among the members of Minneapolis' planning commission move forward, they could be an old-fashioned solution to the city's modern urban issues like a ballooning population, limited affordable housing, and a lack of accessible senior living options. According to Tom Streitz, the city's director of housing and policy **continued on page 5**


LATENT DESIGN

PARKS PLANNED FOR FORMER COAL PLANTS

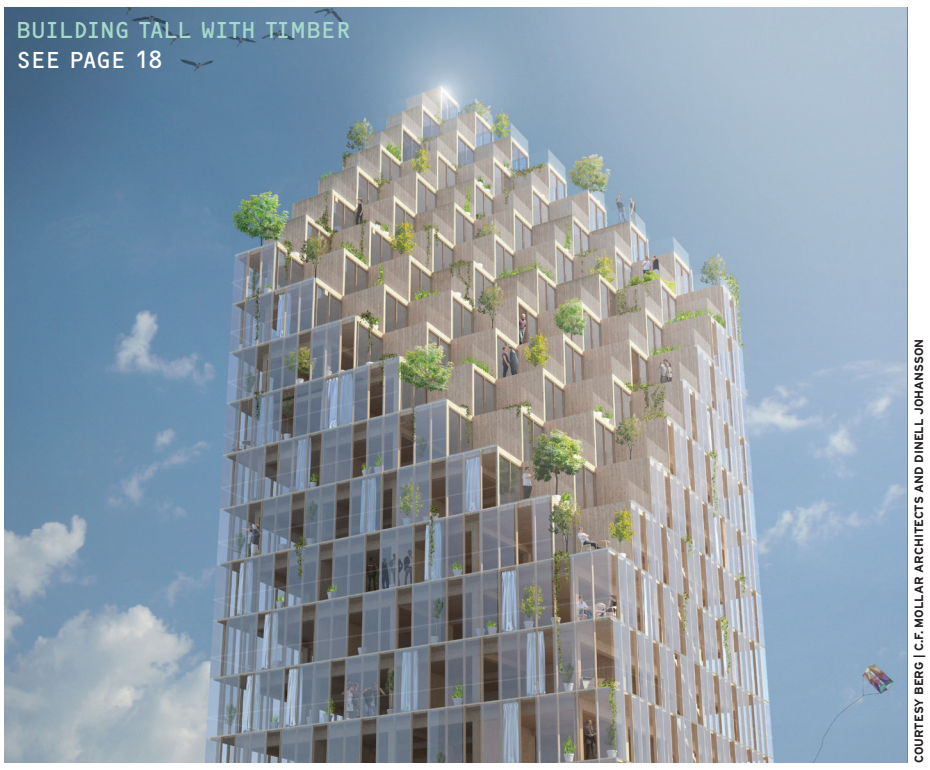
REGENERATION

Chicago's Fisk and Crawford coal plants closed in August 2012. Now, as they await the identity of a developer to buy and remediate the former industrial sites, local groups have begun to outline plans for green space along the Chicago River.

In the coal plants' wake, residents saw an opportunity to improve prospects for both clean manufacturing and green public spaces in Pilsen and Little Village, two predominantly Latino neighborhoods on Chicago's southwest side. The Pilsen Environmental Rights and Reform Organization (PERRO) polled the plants' neighbors, who resoundingly preferred the group pursue mixed-use solutions over all-green or all-industrial redevelopment plans.

Architecture for Humanity and local firm Latent Design produced concepts and renderings imagining the future of the sites, as well as a booklet summarizing PERRO's vision and neighborhood surveys.

"This is a direct reflection of some **continued on page 6**



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FRESH AIR

Earlier this year I met an architectural engineer whose frequent business trips to China spurred an impromptu experiment. From Chicago to Beijing and back, he took regular air quality measurements with a handheld, professional-grade monitor. His readings turned heads, especially on the airplane, but what piqued the most interest was the data set he gathered.

He looked for particulate matter—microscopic solids and liquid droplets suspended in the air. PM 10, about 1/5 the width of a human hair, can gunk up lung tissue and aggravate breathing problems. With the even smaller PM 2.5, those problems are even more acute. On the streets of Beijing, particulate matter readings regularly exceeded 500 micrograms per cubic meter, or a "hazardous" level on the air quality index—its highest level of concern. For PM 10, some street readings were on par with readings taken back in Chicago while standing next to a smoker.

China's bouts of atrocious air quality are no secret. In January, Beijing's "airpocalypse" grabbed headlines and upped public pressure on the issue. There is even an iPhone app that tracks the Chinese air quality index. (One reviewer raves, "Great app that allows me to determine if it is prudent to exercise outside!") Urban centers in India and the Middle East face a similar challenge.

But this engineer's readings were telling in another way. In controlled environments—inside the airplane, a Beijing cab with the windows up, a new office tower—particulate matter readings dropped dramatically, at times almost to zero. Indoor air quality, the engineer concluded, is a pressing design challenge.

"Use a different set of eyes and you see a whole different city," he said. "You see a whole different world in buildings, too."

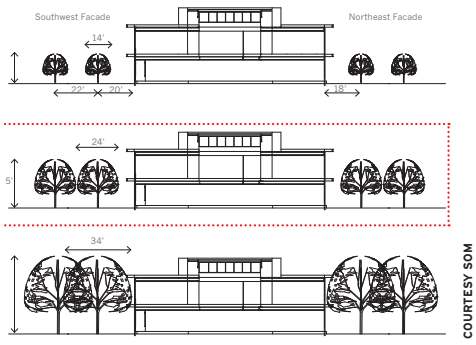
Carpet floors, for example, emit more particulate matter than bamboo flooring. But the difference diminishes six feet above the floor. Elevation reduces the concentration of particulate matter pollution, too, but not at a constant rate. Broader solutions to particulate matter levels in the general environment are beyond the scope of any single project, but controlling air quality in the built environment is a design frontier ever more important in a continuously growing and urbanizing world.

Unfortunately, indoor air quality is often addressed through compliance with minimum code requirements. But not always; some solutions double as interior design centerpieces. A landscaped green wall covers 1,420 square feet of the Edmonton International Airport in a kind of living art installation whose 32 species of plants humidify and clean the air. Drexel University boasts the largest "BioWall" in the U.S.— a 22-by-80-foot swath of plants that is actively integrated into the building's air handling system.

Other interventions are less flashy, but no less important. The proliferation of low-VOC materials and efficient ventilation systems, for example, has steadily improved indoor air quality. Beyond piecemeal approaches, there are alternative metrics. Both Passive House and Living Building Challenge standards integrate design and up the ante for indoor air quality.

Not surprisingly, the highest concentration of particulate matter in China occurs in the east, where the concentrations of coal plants and dense urban environments are greatest. Burning fossil fuels remains the ultimate source of much of this particulate matter pollution. Architects have no direct control of that industry. But they can improve the built environment every day.

CHRIS BENTLEY



COURTESY SOM

COMPLEX DAYLIGHTING ANALYSIS PROVES THE POWER OF TREES

Good Day Sunshine

Swiss healthcare giant Hoffmann-La Roche hired Skidmore, Owings and Merrill to design its Indianapolis lab facility, and ordered the firm to uphold Swiss standards for energy efficiency.

The two-story Roche Diagnostics Training Center is designed around a central daylit atrium that collects sunlight through a series of light monitors poking out of the penthouse level. Automatic blinds block low-angle and direct solar penetration to keep glare in check, and the overall form is optimized to let in light.

It is a notion SOM took to an extreme, mounting a computational probability study that aimed to reduce energy use by letting in enough sunlight to illuminate the two-story workspace without overwhelming it with glare.

Placing shade trees in key areas is a common way to avoid overloading a glassy building with sunlight. SOM's process with Roche explored that strategy to a new level of detail. The firm built a model of a thorn-less honey locust tree in Revit and Rhino and placed a row of this digital vegetation around the building model. The software simulated the seasonal change in leaves on the trees from May through October. "We know it helps and here is how we can prove it," said SOM Engineer Sergio Sádaba. "Trees and daylighting can be mutually beneficial."

The difference that the trees have on the building's energy consumption is visible in a projection of 24 months of energy bills. The latest ASHRAE standards—the industry association for HVAC professionals—put a new baseline building somewhere between a high school and an office in terms of energy use per square foot. SOM's design for Roche proposed a 68 percent reduction in energy use, putting the high-tech lab facility's consumption below ASHRAE standards for a high school.

All of the building's interior occupied spaces are lit entirely with LEDs that augment the daylighting scheme. The team also used RadTherm, a program typically used by automakers, to compute comfort and heat throughout the space. Radiant panels provide heating and cooling, while ventilation ductwork beneath the floors helps stratify interior air quality. The building exhales ventilation exhaust at a high rate through a perforated monitor.

SOM's study showed the value of trees in curbing energy usage, as well as controlling glare. Engineer Sergio Sádaba said comfort was also a key goal. "To achieve a well-lit building doesn't mean you need to have glare," he said. "We wanted to be sure we had enough daylight but that we didn't have a problem with it." **CB**

COURTESY ANTUNOVICH ASSOCIATES

MID-CENTURY MAKES WAY FOR NEW URBANIST

PURPLE RAIN

New plans for Chicago's Purple Hotel site don't have their predecessor's color, in any sense of the word, but many may view the mixed-use "town center" plaza as the antidote to the site's lurid history. The quirky midcentury hotel in suburban Chicago seemed to escape its fate last year when architect Jackie Koo drew up plans to save the vacant hotel and its divisive color scheme.

But demolition on the Purple Hotel in Lincolnwood, Illinois, began late last month. Organizers of the village's end-of-summer festival apparently raised $5,000 for the local library through sales of purple brick salvaged from the old structure.

Renderings made public this week show a "new urbanist" plaza from Antunovich Associates that do not include anything purple. Instead, the 11 acres at 4500 West Touhy Avenue would be home to an open-air shopping mall, functional green space, 110 apartments, a grocery store, and a new 210-room hotel. About one third of the development's parking spaces will be hidden underground.

The design awaits village plan commission hearings. **CB**

EAVESDROP> GINGER MCCRACKERS

LET THEM DRINK CHAMPAGNE, DADDY

Art fairs serve three groups of clientele: the rich, who buy the art, curators and museum folks, and the poor—students, freelance writers, party-crashers. You can probably guess that Eavesdrop is in the latter, not the former, so imagine the disappointment when champagne was going for $19 per glass on opening night of Expo Chicago. Seriously, what happened to the days of all-you-can-drink Grolsch or Basil Haydens way back in Art Chicago's past? The sticker shock should be from the gallery price lists, not the bar. While standing in line, Eavesdrop was flattered to be recognized by **James Geier** of 555 International, who hinted at a slew of new projects and fall openings. Hopefully those openings will allow the 99 percent to imbibe. The art fair's environment, layout and scheme, was designed by Studio Gang, although we can't say that we were able to discern a noticeable imprint.

WAKEUP SLEEPY HEAD, IT'S TIME FOR DESIGN

DePaul University lays claim to many superlatives, like Largest Catholic University and other stuff. We have one: The Largest Collegiate Architectural Snoozefest. That is until now. On the heels of the University of Chicago's Logan Center for the Arts, DePaul recently cut the ribbon on its new Theater School, designed by Pelli Clarke Pelli. The new building is quite literally—excuse the cliché—a breath of fresh air, clad in materials other than brick veneer.

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FRONT / ALLEY ELEVATION

COURTESY JIM GRAHAM

BRINGING GRANNY BACK **continued from front page** development, expanding Minneapolis' policy to allow accessory dwelling units (ADUs) is under active consideration for the first time in many years.

"It's really trying to get at this multi-generational demand for housing that existed for a long time and then sort of went out of vogue. For lots of reasons it's becoming more popular again," Streitz said. "There are a bunch of demographic and other factors that are compelling us to look at this."

The move would add Minneapolis to the growing ranks of communities giving these dwellings a second look in recent years. In Seattle, backyard cottages got the okay in 2009. Last year, legislation passed in Salt Lake City that allowed for ADUs within a half mile of local light-rail stations. And officials in unincorporated Johnson County, Kansas, approved new parameters for the units in March.

"People wanted to bring their parents to live with them or they wanted to bring their children back home," said Dean Palos, Johnson County's planning director. The new rules require that detached units (say, over the garage) be no larger than 900 square feet; one of the two residences must be owner-occupied; and the properties must be at least two acres to accommodate both structures. Architectural standards, too, were paramount in the deliberations. Accessory dwellings must mirror the primary structure in character and materials.

"I think in part because of the recession there's a greater awareness that there's a need for this," said Palos. "There's a better understanding for how this can be accomplished without adversely affecting neighboring properties."

In other cities, architecture firms that focus on these specialized dwellings are popping up. The Cleveland Urban Design Collaborative at Kent State University has proposed the units in planning projects as one possible tool to deal with the city's increasing vacant land. In Minneapolis, urban planner Jim Graham is pleased to see the idea he's pushed for years getting the consideration he said it deserves. Graham works with the city's Ventura Village neighborhood, the only area of Minneapolis where ADUs are already allowed. In the early 2000s, Graham and his colleagues drew up designs he said could have added an estimated 10,000 accessory units without impacting the "texture of Minneapolis at all."

Officials had previously shied away from allowing the units, Streitz said, because they feared some landlords might take advantage of the policy.

"Bottom feeder landlords who want to make a few extra bucks will take a closet out back and make it into an apartment," he said. In order to employ enough inspectors to regulate conditions, Streitz said the commission may work out a fee structure for the construction of the units. "It's a risk we're willing to take," he said. "We just have to be careful about how we craft [our policy]."

Streitz said he expects an official resolution to come through the commission in the next few weeks and if the motion is approved most likely the changes would go into effect at the beginning of next year.

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JOHN BELLENIS PHOTOGRAPHY

River North's converted lofts and basement clubs have helped build a 24/7 atmosphere downtown, but those looking for shuteye now have more options, too.

Aloft, a Starwood Hotels member, is one of three hotel brands to call a new block of hotels home. They share the complex known as Clark and Grand Hotels with two other brands—Hyatt Place and Fairfield Inn and Suites—in the area bounded by Clark, Dearborn, Grand, and Illinois avenues. In all, the hotels total 621 rooms across three buildings. White Lodging, which manages all three properties, and developer Friedman Properties aimed to offer tourists reasonable rates in a district known for its nightlife.

The Aloft building's glazed facade seems more in line with the neighborhood's new energy than some of its brick-clad neighbors. Its blue glass surface is accented by a repeating pattern of dark, Tertris-like S-shapes. With HOK's flair, the brand's "different by design" maxim becomes apparent. Visitors enter beneath a kinked metal awning bearing rainbow stripes. A blue neon marquee advertises Aloft to the North and South with a tiled zigzag profile that calls to mind a midcentury advertisement.

The rooms themselves continue that vocabulary; bands of bright color on couches and cylindrical throw pillows pop out against a subdued palette that is more common among contemporary hotels. Floor-to-ceiling windows open portions of the rooms to expansive views. **CB**

LOW PROFILE continued from front page

arches gently upward, supported by a series of laterally braced arched trusses. "We began to look at the iconic nature of the building relative the city," said Hirsch. "This was one way to recall wonderful Chicago spaces."

The glass-walled arena located at East Cermak Road and Indiana Avenue will be called the McCormick Place Event Center. It is low-slung and light-filled—apparently an attempt to address concerns that the arena might "crash land" in the dense South Loop neighborhood. Hirsch said the building's street frontage will only be about 45 feet above street level, or roughly even with the trees on Cermak's median. The billowy roof's edges flatten out to continue the planar gestures of McCormick Place West toward downtown.

DePaul University will be the building's main tenant, but McPier, the semi-public entity that runs Navy Pier and McCormick Place, will own the building. The $173 million arena will also host concerts and events from DePaul and elsewhere. About $70 million will come from the university. The city is expected to kick in $33.5 million for land acquisition, and $21.5 million will come in the form of tax increment financing for a Gensler-designed1,200-room Marriot Hotel that is planned for the southwest corner of Cermak and Indiana.

"The concern of the community was a black-box arena," Jon Clay, McPier's director of design and construction, told the *Tribune*. "We've really got a well-lit glass jewel box of a building."

Another hotel, this one with 500 rooms, will anchor the arena's northeast corner on Prairie Avenue. McPier still needs to acquire some of that land. The development is near to a new CTA Green Line stop designed by Ross Barney Architects, which is slated to open in late 2014.

Five other architects competed for the project: John Ronan, Krueck + Sexton, Ross Barney, Grimshaw, and OMA.

Officials hope to complete the project in Fall 2016. **CB**

COURTESY PELLI CLARKE PELLI

LATENT DESIGN

REGENERATION continued from front page

of the community demands," said Latent Design Principal Kathryn Darnstadt. "We looked at the river as this conduit to a clean manufacturing center."

Darnstadt envisions vertical integration along the river, from the 1871 tech hub downtown, through the creative hub of Pilsen, and ending with local manufacturing at the former coal plant sites downriver.

The plan depends on who the new tenant will be. A mayor-appointed task force, which includes members of PERRO as well as industry and city officials, has heard from dozens of interested buyers, according to PERRO's Jerry Mead-Lucero.

His group's original plans for a park that would span South Throop and Halsted streets are unlikely to become reality, said Mead-Lucero, after objections from utility ComEd and landowner Midwest Generation. Instead a parcel behind Chitown Futbol on South Throop Street could foster a river walk west of the Fisk site. But ComEd would maintain high-tension power lines overhead.

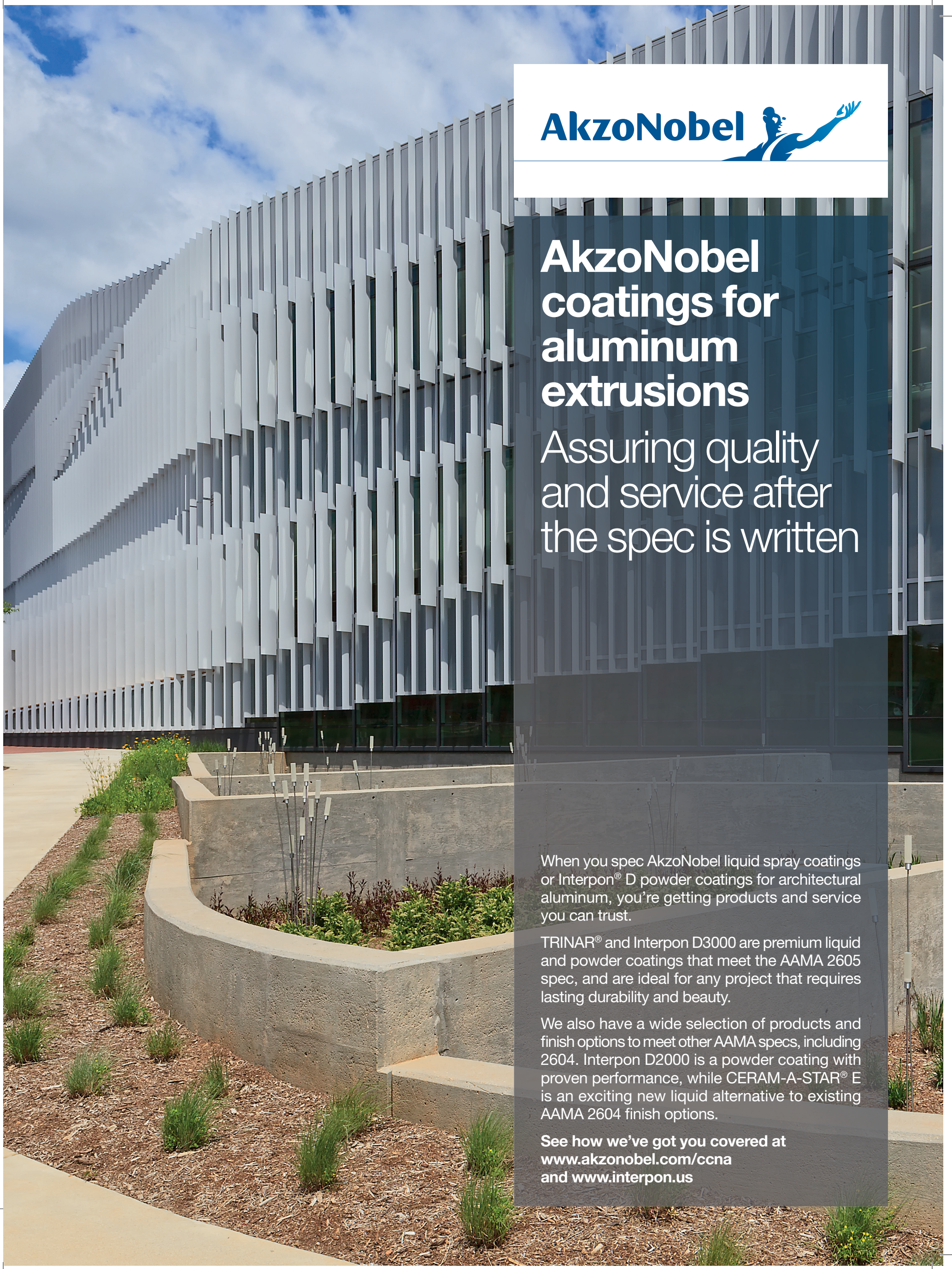
Depending on how much land ComEd and Midwest Generation agree to give up, that site could actually be bigger than the original proposal along the Fisk site inlet. But it's also out of sight from Cermak Road, and many locals think Throop Street is a private drive for Chitown Futbol. In an area starved for green space, however, a consolidated park could become a destination.

"The proposals aggregate smaller developments on open space in Pilsen and bring them all to one larger space," said Darnstadt. "It's one thing to have passive access to the river, it's another to say how can we engage it?"

Darnstadt's proposal is for "Pilsen Pier" includes river walk landscaping to satisfy the 30-foot setback mandated by ordinance for all riverside developments, a floating dock or pier with a river taxi landing, and preservation of the coal plant's smokestack. The rest of the space would be devoted to light or "clean" manufacturing.

The idea is speculative, she points out, and entirely conceptual. After a buyer comes forward, there's still the issue of remediation. In March, EPA officials said tests for air quality and radiation around the Fisk and Crawford sites showed no lingering pollution in the immediate area. But lead contamination on nearby sites once home to smelting companies exceeded federal limits. A park may seem to be an extra burden to development, but Darnstadt said it could be a catalyst.

"It makes a very good narrative for future businesses," she said, "because green space is an asset." **CB**



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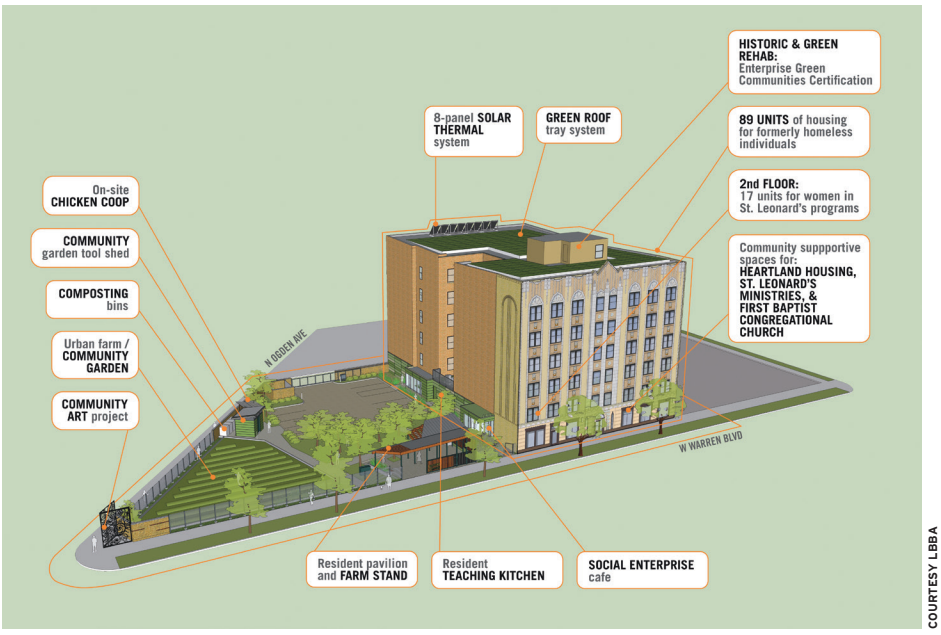

COURTESY LBBA

LBBA pursued environmental and social sustainability with a teaching kitchen, garden and green roof.

NEW HARVEST continued from front page help cut the building's energy use 33 percent. Composting, on-site food production, and a green roof helped the project secure Enterprise Green Communities certification.

The city signed off on $3.8 million in tax increment financing dollars for the project, with an additional $3.2 million in the form of federal Historic Preservation tax credits. To get those tax credits, the project's architects agreed to restore the building's historic plasterwork and sculpted terracotta tiles.

"As we uncovered some of the lobby elements," said Hume An, Heartland's director of real estate development, "it was great to see a lot of the motifs were plants—ears of corn, flowers—that fit with some of the things we were doing elsewhere."

Bamboo flooring conceals the original lobby floor, which was ruined over years of misuse. Original tile work survives in the entryway, however, and Heartland is working to replicate its ruddy earth tones for a full restoration of the area around the building's two elevators.

Heartland wanted larger rooms than the SRO arrangement afforded, so it expanded the units. In the process it brought down the capacity from 150 to 89. Historic preservation provisions, however, required the architects to maintain much of the existing look, so dummy doors dot the hallways. Eighteen units are specifically reserved for women who have recently left the Illinois prison system.

Toney Evans moved in at the beginning of August, just five months after being released from jail, where she spent 13 years for aggravated battery. Like many residents, the 38-year-old makes regular visits to the nearby Michael Barlow Center, a program of St. Leonard's Ministries, which has helped former felons find jobs since the 1950s. Evans is apprenticing in culinary arts. It's a skill she'll apply as a barista in Harvest Commons' own café—Gracie's, a "social enterprise café" built as part of an addition to the original building. "I'll have no reason to be late," Evans joked.

The addition also features a commercial-grade teaching kitchen, where Heartland plans to employ a dietician to run cooking workshops for residents.

"I'm eager to get back on my feet. I've always wanted to learn more about cooking. So when the opportunity presented itself I just took it," Evans said. "It gives a person like me a chance to be productive… It makes me feel like a part of society."

A triangular garden seems more like an urban farm at 10,405 square feet, with its small grove for fruit trees, herbs, and vegetables, and chicken coop. Three days per week, Heartland has the services of farmer Dave Snyder, whose local urban agriculture resume includes Uncommon Ground, Ginkgo Organic Gardens, and the Chicago Rarities Orchard Project.

"We want this to be a resident-centered thing," Snyder said. During a tour of the building, he peered down from a studio unit and asked if the building's addition had roof access. A small space tucked into one of the H-shaped building's recesses could fit a few honeybee hives.

Compared to some other projects he has worked on, Snyder said, "[Harvest Commons] is unique because it's so tied to the residential experience." The garden, easily visible from the street, also meets the surrounding community in a patio space that could host a public farmers market if its sliding door is opened to Warren Boulevard. **CB**

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FAR LEFT: NATALIE BATTAGLIA; LEFT: HEATHER EIDSON

MASSIVE GEOTHERMAL SYSTEM HEATS SUSTAINABILITY CENTER

STEAM HEAT

When they open their dorm room windows, Loyola University sophomores living in the college's new Center for Sustainable Urban Living won't glimpse another brutalist high-rise; they'll look out onto the massive greenhouse that contains the building's atrium, lobby, and agricultural lab.

"This building is really a tool to teach sustainability and the ethics of conservation," said Devon Patterson, one of the project's lead designers with Solomon Cordwell Buenz (SCB). "At one point the greenhouse was a small part of the building, a demonstration. But it really became the heart of the building."

Trusses 62 feet long curve over the space, breaking with the classic symmetrical arc of most farmland greenhouses. Instead, the dynamic shape shrugs wind and rain off to the building's east, nourishing its natural ventilation and greywater recycling systems.

In the midst of a building boom, Chicago's Loyola University asked SCB to add residence halls, classrooms, labs, and offices to a new chunk of its lakeshore campus in Rogers Park. To sort out the many programs, the architects took inspiration from Thomas Jefferson's "academical village" at the University of Virginia. The Founding Father organized dormitories and classroom buildings around a central lawn, promoting interaction among an intellectual community.

Likewise SCB's design folds an existing high-rise building on Sheridan Road into a plan that links its 10 stories to more freshman dorms on the site's south end, with labs, classrooms, and a student lounge populating the buildings' lower floors. The northern structure is now home to the Institute for Environmental Sustainability. Between the two taller structures is an atrium space that serves as the building's "lawn" in the design team's Jefferson analogy. It is a greenhouse and learning lab that will also supply food to the new dorm's café.

The project boasts the largest geothermal heating and cooling system in the city. About 215,000 square feet spread across two acres, the predominantly low-rise complex is well-suited to geothermal; a higher density development wouldn't be able to pull off the 15-year payback the system promises Loyola. LCD screens display temperatures in real time above several of the many pipes that send water through the building's 91 geothermal wells, each 700 feet deep. As students and visitors traverse the lobby, they see the building's pipework through several glass casings.

They also glimpse the base of a green wall meant to cover and shade the sophomore dorms that run along the lobby and greenhouse building's east side. Thanks to tall ceilings, from which ring-shaped "modern chandeliers" hang, the street-level lounge also offers views of a green wall and an area for fruit trees next to the greenhouse space overhead.

New lab rooms outfitted with all-bamboo casings house Loyola's Solutions to Environmental Problems program, which gathers students from diverse majors and asks them to solve an environmental problem on campus. Within sight of the new classrooms is the product of one of those classes: a small biodiesel refinery of sorts that converts campus fryer waste into enough fuel to offset 10 percent of the gas used by the university's bus fleet. Homemade biodiesel will also run a boiler to heat the facility for a few days a year when the geothermal system is scaled back to allow underground heat to replenish.

Loyola's biodiesel production is the only university-based program licensed by the federal government to sell its product. Filling only a fraction of its new home in the Institute for Environmental Sustainability's new Clean Energy Lab, the biodiesel program will seek waste grease from other area universities in an attempt to increase output from 3,000 to 100,000 gallons per year.

As with the building's geothermal pipework, SCB invites visitors to inspect the biodiesel program's guts. Brightly colored pipes and large windows open toward Sheridan Road and onto the Institute for Environmental Sustainability's atrium. A lattice reaches up past labs and walls colored red, orange, and green for wayfinding. A small vegetable garden will grow at its base, while hop plants climb three stories to the building's skylight.

SCB will measure the building's performance during its first month of operation. The firm is hoping that the facility's energy use comes in at more than 70 percent below ASHRAE standards. **CB**

HEATHER EIDSON

COURTESY STEVEN HOLL ARCHITECTS

ARCHITECT DESIGNS SECOND ARTS BUILDING AT UNIVERSITY OF IOWA

HOLL-OTTA ART

Steven Holl Architecture's new Visual Arts Building at the University of Iowa will be an instrument for art, its designer said—a loft-like, light-filled tower of studio spaces that provides an architectural counterpoint to its celebrated neighbor.

The new building complements an adjacent Holl structure completed in 2006, Art Building West, which is a horizontally oriented steel structure with a large cantilever over a lagoon. "It's a rare opportunity to make a new campus work next to a previous work," said Chris McVoy, who led project design along with Holl. "We wanted to make a building that was complementary to [Art Building West], but also quite different."

Adapting the "porous design" strategy of its neighbor, the new Visual Arts facility has a series of vertically connected spaces. Open sightlines and ample windows connect the stacked spaces to the surrounding environment and a large light well carved out of the floorplates lets in natural light and ventilation. The floorplates slide past each other, creating balconies and exterior working spaces.

"Light and nature carve into the building," said McVoy. "If you make generous spaces with great light that changes through the day, it's much more conducive to greater thinking."

Seven vertical cutouts, dubbed "light courts," are meant to encourage interaction between disciplines and studios spread out across the building's four floors and penthouse. Studios on all floors are visible from the bottom of the main light court ("the forum") at the building's center. That space also connects to the "art meadow" green between SHA's new building and Art Building West, as well as north to River Street and the rest of campus.

Circulation throughout the light courts follows a series of large landings and seating areas. "The circulation becomes a place of exchange, interaction, and education," said McVoy. "It's very exciting making a new studio building at a time when art is more and more working across disciplines and across media. Really this building is dedicated to the evolving art practice."

A green roof is among the 126,000-square-foot building's LEED-point-earning features (it's aiming for Gold). Operable windows allow natural ventilation throughout, while hollow spheres in the 12-inch-thick floor slabs cut down on material use. The slabs are also outfitted with a radiant heating and cooling system.

Construction is underway and the new building is scheduled to open in 2016. **CB**

PRESERVATIONISTS ARE CREATING 3D MODELS OF HISTORIC BUILDINGS, JUST IN CASE

DIGITAL DISASTER RELIEF

Preservation architects are turning to new technologies to help rebuild historic structures damaged by natural disasters. "Access to digital and 3D data can make certain projects possible," said Lisa Ackerman, executive vice president of the World Monuments Fund.

One such project is at the Arts Centre in Christchurch, New Zealand, where Holmes Consulting Group (HCG) is using 3D scanning equipment to stabilize, repair, and strengthen the former Canterbury College buildings, a complex of late-19th century Gothic stone masonry structures that were severely damaged by earthquakes in 2010 and 2011.

HCG faced several challenges with working on these landmark buildings, including the fact that there were no modern architectural or engineering drawings that accurately reflected the current state of the buildings. The firm used high definition scanning equipment to generate detail point cloud data, and then used IMAGINiT's Scan-to-BIM software, which easily integrated with Autodesk Revit. Scan-to-BIM allowed HCG to interact with point clouds, assisting with the automated recognition and placement of architectural elements and enabled the firm to create working models.

Today, the HCG team has made models for all the buildings on the site that were damaged in the earthquakes. The models are allowing the structural engineers to analyze how each building behaves to determine its strength and how it will move in future earthquakes. "In the end we are getting far more detail than we thought possible and that helps immensely in the preservation process," said Tony Fitzwater, HCG's national drafting manager, in a statement.

Engineers and architects are not only using 3D scanning technology to respond to natural disasters, they are applying these technologies to prepare for future strikes. The not-for-profit organization CyArk is committed to "preserving cultural heritage sites through collecting, archiving, and providing open access to heritage data created through laser scanning, digital modeling, and other state-of-the-art technologies." The organization is creating a free, 3D online library of the world's cultural heritage sites, which Ackerman said "records the most minute detail of a place, allowing it to be studied, rebuilt, or admired." CyArk has documented sites worldwide, including Ancient Thebes, Angkor Wat, Pompeii, and Mesa Verde. In October 2013, the organization is kicking-off a campaign to digitally preserve 500 cultural heritage sites over the next five years. **LIZ MCENANEY**

DESIGNER: SOM

Law office designs rarely stray from convention. Large firms need lots of separate offices, with upper-level staff typically claiming the window frontage, and they need to convey an air of professionalism. That has translated into stodginess for some corporate offices over time—a pitfall Skidmore, Owings & Merrill hoped to avoid in fashioning a new home for Canadian legal heavyweight Davies Ward Phillips & Vineberg.

"Our client was very specific about wanting to create a space that was timeless, very restrained," said SOM Design Director Jaime Velez. After decades elsewhere in downtown Toronto, Davies Ward was drawn to the Royal Bank of Canada Centre, in part for its LEED Gold ranking. RBC's open floor plan, however, posed challenges.

The building's underfloor air distribution system transmitted too much sound throughout the space for an office whose core needs include acoustical privacy. Acoustical consultant Cerami & Associates helped SOM tamp down the sound between rooms. A double-size conference room with two large conference tables can be divided with a retractable skyfold wall that reaches from floor to ceiling.

But privacy wasn't the only goal. Spread across four and a half floors, totaling about 150,000 square feet, the office layout isolates internal circulation from spaces frequented by visiting clients and guests. A staircase conveys employees to two pantries, a lounge and lunchroom. Its attractive mix of materials is meant to encourage use and chance interaction.

"We debated a lot should the stair be on the public side or the private side," said Velez. "The whole idea is there's a public face to the firm and there's a private face, and they don't mix."

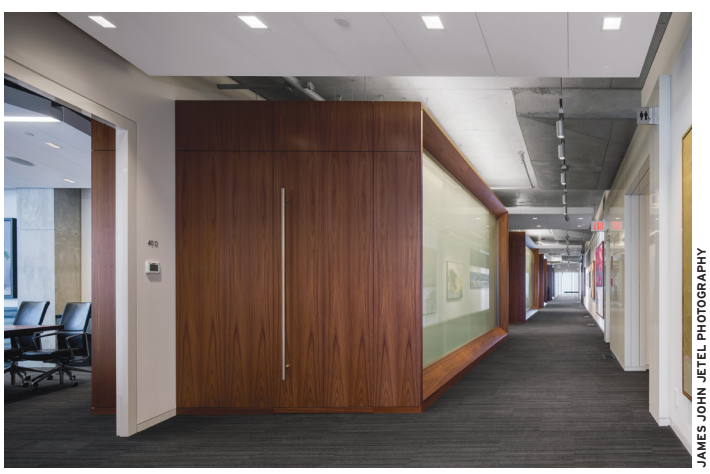
Dark strips of oak appear at first to be steel, spaced close enough together to partially obscure an onlookers' vision of who is using the staircase. Aluminum treads satisfy the building's requirement for sustainable materials with a modern feel. A walnut enclosure, echoed throughout the office, lends the law firm a traditional touch of wood, albeit sparingly.

"The practice of law has a tendency to be isolating because of how much time you spend in your office," Velez said. "They wanted to strengthen the sense of community."

On the walls throughout, cords and computer monitors take a backseat to Davies Ward's extensive collection of Canadian art. Buttons on conferenceroom tables will reveal monitors, but at first glance the spaces aren't overwhelmed with technology. Instead, light bounces off the 11-foot-high exposed concrete ceilings onto uncluttered spaces.

The large rooms double as event spaces (for cocktail parties, lecture series) and auditoriums of a sort for the several dozen law students completing "articling" internships — year-long legal apprenticeships that are part of Canada's track for young lawyers. Small inboard offices absorb each class of students with a mix of single and shared spaces.

Although the building wasn't designed to house a law firm, you might not know it from the handsome walnut enclosures that clad the conference rooms. Floor-to-ceiling glass lets in light, which can penetrate open corridors and large rectangular clerestories on the sides of many offices and conference rooms. On the 40th floor, with few neighbors tall enough to block views, employees and guests are greeted with ample light and clear sightlines to Toronto's skyline, including the CN Tower. **CB**



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EFFORTS TO REVITALIZE CHICAGO'S 'BLACK METROPOLIS' STRESS SUSTAINABILITY

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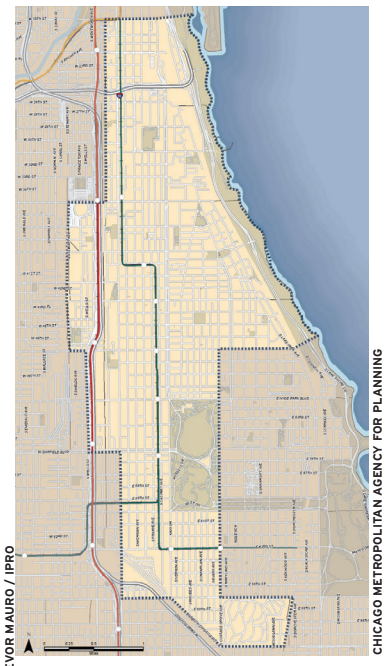

CHICAGO METROPOLITAN AGENCY FOR PLANNING

TREVOR MAURO / IPRO

Far left: IIT students imagine an abandoned train station at 40th and Vincennes as a demonstrative urban farming project; Bottom, left: Chicago's Rosenwald Apartments as the Julius Rosenwald-Booker T. Washington Gardens, a green live-work community.

Chicago's Rosenwald Apartments are a perennial presence on preservationists' most endangered lists, so speculation swirled when it was announced last year that city funds would help revive the massive Bronzeville complex.

The 1920s affordable housing project was built with money from Sears Roebuck and Co. leader Julius Rosenwald. A massive multifamily development, the four-story complex takes up a whole city block at 46th Street and South Michigan Avenue, enclosing a private two-acre courtyard.

Vacant for a decade, the building's decay has mirrored that of many blocks in the neighborhood. But Bronzeville is not short on plans to rejuvenate this community, which is sometimes called The Black Metropolis. In fact, the Rosenwald redevelopment plan, though welcomed by some, irked the local community development partnership for its reliance on low-income housing.

Royce Cunningham, an architect living in Bronzeville, is one who wished for more from Rosenwald, so he asked a class of local high school students to reimagine the site. They rendered it as a "green live-work environment" that retained the original facade, but filled in the building's 47th Street setbacks with photovoltaic glass conservatories to complement rooftop greenhouses.

That project (dubbed the Julius Rosenwald-Booker T. Washington Gardens) isn't getting built. But Cunningham has gathered a group of black designers committed to "evangelizing and apostilizing energy efficiency, sustainability, and green technology to urban Chicagoland."

"We realized this community was underrepresented," Cunningham said. "The vision is that people would start changing their lifestyles by eating fresh food, and we would see young people embrace our agrarian roots."

Cunningham's own parents followed the Great Migration patterns that millions of African-Americans took to Chicago at the start of the 20th century. His parents came to Chicago's stockyards from Arkansas and Texas, where they grew up as sharecroppers.

With his firm Architectural Services Group, Cunningham holds patents on several small-scale components of what he believes could help affordable housing become environmentally sustainable. They include a closet-unit gardening system and a solar-powered, low-voltage street lamp that charges electric vehicles.

Cunningham met horticulturalist Richard Dobbs and the other designers who comprise a gropu they call BUILD BOLD a few years ago while they were studying for LEED certification.

Dobbs, who has worked with the Chicago Botanic Garden and nearby urban garden Eden Place, said the neighborhood's historical significance is unappreciated. "People take it for granted," he said. "But it's a potential goldmine. It's just untapped."

In addition to Eden Place, community gardens have sprung up on residential plots throughout the neighborhood, from the Bronzeville Community Garden on 51st Street to Sacred Keepers Sustainability Lab at 48th and King Drive, which is reserved for young gardeners.

In convening local designers under BUILD BOLD, Cunningham is tapping into a broader effort to rebrand and revitalize Bronzeville.

Paula Robinson, president of the Black Metropolis National Heritage Area Commission, has been part of the neighborhood's bid for national recognition since 2004. With the Chicago Metropolitan Agency for Planning, they released a feasibility study for the idea in September. The designation would qualify the area for matching federal funds to build on development in the area.

"This is not just something we're doing to share jazz history, blues, those kind of cultural achievements," Robinson told *WBEZ*. "We intend to be a sustainable destination."

To do that they're focusing on the neighborhood's open spaces: 367-acre Washington Park, the city's largest, and Burnham Park, home to the recently rehabbed 31st Street Harbor. At the northern tip of the state's ambitious Millennium Reserve plan to consolidate and develop open spaces in the region, Bronzeville could serve as a gateway from the city to forest preserves further south.

They're also pushing transportation. Part of the effort to establish bike lanes and promote pedestrian-friendly streets has been motivated by necessity—the CTA Red Line reconstruction project has closed a major neighborhood train route for six months. Robinson told *AN* that they are looking at establishing a "historic bike trail" down State Street.

As the third component of their bid to rebrand the area, Robinson and others are reaching out to the Illinois Institute of Technology (IIT) and the University of Chicago. IIT professor Blake Davis runs a class in the college of architecture called IPRO, which directs students to design solutions for neighborhood problems. Previous efforts led to the creation of the nationally lauded urban agriculture program The Plant. His students are now looking to turn an abandoned rail line along 40th Street into an urban agriculture innovation cluster.

Segregated communities cut off by highways and other dividing lines aren't sustainable, the designers of BUILD BOLD argue. Instead of relying on outside inputs for economic development, Bronzeville could capitalize on its assets as a cultural destination, building a sustainable community from the ground up.

"Bronzeville is the perfect site," said Cunningham. "We have this housing stock that lends itself to repurposing."

For Bronzeville's real estate market, overcoming the legacy of public housing and its negative perceptions has been difficult. A study released last year by students at the University of Illinois at Urbana-Champaign compared the neighborhood to Pilsen, where development and gentrification have picked up.

But development has not stalled. Earlier this year a $46 million shopping complex broke ground, anchored by a 41,000-square-foot Wal-Mart "Neighborhood Market" store focused on groceries.

Neighborhood investment could help accelerate efforts by community members like Robinson, who hope that Mayor Rahm Emanuel, while he pours millions into marketing campaigns aimed at increasing tourism, will look to the South Side, where few of those dollars are spent or reinvested. It could also help Cunningham's vision for a green, self-sufficient neighborhood.

"We want 47th Street to be the lead in all this," he said. "Can you imagine driving down Michigan Ave. from 22nd Street all the way through 75th and seeing wind turbines, permeable pavement, all of that?"

Emanuel's office identified Bronzeville as one of the city's "opportunity areas" for economic growth. Touting hundreds of millions of dollars already spent on or committed to projects in the area, including a new CTA stop near the McCormick Place Convention Center, the mayor's announcement echoed Robinson's call for "T3": tourism, transportation, and technology.

"People are involved in different aspects of this, but our job is to pull it all together," said Robinson. "That's when sustainability is going to mean something." **CB**

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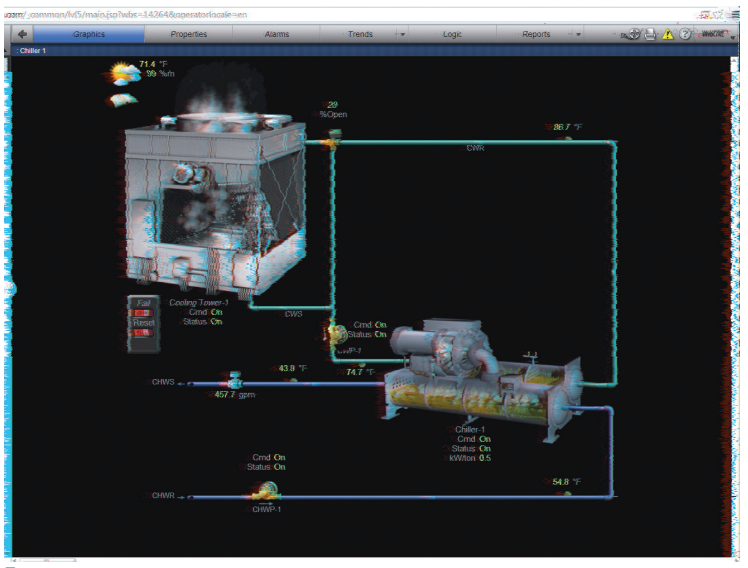

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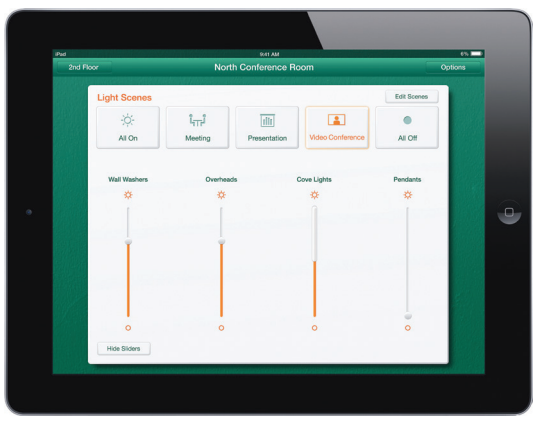

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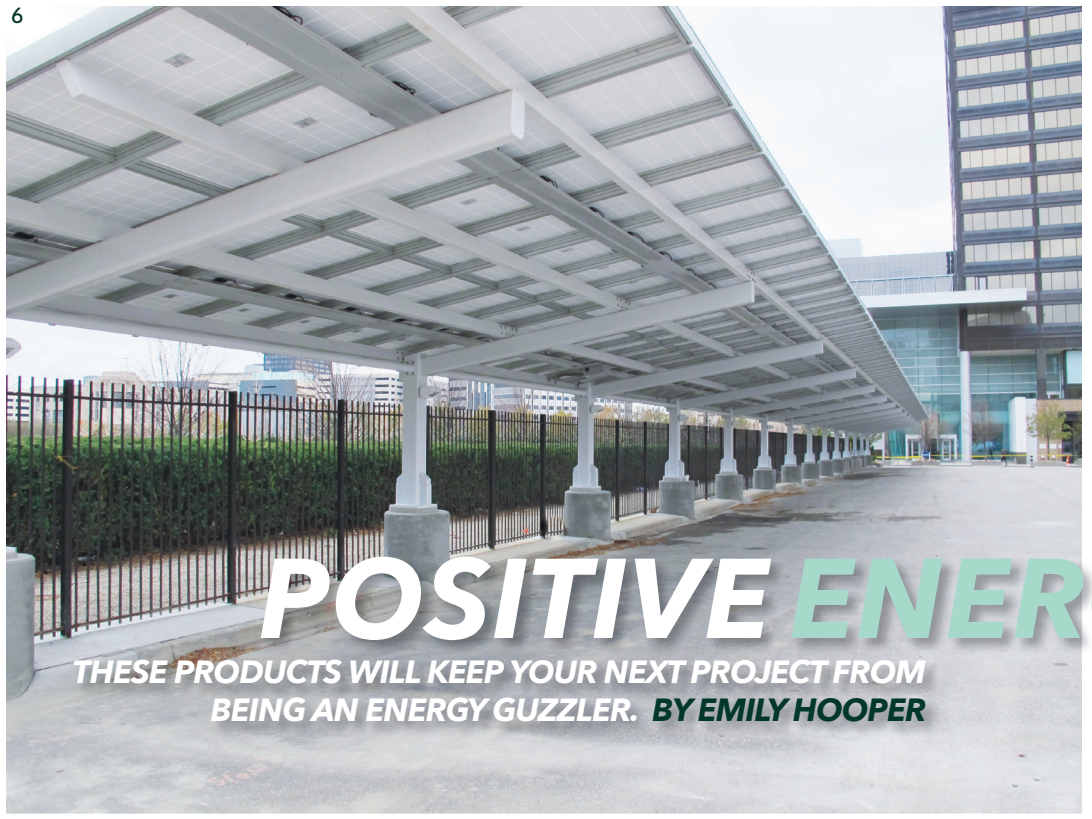

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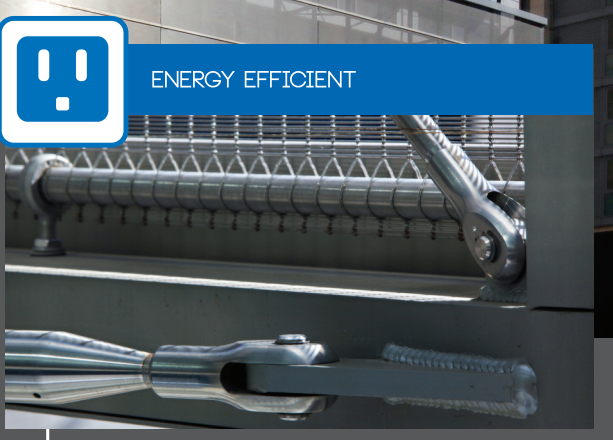

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TIMBER TOWERS

STRUCTURAL ENGINEERS ARE EXPLORING AN UNEXPECTED MATERIAL FOR HIGH-RISE CONSTRUCTION, ONE THAT MAY HAVE SIGNIFICANT ENVIRONMENTAL BENEFITS: WOOD. CHRIS BENTLEY BORES IN.

Concrete and steel enabled the advent of the skyscraper, and in just about a century they helped that form reach mountainous heights. But these materials have an environmental impact that can't be ignored. That fact is driving a new generation of designers to reconsider wood.

Concrete and steel production is responsible for about 8 percent of the world's emissions of carbon dioxide, the greenhouse gas mainly to blame for climate change. The majority of both materials go to fuel the construction boom in China, which nearly doubled its use of steel in the last ten years.

Asia's ongoing building boom is mostly in response to the extreme demand for housing created by its growing and rapidly urbanizing population. More than a billion people will move or be born into Asian cities in the next 20 years. Billions more are already homeless or living in slums. While the density of high-rise living cuts down on transportation and energy emissions, the carbon content of concrete and steel somewhat tempers the savings.

Looking at a California redwood, which can stand nearly 40 stories tall, it is not hard to imagine a wood structure reaching such heights. And its carbon profile is not just less than competing materials; it is potentially carbon negative. As the poet Bill Yakes wrote, "Trees are our lungs turned inside out." That is, they grow by drinking up carbon dioxide, exhaling oxygen in return. Every cubic meter of wood stores more than three quarters of a ton of carbon.

Canadian firm Michael Green Architecture just broke ground on what, at seven stories with plans to expand to 20, will be the tallest wood building in North America. Designers in Europe and Australia have also gone above wood's traditional three- or four-story limits. But in the U.S.—where code constraints, economics, and a social stigma prevent construction—the idea has been slower to catch on.

Since they helped set off a flurry of interest in the topic of tall wood construction about ten years ago, a pioneering few designers and engineers have seized on the potential of manufacturing breakthroughs to give one of the world's oldest construction materials new life. They say urbanization, population, and climate change are on course for a head-on collision that architects have a responsibility to help avert, and wood construction is how.

Seeds to buildings

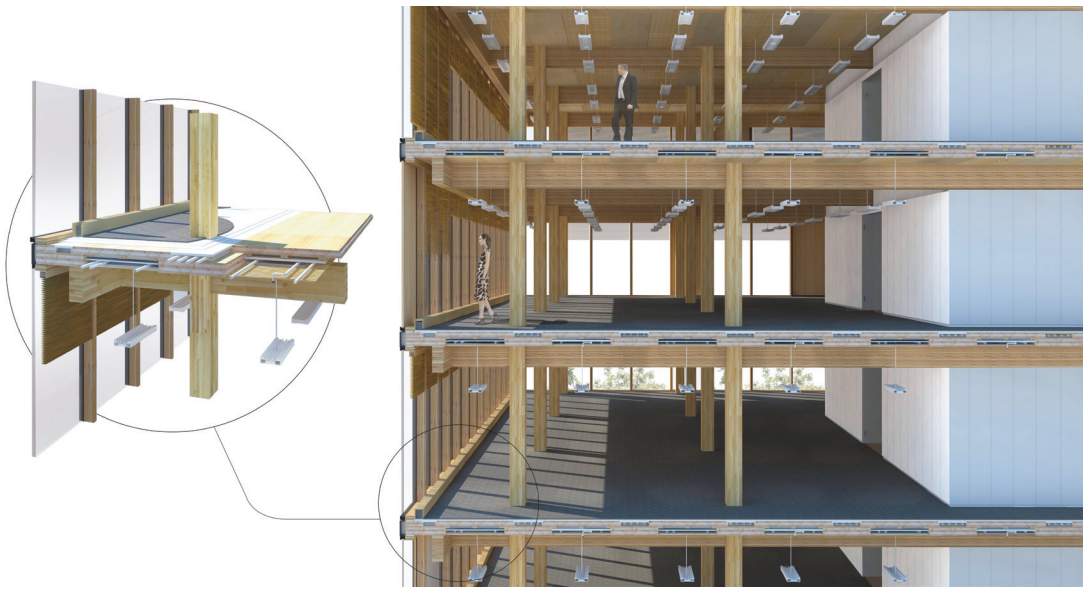
When British architects Waugh Thistleton set out to build the Stadthaus building, now called the Graphite Apartments, in the east London borough of Hackney, they weren't stacking two-by-fours.

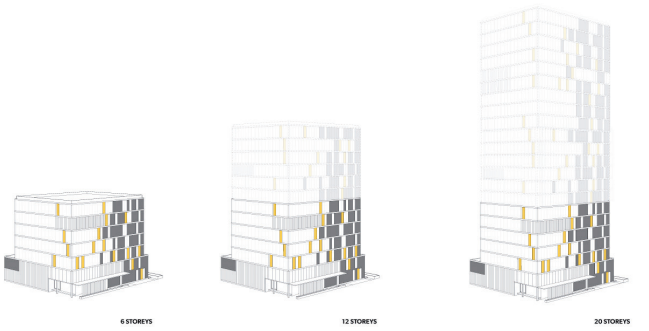
Apart from a reinforced concrete plinth and fiber-cement facade panels, the entire building is made from cross-laminated timber (CLT). Essentially huge wood sections that behave like shear walls, CLT panels were the first in a series of material advances that opened up design possibilities for tall timber. Manufacturers like KLH Massivholz in Austria, where 80 percent of CLT is still made, pile up sheets of wood at 90-degree angels and paste or glue them together into something resembling a jumbo piece of plywood.

"Our biggest job talking to code officials and the fire department was making sure they distinguished between stick-frame and CLT," said principal Andrew Waugh. "You're dealing with a more solid robust material. With a stick-frame system you're relying on the guy on site."

CLT is assembled in the factory, which cuts down on construction errors and time. The Graphite Apartments, a nine-story mixed-use building, was built in just under one year—months less than expected.

COURTESY MGA





COURTESY MGA

Facing page and above: Michael Green Architect designed the all timber Wood Innovation Design Center with a charred wood facade. It uses cross laminated timber and is designed for possible future expansion.

Below: Whitemore Road, a multi-story project also using cross-laminated timber, was designed by Waugh Thistelton.

A layer of drywall over the thick CLT panels helped the structure earn a fire resistance rating between 60 and 90 minutes, passing code. Heavy timber and cross-laminated timber actually have built-in fire protection; dense wood will burn slowly, charring instead of catching fire all at once. Part of bringing a wood building up to code is providing enough wood so that even after fire produces a "char layer," there is still enough left to support the structure.

On Green's forthcoming Wood Innovation Design Center in Vancouver, a pre-charred cedar exterior dramatically improved its fire rating.

Acoustics, another traditional failing of wood construction, is also heartier in CLT towers. An air gap, compressed insulation, and a floor slab totaling about 14 inches overall helped the Graphite Apartments meet stringent UK acoustics requirements.

CLT is not produced in the U.S., nor are newer iterations of high-rise-ready timber panels, like laminated strand lumber (LSL) or laminated veneer lumber (LVL). But as more high-rises are built with wood, Waugh hopes his firm will find a U.S. client.

"The more you build with timber, the more you realize how steeped in concrete we really are," he said. "It's still a relatively conservative industry, the construction industry, but when contractors build one they want to build more."

Waugh built his own CLT home with three friends. He said the wood imparts an emotional value. "It's a beautiful place to live. You know you're living in a space captured by a natural material."

Timber towers

Michael Green, Waugh Thistleton, and several European firms—Berg | C.F. Møller Architects and Dinell Johansson have proposed a 34-story "ultra-modern residential high-rise building" for Stockholm—are the face of the timber tower movement, but they recently added a company from the old guard of skyscraper design to their ranks: Skidmore, Owings & Merrill.

When SOM engineers first floated the idea of a 20-story wood tower, one partner's response wasn't the skepticism one might expect from a master of steel-and-concrete structural systems. "Do 30," he reportedly told them.

"It's a high standard. We wanted to set a high benchmark," SOM's Bill Baker told *AN*. They chose the 1965 DeWitt-Chestnut Apartment Building in Chicago as their standard, the first building in the world to use the "framed tube" structural system devised by SOM engineer Fazlur Khan.

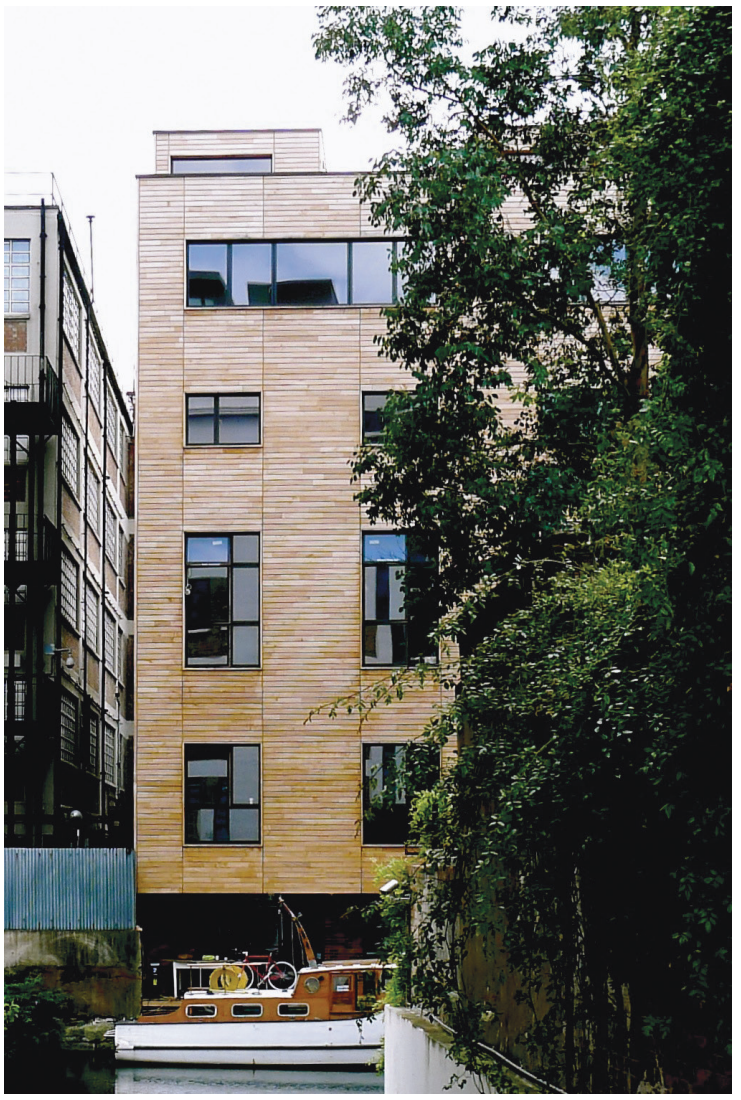
"We wanted to show not just that it was possible," said SOM's Benton Johnson, "but make it competitive with concrete."

The prototype isn't pure wood. A concrete core and joints mean the system uses about one quarter as much concrete as the actual Dewitt-Chestnut. Structural steel anchors the building at its base, using about 15 percent as much steel as a typical composite system.

SOM's report examined five schemes with varying amounts of timber, steel, and concrete, trying to replicate the landmark building's structure. They focused on reducing the weight of the floors, where most of the material weight is contained. Wood high-rises already built in Europe, such as the Graphite Apartments in London, use a lot of load-bearing walls to hold up the structure. But that would limit the building owner's options for renters, Johnson said, as would the immovable columns placed throughout.

To make the Dewitt-Chestnut system work without drastically shrinking the floorplate or beefing up the structural system, SOM zeroed in on what engineers call the boundary condition—its mathematical pressure point. To illustrate, Johnson built two stacks of tile samples and placed a ruler on top to span the distance between. He balanced a can of soda water on the ruler, the building's floor in this example. The ruler bowed beneath its weight, but its edges also flared up, making a slight u-shape. But with a few more tiles placed on each stack to pin down the ruler, it held its shape.

In his example, the ruler is a solid timber floor, while the tile stacks are reinforced concrete wall joints and beams. Without concrete,



COURTESY SASAKI ASSOCIATES

Above and below: SOM's proposal for a 40-story timber tower with a concrete core is based on a structural system designed by Fazlur Kahn in 1965.

SOM's engineers determined the Dewitt-Chestnut would need custom 13.5-inch CLT panels to support the floorplate's core-to-window span. That would be too expensive and would use more material in just the floors than the whole of the original building.

"It just started solving all these problems for us," Johnson said. "You have the concrete to hold it all together—basically all this timber coming together and concrete sealing it at the joints."

It would take about 12 million cubic yards of timber to build, the report estimated—less than one-hundredth of one percent of the annual North American timber harvest.

Scaling back

Even if engineers can solve these problems, there is still a stigma involved with tall wood structures. Antony Wood, executive director of the Council on Tall Buildings and Urban Habitat, counted timber towers among the "quiet revolutions" happening in tall building design.

"I think the fear of timber is that it's an organic material," he said. "It's not manufactured to provide a structural member like steel or concrete is."

Wood rots, so it must be kept out of the rain. SOM's system swaps wood for a steel frame at the building's base to prevent water damage during flooding.

Most critics worry about fire. Tall timber skeptics seized on a structural fire at the job site of a six-story wood building in Richmond, British Columbia, in 2011. In the city just south of Vancouver, what would have been the first wood-frame six-story building in Canada burned to the ground on May 3. Steel companies were quick to blame the wood frame's flammability. But Canadian Wood Council President Michael Giroux pushed back, noting the construction team hadn't yet installed safety features, including fire sprinklers.

"To suggest that the outcome of the May 3 fire at the Remy project in Richmond would have been the same if the building had been fully completed, is not plausible," he wrote.

Even tall timber's champions concede the material isn't suitable for super-tall buildings. But they say building codes, which in many places restrict wood to only low-rise construction, isn't up to date with structural engineering advancements.

"It's time to reconvene and reconsider what we're doing," Waugh said. "We need to densify our cities to leave ground for agriculture and wildlife. Condensed cities are much more efficient places. But I don't think these Babel-sized towers are the way."

And some go as far as to say the threat of climate change means wood high-rises are our only choice.

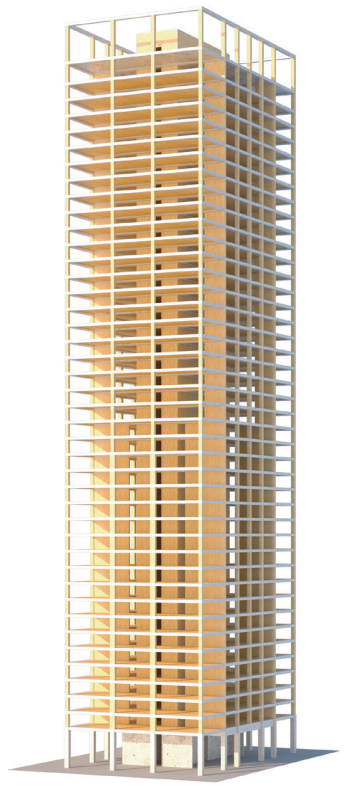
Wood world

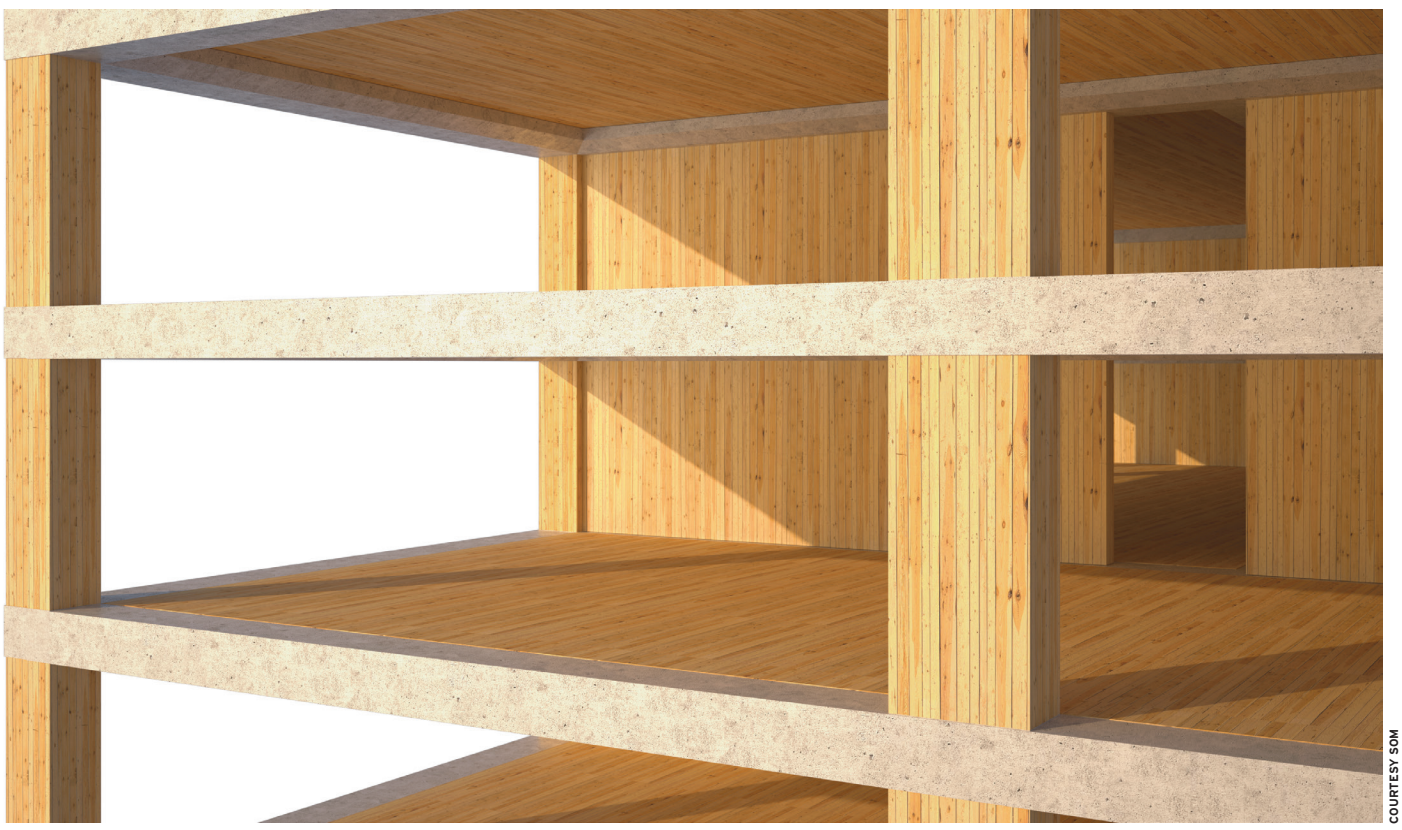
In 2009, the government of British Columbia endorsed a "culture of wood," requiring designers of public buildings to prove they can not use wood before considering other materials. With millions of acres of forests in the U.S. and Canada devastated by mountain pine beetles, it was a prudent move for a province home to one of the world's busiest forestry sectors.

But if wood construction is going to take off on the scale envisioned by its pioneering architects, Michael Green said, the "wood first" policy will have to become "carbon first."

"We need to create incentives around climate change instead of seeing it all as a hindrance," he told *AN*. "Let all industries benefit—it allows the concrete and steel industries to make their case. By no means is one exclusive of the other. Let's use all materials where it's most appropriate."

While at MGB (mcfarlane green biggar ARCHITECTURE + DESIGN), Green released an open source platform for wood tower construction—a structural system to engineer tall buildings 12, 20, or 30 stories high. Several iterations later, his wood-based structural systems have started a conversation





COURTESY SOM

in Vancouver, where he is based.

Green said the warmth of wood interiors and scaling back the height of buildings could help solve another problem of modern high-rise construction: social sustainability. Whereas many residential skyscrapers are isolating, new typologies developed with wood in mind—not traditional forms grafted onto wood frames—could change the mindset.

As with British Columbia's "wood first" policy, the UK's performance-based code has created an opportunity for timber construction, while U.S. code remains constrictive. But it wasn't novelty that ultimately built Waugh Thistleton's Graphite Apartments. At a cost of about $2,200 per square foot, the building was 15 percent cheaper than if it had been made from concrete.

By 2050, concrete use is predicted to reach four times its 1990 level. And production of steel and concrete are on track to balloon, eclipsing advances in recycling and materials science that could shrink their carbon footprints.

"We need to really hit reboot on how we build environments," Green said. "As architects we owe it to ourselves to push these boundaries."

CHRIS BENTLY IS *AN*'S MIDWEST EDITOR

Below: A proposal for a 34-story residential tower for Stockholm by Berg | C.F. Mollar Architects and Dinell Johansson.

Bottom: The architects believe that all wood interiors are more inviting than those in similar steel and concrete structures.

COURTESY BERG | C.F. MOLLAR ARCHITECTS AND DINELL JOHANSSON

OCTOBER/NOVEMBER 2013

OCTOBER

TUESDAY 10
LECTURE
Historic Pullman Facade Legacy Project
12:00 p.m.
AIA Chicago
35 East Wacker Dr., #250
Chicago
aiachicago.org

FRIDAY 11
EVENTS
AIA Northern Minnesota Dinner Cruise & Guest Speaker
Duluth Seaway Port Authority
Time TBD
1200 Port Terminal Rd.
Duluth, MN
aia-mn.org

Sam Green and Yo La Tengo
7:00 p.m. and 9:30 p.m.
Walker Art Center,
McGuire Theater
1750 Hennepin Ave.
Minneapolis
walkerart.org

EXHIBITION OPENING
Thomas Sully: Painted Performance
Milwaukee Art Museum
700 North Art Museum Dr.
Milwaukee, WI
mam.org

LECTURE
Graham S. Wyatt—Buildings and Brands: The Architectural Imagery of American Campuses
2:30 p.m.
University of Kentucky
College of Design
209 Pence Hall
Lexington, KY
Uky.edu

SUNDAY 13
EXHIBITION CLOSING
Michigan Modern: Design that Shaped America
Cranbrook Art Museum,
Upper Galleries
39221 Woodward Ave.
Bloomfield Hills, MI
cranbrookart.edu

MONDAY 14
SYMPOSIUM
Building the 22nd Century
University of Nebraska-Lincoln
Century Link Convention Center
455 North Tenth St.
Omaha, NE
engineering.unl.edu

TUESDAY 15
SYMPOSIUM
Incorporating Energy Modeling into Firm Culture
5:30 p.m.
AIA Chicago
35 East Wacker Dr., #250
Chicago
aiachicago.org

LECTURE
2013 Pritzker Prize Winner Toyo Ito Presents "Architecture After 3.11, The Butler-VanderLinden Lecture on Architecture"
6:00 p.m.
The Art Institute of Chicago, Rubloff Auditorium
230 South Columbus Dr.
Chicago
artic.edu

THURSDAY 17
EVENT
Site Cast Tilt-Up Concrete Construction: A Real Energy Envelope Solution
12:00 p.m.
AIA Kansas City Office
1801 McGee St., Ste. 100
Kansas City
aiakc.org

FILM
Mobile Homestead
7:00 p.m.
Detroit Institute of Arts
5200 Woodward Ave.
Detroit
dia.org

FRIDAY 18
LECTURE
Marshall Brown: The Speculative City
6:00 p.m.
Taubman College, University of Michigan
Art + Architecture Auditorium
2000 Bonisteel Blvd.
Ann Arbor, MI
taubmancollege.umich.edu

EXHIBITION OPENING
Sarah Ann and Andy Sturdevant
Minneapolis Institute of Arts, MAEP Galleries
2400 Third Ave. South
Minneapolis
artsmia.org

SATURDAY 19
EVENT
Open House Chicago
9:00 a.m.
Chicago Architecture Foundation
224 South Michigan Ave.
Chicago
openhousechicago.org

SUNDAY 20
EXHIBITION OPENING
Dreams and Echoes: Drawings and Sculpture in the David and Celia Hilliard Collection
The Art Institute of Chicago
111 South Michigan Ave.
Galleries 124–127
Chicago
artic.edu

TUESDAY 22
LECTURE
The Architecture of Benjamin Marshall
Glessner House Museum
1800 South Prairie Ave.
Chicago
Glessnerhouse.org

THURSDAY 24
EXHIBITION OPENING
9 Artists
Walker Art Center
1750 Hennepin Ave.
Minneapolis
walkerart.org

THURSDAY 25
EXHIBITION OPENING
Monumental Works by El Anatsui
Des Moines Art Center
Anna K. Meredith Gallery, I.M. Pei Building and Richard Meier Building
4700 Grand Ave.
Des Moines
desmoinesartcenter.org

THURSDAY 24
CONVENTION
2013 Central States Region Convention & AIA Oklahoma Convention
The Skirvin Hilton Hotel
1 Park Ave.
Oklahoma City
aiaok.org

TOUR
Glessner House Museum, Its Past and Present
6:00 p.m.
Glessner House Museum
1800 South Prairie Ave.
Chicago
aiachicago.org

FRIDAY 25
Exhibition Opening Foto Europa, 1840 to the Present
Detroit Institute of Arts
5200 Woodward Ave.
Detroit
dia.org

FRIDAY 25
EVENT
Designight: 58th Annual Design Excellence Awards
5:30 p.m.
Navy Pier, Grand Ballroom
600 East Grand Ave.
Chicago
aiachicago.org

TUESDAY 29
WORKSHOP
Innovative Solutions for Designing Net-Zero Buildings
8:15 a.m.
AIA Chicago
35 East Wacker Dr., #250
Chicago
aiachicago.org

Working with a Green Architect
6:00 p.m.
Chicago Center for Green Technology
445 North Sacramento Blvd.
Chicago
chicagogreentech.org

WEDNESDAY 30
LECTURE
STEM to STEAM Program: Rachel Armstrong Talk
7:00 p.m.
Indianapolis Museum of Art
4000 Michigan Rd.
Indianapolis
imamuseum.org

THURSDAY 31
EVENT
Laser Scanning Overview and Project Considerations
12:00 p.m.
AIA Kansas City Office
1801 McGee St., Ste. 100
Kansas City
aiakc.org

EXHIBITION OPENING
When the Greeks Ruled: Egypt after Alexander the Great
The Art Institute of Chicago
111 South Michigan Ave.
Gallery 154
Chicago
artic.edu

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NOVEMBER

FRIDAY 1
EVENT
Planning in a "Post-Racial" Society [?]: New Directions and Challenges
9:00 a.m.
University of Michigan Museum of Art
525 South State St.
Ann Arbor
caup.umich.edu

TOUR
Lilly House Tour
2:00 p.m.
Indianapolis Museum of Art
4000 Michigan Rd.
Indianapolis
imamuseum.org

EXHIBITION OPENING
Michelle Grabner: I Work From Home
Museum of Contemporary Art Cleveland
11400 Euclid Ave.
Cleveland
mocacleveland.org

SATURDAY 2
EVENTS
ArchiCulture: Film, Discussion, Reception
6:30 p.m.
Art Institute of Chicago, SAIC, Columbus Drive Auditorium
280 South Columbus Dr.
Chicago
artic.edu

Crandemonium: A Benefit for Cranbrook Art Museum
7:00 p.m.
Cranbrook Art Museum
39221 Woodward Ave.
Bloomfield Hills, MI
cranbrookart.edu

Saturday Studio: Lighting Design 2.0
10:00 a.m.
Chicago Architecture Foundation
224 South Michigan Ave.
Chicago
architecture.org

TUESDAY 5
LECTURE
Integrative Design: Towards Whole Systems Thinking
5:30 p.m.
Arts Club of Chicago
201 East Ontario St., Chicago
artsclubchicago.org

WEDNESDAY 6
EVENT
The Shades of Green
6:30 p.m.
Masonry Institute
1429 South Big Bend Blvd.
St. Louis
aia-stlouis.org

THURSDAY 7
EVENT
CTBUH Awards Symposium, Ceremony & Dinner
10:00 a.m.
Illinois Institute of Technology
Hermann Hall Auditorium & S.R. Crown Hall
Chicago
ctbuh.org

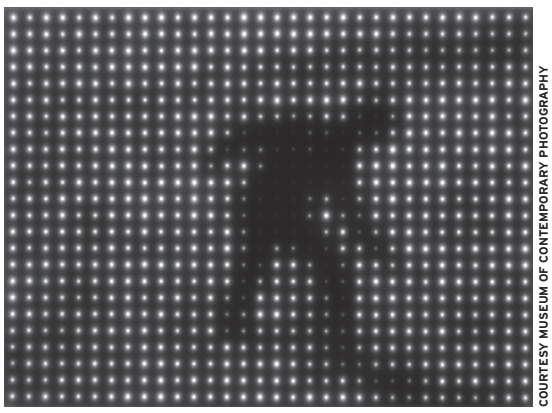
EXHIBITION OPENING
Currents 36: Dirk Skreber
Milwaukee Art Museum
700 North Art Museum Dr.
Milwaukee
mam.org

JENNIFER STEINKAMP

JENNIFER STEINKAMP: STREET VIEWS

Contemporary Art Museum St. Louis
3750 Washington Blvd, St. Louis, MO
October 11 to December 23

On October 11th, The Contemporary Art Museum of St. Louis will inaugurate *Street Views*, an exhibition featuring a series of works by digital installation media artist Jennifer Steinkamp. As part of the 10th anniversary of CAM's building, the museum will be turned inside out, as its exterior will be transformed into a gallery with large-scale video art being projected onto its facade. Through the use of powerful projectors and intricate computer algorithms, Steinkamp will transform the museum's metallic and concrete structure into a dynamic garden capturing a mesmerizing natural environment. Her utilization of video and new media enables the viewer to explore different ideas about architecture, design, motion, and interpretation. The use of vernacular imagery conveys the power of nature and enables visitors to perceive the building through a different lens, thus providing them with a new synaesthetic experience. This innovative outdoor moving image series strikes a balance between the natural landscape and computer-generated imagery. By transforming CAM's building into a compelling projection screen, Steinkamp brings digital media into the mainstream of contemporary art.



COURTESY MUSEUM OF CONTEMPORARY PHOTOGRAPHY

OF WALKING

Museum of Contemporary Photography
660 South Michigan Avenue, Chicago, IL
Through December 20

The Museum of Contemporary Photography's exhibition *Of Walking* explores how the simple act of walking gives rise to countless intricate thoughts. Although walking may be perceived as one of mankind's most simple acts, it triggers a series of emotions and contemplations. *Of Walking* shows that it is not just about putting one foot in front of the other, nor is it solely the motion from point A to point B. The curators sought to demonstrate how the process of thinking is made possible by the act of walking. To illustrate this concept, the exhibition goes back to the history of photography by showcasing famous streetwalkers and photographers such as Eugène Atget and Garry Winogrand. It focuses on navigation through space to determine how walking becomes a foundation for the human thought process. As such, it looks at movements in the history of art that have addressed the act of walking, and the works of artists such as Sohei Nishino that have evoked how meanderings through the surrounding built environment provoke numerous feelings for the individual. Finally, the exhibition also features the works of artists who have looked at political and social situations through interactions and walks through various landscapes.

EVER HIGHER

Chicago Skyscrapers 1871–1934
By Thomas Leslie
University of Illinois Press, $39.95

Chicago's Merchandise Mart.

COURTESY THOMAS LESLIE

The steel-and-glass giants that populate Chicago's storied skyline have long been synonymous with giants of the architectural world. Our collective conscience, for the most part, recalls a litany of revered one-name wonders—Sullivan, Burnham, Holabird and Roche—whom we credit with delivering our soaring structural legacy to us on a neatly drafted platter. But, of course, the evolution of Chicago skyscrapers wasn't nearly so simple.

The penchant for building skyward in the late 19th and early 20th centuries was the result not only of innovative designers, but of strong currents of technological, economic, and social change. It seems a pretty obvious and practical thesis. But as Iowa State architecture professor Thomas Leslie demonstrates in his exhaustive new historical survey, *Chicago Skyscrapers 1871–1934*, it is actually a fact that has been traditionally left under-examined with the most influential authorities preferring instead to focus on the larger-than-life visionaries behind the buildings. Accordingly, Leslie's study looks to fill in the holes his predecessors, like scholar Carl Condit, left gaping—from reconstruction following the Great Fire of 1871 to the Great Depression of the 1930s.

It is a meticulous effort. Leslie fills his deceptively dense pages with the reverberating impact developments like iron-reinforced skeletal framing, increasingly efficient elevators, electric lighting, fireproofing, and a volatile economy had on the city architecturally. Iconic structures from Burnham & Root's 1882 Montauk Block to Howells and Hood's gothic 1925 Tribune Tower sprang forth in a trial-and-error manner, Leslie shows, as the building climate, available materials, and current technological advances aligned. When massive brick skyscrapers, for example, gave way to hybrids of skeletal metal and brick, as in Holabird & Roche's 1889 Tacoma building, the Tribune reported that Chicagoans had "an idea that it is a mere shell set up on pins, and that if two wide-awake blizzards should ever happen to meet in Chicago it would come down with a great flop from its high perch." That led the architects to create more substantive-looking buildings for their next projects. Illustrative instances like this are numerous in the book, likely too numerous for a casual reader, but they accomplish the author's goal of presenting a nuanced and collaborative Chicago architectural environment throughout these crucial decades.

Leslie's thorough and well-cited work, however, gets problematic in places where solid arguments are diluted with excessive supporting detail. Chapters, organized by periods of development, **continued on page 24**

Opening night of the Hirshhorn Museum, 1974.

COURTESY SMITHSONIAN INSTITUTION

Our Man In Washington

Capital Culture, J. Carter Brown, the National Gallery of Art, and the Reinvention of the Museum Experience
By Neil Harris
The University of Chicago Press, $35

In *Capital Culture, J. Carter Brown, the National Gallery of Art, and the Reinvention of the Museum Experience*, Neil Harris tells the story of the National Gallery of Art (NG)—briefly from its inauguration in 1941, and in fascinating detail through the directorship from 1969 to 1992 of J. Carter Brown. Under his leadership, the NG was transformed from a marginal institution with 800,000 annual visitors to a precursor of today's popularized art museum. Attendance for 2013 was estimated at 4,200,000.

Unsurprisingly, given the author's reputation, Harris uses the story of Brown's years at the NG to provide a social history of the period that traces the gradual loosening of control by the entrenched patricians (a recurring description) who dominated the capital's cultural institutions to a more meritocratic command. Even greater than the role of the Rockefeller family in founding and supporting New York City's Museum of Modern Art, was that of Andrew Mellon and his son, Paul, for the NG.

It is a measure of Washington's former provincialism that the original NG came into existence only in 1941, more than half a century after New York City's Metropolitan Museum, among others. Only in the 1970s did the success of the Kennedy Center (inaugurated in 1971), a revived theater and art scene, planning for the bicentennial, and new construction, restaurants, and hotels begin to put the city on a cultural par with New York.

Technically in charge of the NG and as important for the city, the Smithsonian Institution and the museums spun off from it (including the Renwick Gallery in Washington and the Cooper-Hewitt in New York) are also referred to. The similar social background and passionate entrepreneurship of the Smithsonian's most famous Secretary, Dr. Sidney Dillon Ripley II (from 1964 to 1984), make him an ideal counterpart to Brown. However the scant two chapters of the fifteen total that are devoted to this outstanding scholar and extraordinarily colorful personality hardly do him justice.

The book begins with a brief biography of Brown and his fabulously wealthy family: the eponymous university is among the many distinguished institutions they founded. The Browns are presented as American aristocrats whose wide-ranging social and political connections were the key to Carter's success in an era when what mattered most was who rather than what you knew. As Harris succinctly states, "Carter's most important special talents were the results of heredity and upbringing rather than higher education."

It is all the more intriguing that this ultimate elitist "reinvented the museum experience," transforming protected havens of scholarship into the entertainment destinations that were spawned around the globe by his blockbuster exhibitions.

Two of the director's most stunning successes in this respect, and richest in the author's behind-the-scene details and conclusions, were the *King Tut* exhibition (1976) and *Treasure Houses of Britain* (1985). Both were occasions for the "opulent entertaining"—elaborately catered for and often with mandatory white tie and honorary decorations—that Brown made into a hallmark of the Gallery.

Tut was museologically a landmark exhibition, inaugurating what Harris calls "one of the first truly imperial ventures in museum marketing" that has become a staple of museums worldwide. Thomas Hoving, then-director of the Metropolitan Museum, was in charge of merchandising that offered 450 saleable objects from postcards to full-scale replicas priced as high as $1,500. The Met's second place in the six-museum lineup for the show pointed up the growing rivalry between the two institutions (although the NG never attempted to achieve the universal status of the New York institution). Furthermore, repeatedly described as a "détente show," Tut was also among several museum exhibitions at this time that were criticized as American propaganda efforts.

Of all the spectacular exhibitions Brown organized, *Treasure Houses of Britain* was most perfectly attuned to his personality. No matter that many of the aristocrats with whom he dealt for loans haggled like fishmongers over what they would be given in return, he reveled in his dealings with the greatest names of the United Kingdom's former ruling class. Harris obviously had a field day **continued on page 24**

EVER HIGHER continued from page 23

which might have been sharp and concise feel tedious when weighed down with long lists of building names and surface level details as opposed to deeper analysis of a handful of projects per topic. The detours taken from anchor example A to anchor example B, while indeed illustrative of Leslie's points, make for a tiresome and unfortunately less effective journey.

While parts of the book could benefit from some streamlining, as a whole, Leslie presents a fascinating story, fleshed out by diagrams and historic photographs of a startling number of demolished-too-soon buildings that paved the way for the strong and eclectic skyline we know today. Chicago architects, Leslie writes, "changed their design approaches both incrementally and radically as improvements were tested and proven, and they were agile in adapting their sense of style to new materials or techniques." What emerged, and what Leslie offers here, was an approach "whose influence spread globally as a conceptual and aesthetic ideal."

GWENDOLYN PURDOM IS A WRITER AND PRODUCER FOR THE *CHICAGO TRIBUNE.*

Wrigley Building

Chicago Stock Exchange

COURTESY THOMAS LESLIE

OUR MAN IN WASHINGTON continued from page 23

researching these dealings. He discovered a letter from Brown to his dying mom in which he punctiliously included the exact titles of the lenders.

Full credit is given to Brown's ability to think up and doggedly pursue successful shows, as well as his keen instinct for promotion. The director's phenomenally successful screening at the NG of the 13 episodes of Kenneth Clark's "Civilization" television series is a striking example. The author doesn't stint however on the downside of these and Brown's other achievements.

From the beginning, the blockbusters were descried as "intellectually vacuous", and certainly many got higher marks as crowd pleasers than as scholarly accomplishments. Brown oversaw I. M. Pei's East Wing expansion of the museum (1978), but a measure of the Gallery's priorities under him is the ungenerous exhibition spaces in the addition compared with the huge atrium in which elaborate fund-raising events fare better than the mediocre art commissioned for it. The atrium set an unfortunate precedent for many subsequent museums.

Harris also notes that Brown was never very successful at acquisitions despite his efforts at what he called "stalking the prey." And finally, Brown's thirty years as chairman of the capital's Fine Arts Commission (1971–2002) saw mixed results. While his role in enabling the construction of Maya Lin's controversial Vietnam War Memorial is laudable, a great many mediocre buildings were built under his tenure (among them the Rayburn Building, the Watergate complex, and the D.C. Convention Center).

COURTESY SMITHSONIAN INSTITUTION

Dylan Ripley, director of Yale's Peabody Museum with Dale Parsons in 1954.

The author skillfully exploits the personalities of those involved with the NG in addition to Brown to evoke its history. Nowhere is this better exemplified than in "Trouble in Paradise," a chapter describing Paul Mellon's summary embargo on conservation in 1977. Reputed to be self-effacing, Mellon reveals a very different side of his nature and his relationship to the museum in this story. Thanks to similar episodes, the book is constantly revealing, entertaining, and often very amusing.

VICTORIA NEWHOUSE IS AN ARCHITECTURAL HISTORIAN AND WRITER. HER MOST RECENT BOOK IS *SITE AND SOUND: THE ARCHITECTURE AND ACOUSTICS OF NEW OPERA HOUSES AND CONCERT HALLS* PUBLISHED BY THE MONACELLI PRESS.

COURTESY SHANKAR NAIR

Tall Talk With Shankar Nair

Talk about lofty ideas. Chicago-based Shankar Nair, senior vice president at exp US Services, and former chairman at the Council on Tall Buildings and Urban Habitat, has spent his career looking up—that is, working as a structural engineer, researcher, author, and lecturer with an expertise in skyscrapers and, in recent years, super skyscrapers. As towering buildings like Dubai's Burj Khalifa keep climbing toward the sky, Gwendolyn Purdom caught up with Nair to talk about where architecture has left to go if it turns out the sky's not the limit after all.

Gwendolyn Purdom: How would you say skyscraper design specifically has changed in your more than 40 years in this field?

Shankar Nair: In the 60s and 70s, any building more than about 30 stories was a very big deal. Now, buildings up to 60 to 70 are quite routine. In fact, it used to be that the structural engineer was the central player in the design of skyscrapers because getting the building to stand up at that height was something that was fairly difficult with the technology of the time. It's not that the technology didn't exist, it's just that it hadn't been done very much. Now anything the architect and the owner want to do, we can make it work.

You have given lectures on findings you've calculated on what is possible, though not necessarily plausible, in skyscraper design and construction. Tell me a little about that and how that research came about.

Research may be too strong a word for what I've done, but I have brought some analogies and I have enough experience in this area that I can make some fairly good predictions and projections. But I use that knowledge, and those silly, brief calculations, to find out how tall could we go in a building with today's technology. That means, with today's massive analysis and design, and today's materials, and with enough space left inside for things other than the columns and walls, for the building to be useful.

So with all that, I was able to come up with some fairly approximate limits to how tall we could go in steel and concrete, again, using today's materials, not some exotic material that no one has invented yet. And the different shapes: the building going straight up and down is the most challenging, because that puts the biggest loads on the base of the building. And then if it's tapered, then we can go even taller. Because as you go up, the area that gets exposed to the wind gets to be less, which helps, and also the weight to be supported gets less as you go up because the floors are getting smaller. And with all that I found you can go several miles tall, in both steel and concrete. But again, this is with today's technology.

But you've said that's probably not plausible.

That is right for several reasons. One is, will there ever be a demand for something like that? I've found that a building at the limit of what can be done structurally would have some 60 billion square feet of floor area, and would cost much more than the GDP of this country. So, no one would want to put that investment in one building anytime soon, so there's certainly not going to be a demand for it. And then, when I say that this kind of building is possible structurally, that doesn't mean that it's possible from other points of view. Getting in and out, evacuation, mechanical systems—you'd need pressurization providing air to people up there, of course, because this is up above the range that aircraft fly. All kinds of technologies get involved. So the point is the structure is not the limit. The structure is the simplest thing to design in something that tall.

It seems like buildings keep getting taller and taller. Where do you think the cut off would be and why?

Let us assume that we stay with our way of living, meaning people don't spend their whole lives in a building. They go in and out every day, because they don't live and work and shop and play and all that in the same building. They use a building only for one of those uses. That means at least once a day you have to go in and out. And, given that constraint, and given the fact that elevators cannot go faster than a certain speed, that's going to limit height to not much taller than where we are today. A few years ago, I thought the limit might have been well below Burj Khalifa, I thought it would have been around 2000 feet, but a building like Burj stretches the limit. Because, for one thing, it is so sharply tapered. There's so little space at the top that the elevator demand becomes much less.

Now if it went straight up and down, so that whatever the size was at the base carried that all the way up to the 2,600 feet or so that that building is, then to serve all that space you would need a huge amount of elevator capacity. The building would be pretty much full of elevators which wouldn't make sense. And, in fact, in these large buildings a large part of the top is both very skinny and often unoccupied, it might be just decorative. The other limit right now I would say is usefulness.

How did these calculations come about?

I got interested in this when I was chairman of the Council on Tall Buildings in 1997 to 2001. In fact, my term ended just before 9/11. But one of the questions people asked the chairman of the council was how tall can buildings go. So, I did some numbers then and I've kept them updated over the years.

What do you think fascinates people so much about supertall skyscrapers?

It's just the idea of size and height. People like records, which can be good and bad. And people like to make a statement—owners, designers, and maybe even countries. There was a time when some people and companies in the U.S. tried to show their power and strength by building tall. Like the Sears Tower had the company's name on it when it was the tallest in the world. But then, in the 1970s and 80s, the style here changed where the companies were no longer making big statements like that. They wanted to show that they treaded more lightly on the earth, and they weren't that oppressive. So, for instance, Sears moved into the suburbs into low-rise buildings. And so that's been the passing in the U.S. In Asia, on the other hand, they are where we might have been a generation ago, where some of the newly developing countries there still using their ability to build very tall skyscrapers as a calling card. They have arrived.

Once we do reach this height limit, how do you think skyscrapers will evolve? How will they out-do each other when they can't go higher?

They might try to get greener. In the U.S., we don't make any serious effort, for instance, towards having tall buildings be naturally ventilated. And in Europe, there are some tall buildings that are naturally ventilated for at least part of the year. I can see more progress in that direction, toward being more environmentally friendly, and more livable. And the limits that I talked about of around 3,000 feet, again, that assumes that each building is stand-alone. If you had a whole cluster of buildings with connections at different levels and so on, then the limit gets a little higher, as you wouldn't have to come all the way to the ground everyday. You might live on the 200th floor and work on the 200th floor of a different building and go directly across from one to the other.

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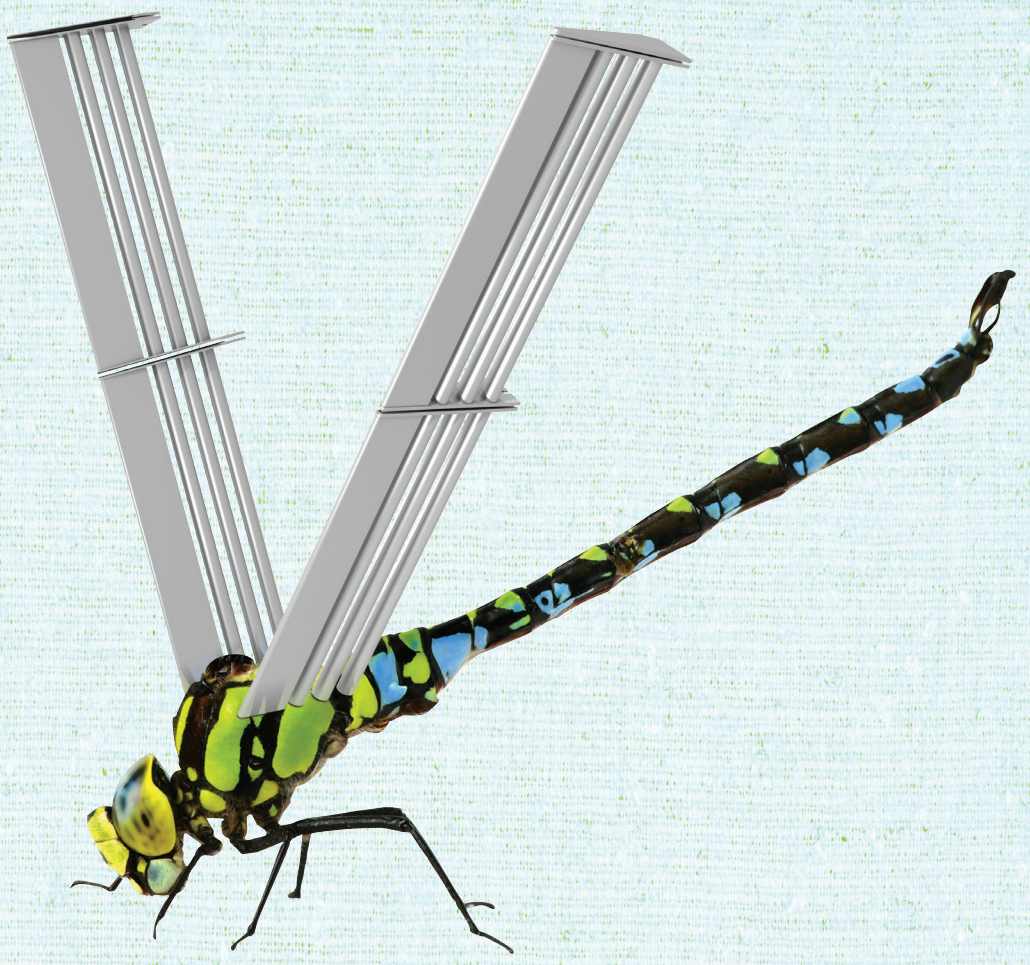

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