

JAN 2011 / VOL 101 NO 1
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LANDSCAPE ARCHITECTURE MAGAZINE

THE MAGAZINE OF THE AMERICAN
SOCIETY OF LANDSCAPE ARCHITECTS

BIG CHANGE!

Welcome to the new LAM

LAND IN THE ARTSCAPE

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DON'T JUMP

The fencing off of
Ithaca's iconic gorges

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How college and university
clients are muddling through



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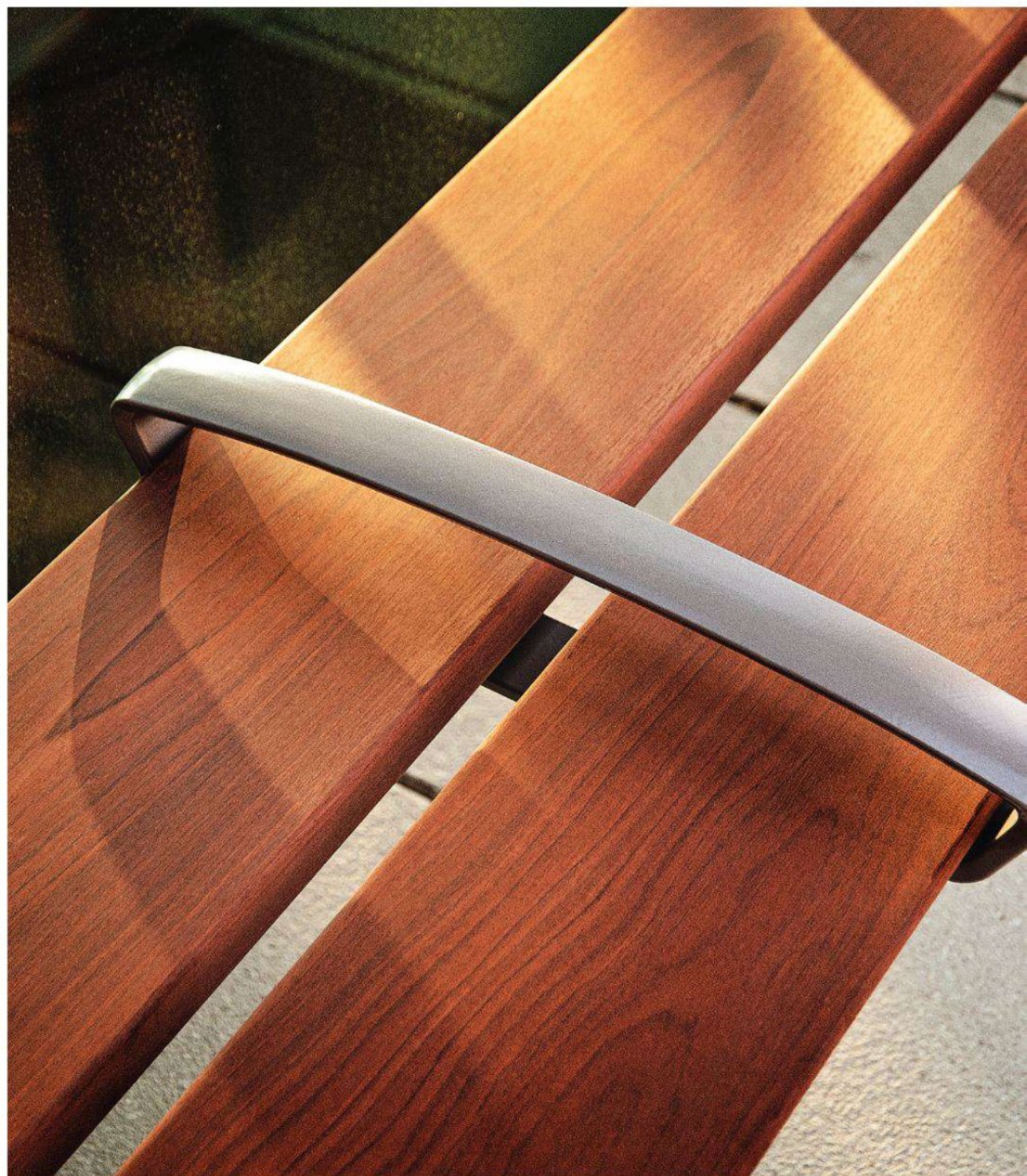
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A rooftop terrace featuring a white hot tub set into a wooden deck. To the left, a set of wooden stairs with light blue treads leads down. A wooden fence runs across the middle ground, and a large green bush is on the right. In the background, a dense city skyline is visible under a cloudy sky. A small tree is on the far left, and a planter with green plants is in the bottom left corner.

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The wisdom of walkable schools is sinking in; now you can buy a piece of Bryant Park; a new green roof for Toronto's government; shivering on the Bermuda grass; "forest bathing" in Japan; a new route from turf to surf in SoCal; and an agave in Chicago stages a breakout.

EDITED BY LINDA MCINTYRE

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With SketchUp models, Shaderlight rendering software can give you quick, easy project images on a small budget.

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These swish new outdoor furniture and fixtures will make your residential clients think twice before leaving home.

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Pretty Big Dirt

Under the hand of Krent Wieland, ASLA, these 20 shabby acres around a new house in Florida sure cleaned up nice.

BY BETH DUNLOP



“THERE ARE LOTS OF COLLECTIONS WITHOUT OUR RELATIONSHIP TO THE LAND.”

—DANIEL GOTTLIEB, DIRECTOR OF PLANNING AND DESIGN, NORTH CAROLINA MUSEUM OF ART, P. 85

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The North Carolina Museum of Art has an icy new Thomas Phifer building. Lappas + Havener bring to it a new landscape where the moods run from stark to pastoral.

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Riddles, polemic, and glamour mingle in the artist Robert Irwin's new Palm Garden at the Los Angeles County Museum of Art. ValleyCrest does a lot of the heavy lifting.

BY JENNIFER ZELL, ASLA

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The late landscape architect Ed Blake looked and listened carefully to the land at his new park for the Indianapolis Museum of Art. His response is as subtle as what he saw and heard.

BY FRANK EDGERTON MARTIN

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A perplexing dilemma confronts the Cornell University community after multiple suicides into Ithaca's iconic gorges. For some officials, fencing off these landscapes seems to be the way to prevent more deaths. But others say you can't prove a negative.

BY DANIEL JOST, ASLA

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Nature Is Dead: Long Live Design

Consumers typically mistake cultivated landscapes for virgin ones, and for that, landscape architects can thank themselves.

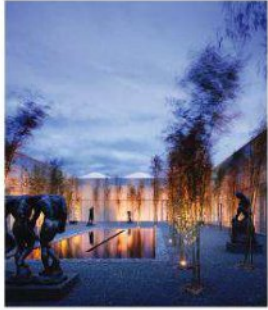
BY RENÉ BIHAN

IMAGE CREDIT

Scott Frances

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THE MAGAZINE OF THE AMERICAN
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ON THE COVER

The Cantor Court and
its Rodins at the North
Carolina Museum of Art
in Raleigh, page 72.

IMAGE CREDIT

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ZING IN THE NEW

So, as you can see, we've made a few changes here at *LAM*—the cover, the size, the paper stock. Honestly, pretty much everything else is different, too. We have fresh typography and a new kit of parts for presenting words and images. Gorgeous white space is built into our redesign; you don't usually notice white space until you don't have it, and when you do have it, it shapes the way you see everything else. But we didn't want just a new magazine design. We want a magazine where the look and the meaning together express the dynamism, the huge potential, and the discovery that thrives in landscape architecture today. And what better time to shed *LAM*'s old skin, which it had worn since the mid-1990s, than at the start of its second century of publication?

Change is so much fun! And necessary at times. *LAM* has gone through many different designs, especially since the 1960s—looking back, there are times when you can hardly keep track of them. Any design changes over time, but a magazine should really get a whole new outfit every five to seven years, if only to remind us how much we evolve, along with everything around us, without even noticing it much from day to year.

When we put out a call for designers last summer, we asked for a design that would be contemporary, classic, simple, and, most of all,

THE MAGAZINE HAS A NEW STRUCTURE AND RHYTHM—A MORE CLEARLY DEFINED BEGINNING, MIDDLE, AND END.

flexible, so we could keep shaking things up within the same basic, rational framework. We asked four excellent design offices for proposals and unanimously chose Design Army, a nine-person studio here in Washington founded by the husband-and-wife team of Jake Lefebure and Pum Lefebure. We loved the humor and adventure in their work for clients such as Chronicle Books, *CRIT* magazine, the University of Virginia, and *Washingtonian* magazine. Originality and intuition are baked into everything they do. In one meeting, Pum described, in passing, a conversation she'd had with Eric Rohter, the lead designer for this project, about refining the treatment of the glorious forest photograph that opens the feature on Ed Blake's

work in Indianapolis. "I told him, 'I don't hear the birds,'" she said. "I want to hear the birds." (You can learn more about our design on page 14. You can hear the birds on page 99.)

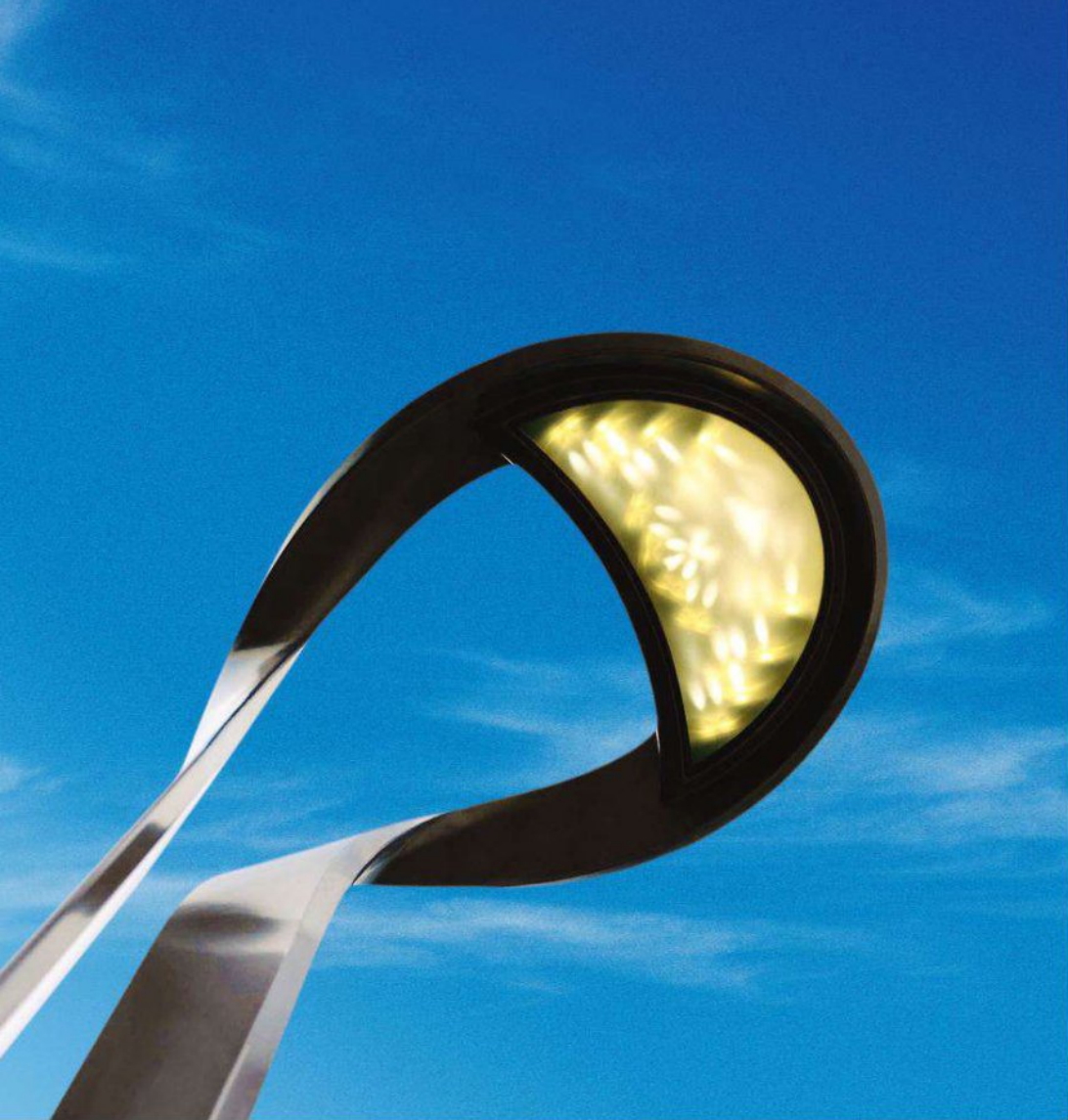
The look of *LAM* is changing, but so are the structure, rhythm, and the content itself. The magazine now has a clearly defined beginning, middle, and end. The first section, Foreground, will have stuff we think you should read sooner rather than later; to start, we've changed the old Riprap section and renamed it Now, and we're following it up with topical departments full of the nutritious practical coverage you need to help you navigate the business of landscape architecture. Our middle section, Features, will have people, projects, and ideas that are driving the discipline onward, and we want those pieces to be more visually reflective of their content. The final section is called The Back, and that's where we'll cover books and research, as always, but also in the coming months, history, education, ethics, and other kinds of brain food. And on the final page, we still have opinion essays by guest contributors, though we're now calling that page Forward, to frame it as a statement of where landscape architecture ought to be going. We invite you to contribute your ideas, 800 words maximum.

A good magazine for working designers should be both practical and aspirational. Since I arrived here eight months ago, I've been impressed by the breadth of many of our readers' interests and also amused by the chauvinisms of others. I've heard from readers who feel emasculated at the sight of perennials, depressed by the topic of pollution, bored by planning, and skeptical of theory. At *LAM*, we like

it if it's good, and if our readers make it part of their work, it's probably suitable for broadcasting. The intrigue of landscape architecture lies not in its limits but in its possibilities, whether in a small, mysterious garden, a big city (bursting or shrinking), or a whole wetland, forest, or prairie somewhere. We want to bring on all of it. So enjoy the issue and, please, let us know what you think. Happy New Year!



BRADFORD MCKEE
EDITOR



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FLORIDA UPDATE

Hats off to the 2010, 2009, and 2008 Florida Chapter presidents, Kenn Bates, ASLA, E. J. Bolduc, ASLA, and Dana Worthington, ASLA, for leading, educating, and participating in the recent state constitution Amendment 4 debate that was discussed in the November Land Matters column. These chapter officers understand the responsibilities and realities of being part of a nearly invisible and mostly unknown regulated profession, they are knowledgeable and engaged in developing public policy, they are recognized and respected by elected and appointed officials, and they are role models for other members of the profession. As they often do when it matters most, my chapter presidents showed genuine interest in and enthusiasm for the chapter government affairs committee charged with developing and implementing member advocacy programs.

As a storm of controversy swirled over Florida, Shawn Kalbli, ASLA, Patrick Hodges, ASLA, and Paul Kissinger, FASLA, used up minutes and gave up evenings, weekends, and noontimes to remain in close communication, ruminating over a “sort of ick” position statement on the Hometown Democracy referendum. Before publicly aligning the chapter with organized opposition to this “phony-populist” amendment, executive committee members deliberated within their own minds and across the table, phone, and Internet. The spirit and nature of the dialogue was true to the mission of the society. Though many Florida members remained noncommittal or elected to support the referendum, the chapter afforded each member opportunities to become better informed on both sides of the issue, to be heard above the noise, and to influence the outcome on November 2.

JEFF CASTER, FASLA
TALLAHASSEE, FLORIDA

RED FLAG PLANT

I just wanted to mention that the plant list for “Dune Not Disturbed” (November) lists *Elaeagnus angustifolia*—Russian olive—as a shrub used in the landscape. In the southern United States Russian olive is a serious invasive pest. Please caution readers not to specify it in this part of the country. Thank you.

CLAUDIA RAINEY, ASSOCIATE ASLA
SUMTER, SOUTH CAROLINA

I have to say the article “Dune Not Disturbed” is very intriguing and conceptually a great piece. Something caught our eye, though, here in our office. On page 36, where the article posts the plant list chosen for this very sensitive ecosystem, the first tree on the list is an *Elaeagnus angustifolia* (Russian olive). Wow, Russian olive! This tree must be on every state’s noxious weed list. It is for a fact on New York’s; we checked.

ROBB BERG, ASLA
HOK
DENVER

Editor’s reply We appreciate our very close readers! Both readers are right about the invasiveness of Russian olive. We might have clarified the article’s plant list by noting that the Russian olive already existed on the site and was “used” only in the sense that it was on the property line and couldn’t be removed.

CREDIT WHERE CREDIT IS DUE

Thank you very much for the coverage of Oodena Celebration Circle (“Doubly Strange”) in the September issue. We are particularly proud of this project and are honored to see it exposed to a wider audience through this publication.

While Adam Arvidson, ASLA, did an excellent job capturing the story behind Oodena, he incorrectly identifies me as principal designer, and makes no mention of the project’s true creator, Garry Hilderman. Garry was solely responsible for the concept, and he oversaw detailed design through four of the five project phases. Equally important, Garry sold the clients and funding agencies on this extraordinary project, and remained an ardent promoter and protector of the initial vision—a vision that could never be fully relayed through drawings. This meant taking every opportunity to build kinship, understanding, and buy-in among all involved, from politicians to trades to maintenance staff. I remember Garry goading the stonemasons on site to explore possibilities beyond horizontal coursing, inspiring them to improvise and participate in making the project better. Another time he held a group of welders transfixed with the story of how the steel armatures and sights they were assembling were tied directly to the vast cycles and patterns of the night sky. A few months later, after the armatures were installed, I ran across one of those welders on site, sharing the cosmic connection with his kids.

I will gladly accept credit for the art and science of Oodena, but its quirky, wonderful soul is Garry’s alone.

GLEN MANNING
HILDERMAN THOMAS FRANK CRAM
WINNIPEG, MANITOBA, CANADA

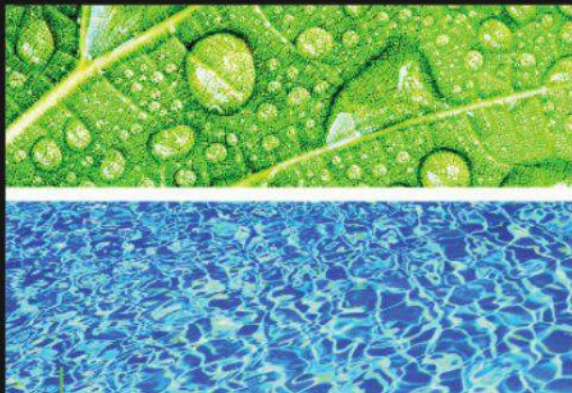
ERRATA

In the article “Civilian Control” in our November issue, Dechen Gonnot is listed in the project credits with the firm name Nancy Owens Studio LLC. He should have been listed as Dechen Gonnot, ASLA.

SUBMIT

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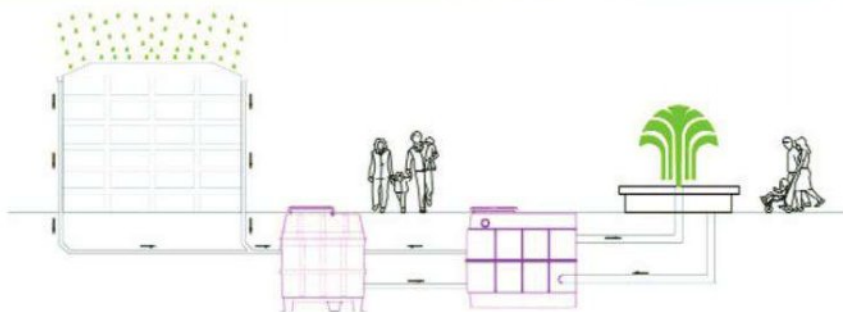
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LAM+ DESIGN ARMY

THE MAGAZINE REDESIGN

GETTING THE LAY OF THE LAND. Redesigning a 100-year-old landscape is a tall order. It takes both aesthetic vision and strategic foresight. So when *Landscape Architecture* decided to overhaul the look and feel of its century-old magazine, it chose to work with Design Army—a firm recognized nationally for transforming magazines, elevating images, and inspiring audiences.

Design Army has won industry acclaim as much for its strategic vision as its strong visuals. The firm's award-winning portfolio includes work for iconic names such as Disney, GE, and Verizon, but its magazine expertise made it a perfect fit for LAM's redesign. Indeed the studio has partnered with publication leaders such as *Washingtonian*, *Chronicle Books*, and *CRIT* magazine—not to mention national architects like Lehman-Smith + McLeish and LandDesign. The firm's high-caliber clients are as diverse as the firm's design trademarks: a blend of savvy, sophistication, and adventure.

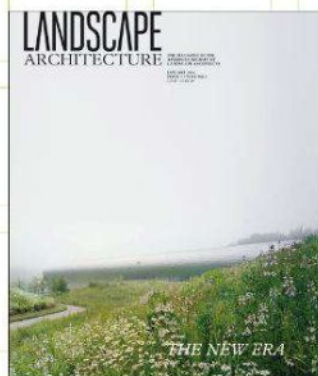
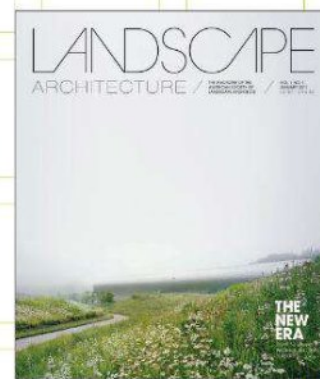
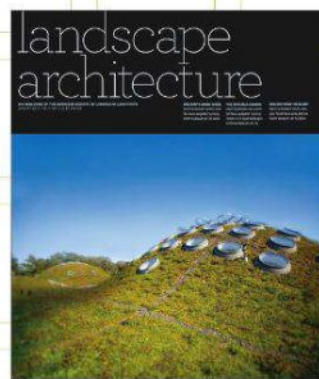
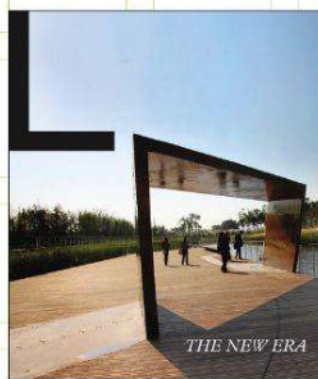
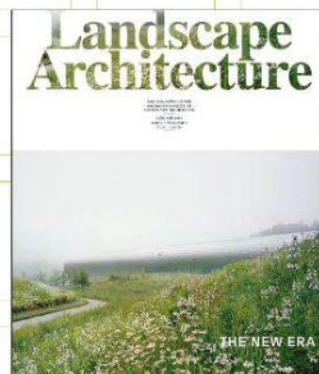
LAM picked Design Army from a pool of distinguished design teams because the studio possessed the credentials and creativity to strike a powerful balance: respect the quality of the content but reimagine the power of the magazine. Design Army's goal was ambitious: bring the publication—and the industry itself—into focus for a new era. Anchored by a clean and contemporary design, the magazine's pages have been reinvigorated with graphic energy and organizational insight. Now, a century after it was born, LAM is better positioned to inspire today's landscape architects for tomorrow's designs. •

➔ VISIT WWW.DESIGNARMY.COM

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START

1



CONCEPT + COVERS

RESCALE. After various design concepts, *Landscape Architecture* was shortened to LAM and the traditionally horizontal masthead was made vertical. The identity update and visual about-face subtly transforms the way the magazine—and the industry—looks and feels. •

Selected cover and masthead design.

THE GRID + TYPOGRAPHY

RELATE. Conjuring basic elements of landscape architecture, a versatile grid structure maintains order while classic and modern fonts enhance legibility and likability. ●

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TECHNICAL
TECHNICAL
TECHNICAL

MODERN
MODERN
MODERN
MODERN
MODERN

DIN

Classic
Classic
Classic

FF Scala

3

ORGANIZATION + STRUCTURE

REORDER. Since clarity trumps cleverness, the number of sections was trimmed and given simple, literal terms to give the magazine a more defined rhythm: **FOREGROUND** showcases the newest products and reports; the middle section, **FEATURES**, shines a light on inspiring ideas, people, and places; and **THE BACK** features articles and essays that merit a leisurely read. ●

4

THREE
SECTIONS



5

COLLABORATION

REVIEW. Design Army and LAM's four-month collaboration was marked by inspiration, challenge, experimentation, and humor. The back-and-forth partnership was vital to arrive at a thoughtful and flexible redesign that could accommodate all the magazine's needs. ●



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THE INAUGURAL ISSUE!



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FOREGROUND

NOTES AND REPORTS FROM THE FIELD

Grownups are starting to see the sense in walkable schools, and *Shinrin-yoku* is good for you, in **NOW**. Campus planners try to keep up the good work, in **THE CLIENT**. Portland leaps even farther ahead with storm-ready street design, in **WATER**. Shaderlight goes to SketchUp's rendering ability, in **WORKSTATION**. Cool new furniture for outdoor rooms, in **GOODS**. And a big, boring parcel in Florida gets the Cinderella treatment, in **HOUSE CALL**.



IMAGE CREDITS
Courtesy Seamon Whiteside
+ Associates, photo; courtesy
Stubbs Muldrow Herin
Architects, plan

**THE CASE
BUILDS FOR
MORE WALKABLE
SCHOOLS.**

Since the federal Safe Routes to School program was established in 2005, school officials, parents, and designers have wrestled with how to promote walking and biking to school without putting kids in danger. Many local efforts have focused on sidewalk construction and repair or better enforcement of traffic laws. But there's a more intractable factor at work: sprawl.

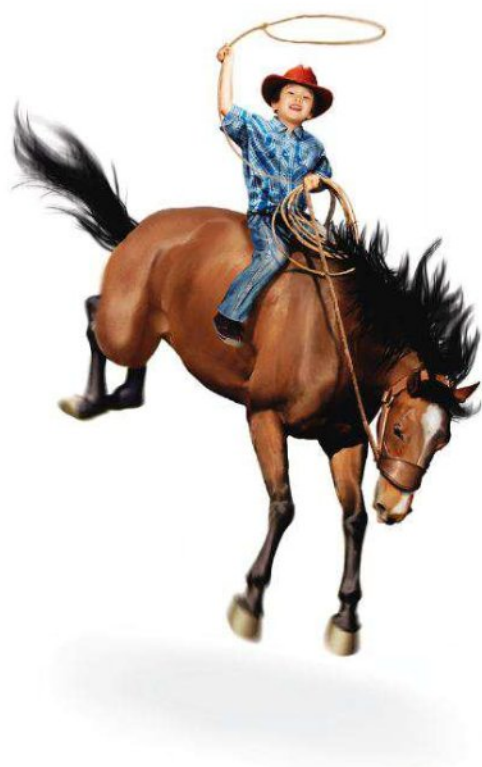
of forcing new school buildings to undeveloped areas on the outskirts of towns.

The state legislature obliged, and the change is starting to bear fruit. In a posting on a blog about land-use law (http://lawprofessors.typepad.com/land_use/page/4/), Emerson shared the story of the Mount Pleasant Academy, an elementary school outside

Charleston, South Carolina. The policy change allowed administrators to build a new school to replace a tiny 1950s model on the same five-and-a-quarter-acre site (the old standard would have required at least 10 acres).

The in-town site has marsh frontage that overlooks the Intracoastal Waterway. Flood regulations required the new school building to be raised, which had the side benefit of creating great views for students. The required grading also enabled the landscape architects to tuck in an amphitheater. "That wouldn't have happened if we'd had to buy 10 or 12 acres outside of Mount Pleasant," says Lee Gastley, ASLA, of Seamon Whiteside + Associates.

The city government and designers sought other innovative solutions to make the project work, says Judy Dixon of Stubbs Muldrow Herin Architects. For example, they reached an agreement that the school could use parking at a sports complex next door to the school; those spots had only been used on nights and weekends. "On-site parking for the school is only about 24 spots, which is low for a suburban area like this," she says. The kids also use the playing fields during the school day. The new arrangement "is really common sense, but making it actually happen was a bureaucratic milestone." Most of the students, including Dixon's second-grader son, walk or bike to school, as do many parents and visitors.



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← Bill Lewis, chief operating officer of the school district's capital program, says the change has allowed the district to aggressively pursue its smart-growth goals, rebuilding schools on close-in "trophy properties," redeveloping land in a sustainable manner, and working with the county department of parks and recreation to efficiently use available land for multiple purposes including sports fields, farmers' markets, and pocket parks. "None of this could or would have occurred unless the minimum acreage standards had been changed," he says.

Emerson, who wrote a law review article on smart-growth school planning in 2006, says he's seeing more jurisdictions abandon minimum acreage requirements. "I do get the sense, anecdotally, that more school systems are recognizing that the 'cost' of a school extends beyond the price of land acquisition and physical construction and instead includes continuing operational costs like transportation," he says. Huge exurban schools might not be the default option much longer. ●



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If you can't get to New York's Bryant Park as much as you'd like, the Bryant Park Corporation (BPC) has a suggestion: Buy one or more of its iconic movable chairs. At \$125 each, they may be cheaper, depending on where you live.

The BPC, the park's private, nonprofit manager, began selling the chairs in late August as part of its new slate of online offerings. These are the real deals, actually used by park visitors—wood-and-metal folding chairs, painted in the custom dark shade of Bryant Park Green. Proceeds from all the shop's sales will support the park's upkeep and activities.

Sales got off to a slow but steady start, with 23 chairs sold as of mid-December. Jerome Barth, the BPC's vice president of business affairs, says it's highly unlikely that demand for the chairs will outstrip the supply. "We imagine this as a permanent offering," he says.

Check out <http://shop.bryantpark.org> for more information. ●



ABOVE

The chairs on offer have seen duty in Bryant Park and are ready to retire in your garden.

IMAGE CREDIT

Courtesy Bryant Park Corporation

SHOW AND SELL

TORONTO CITY HALL PUSHES GREEN ROOFS WITH ONE OF ITS OWN.

LEFT

The green roof on Toronto's City Hall is open to the public and popular with visitors.

IMAGE CREDITS

Courtesy LiveRoof LLC

Chicago's reputation as a green roof-friendly city was cemented, in part, by images of the beautiful green roof installed on its City Hall. But Toronto is catching up to Chicago with its requirement, implemented in 2010, that every new building with at least 2,000 square meters of floor area—from luxury condos to big-box stores—have planted areas on at least part of its roof.

Toronto City Hall also now sports its own green roof. During its first growing season last year, it served as a kind of ambassador for the technology. "A lot of design firms are within walking distance," says Kees Govers of LiveRoof Ontario, part of the project team that worked with designers PLANT Architects and Hoerr Schaudt Landscape Architects. "It's easy for them to come and see how these higher-end green roofs are done." ●

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ON THE GRIDIRON.**

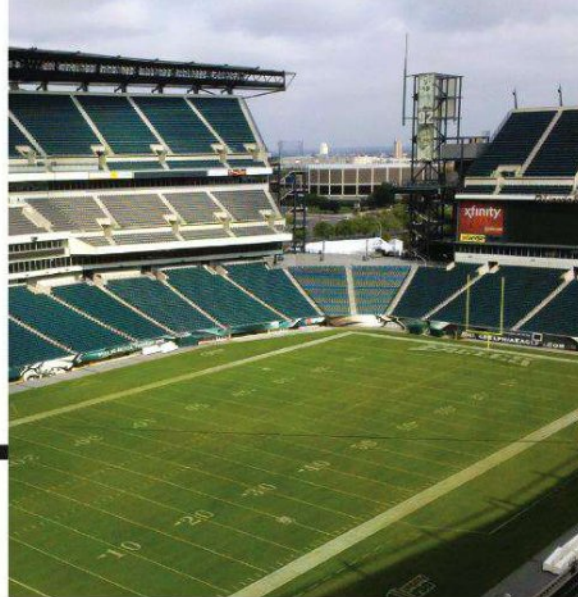
BY KYLE STACK

RIGHT

Some varieties of Bermuda grass, known for its endurance in hot weather, can be used in cooler areas such as Philadelphia.

IMAGE CREDIT

Courtesy Tony Leonard, Philadelphia Eagles



Cold-tolerant varieties of Bermuda grass (*Cynodon dactylon*), such as 'Patriot' and 'Riviera,' have been enjoying life in football and baseball stadiums for years, and their use is on the rise as groundskeepers search for tough turf. Bermuda grass, often used in golf course design, is known for its neat, consistent appearance and resistance to wear and tear.

Purdue University has been using 'Patriot' on its football field for seven years, according to Cale Bigelow, an associate professor of agronomy. "It's something the breeders have been working on for decades," Bigelow says.

Bermuda's presence has extended from Purdue's campus in West Lafayette, Indiana, all the way to Philadelphia, where football's Eagles and baseball's Phillies have grown it for several years. "It's definitely no longer experimental," says Mike Boekholder, the head groundskeeper for the Phillies. After witnessing

little winter kill on Citizens Bank Field during the 2009–2010 winter, he says he's convinced several varieties can exist year-round.

'Patriot' and 'Riviera' are also used across the street at Lincoln Financial Field. Tony Leonard, director of grounds for the Eagles, says that Bermuda's ability to withstand trampling is what permitted his field to live through five football games in 16 days in September. He typically replaces Bermuda with Kentucky bluegrass in late October until spring, when Bermuda is resodded.

In what would be the most ambitious attempt to stretch the turf's range, staff at Michigan State University is considering growing test plots this year. They already have common Bermuda types scattered over the steam tunnels on campus, but Amy Fouty, the school's athletic turf manager, says that East Lansing's cloudy weather has so far stalled plans to grow Bermuda grass. ●



LEFT

Asian research suggests that spending time outdoors helps physical as well as mental health.

IMAGE CREDITS

Nicole Neder, Associate ASLA



● IMMUNITY BOOST

**FIND WOODS.
BREATHE DEEPLY.**

BY NICOLE NEDER, ASSOCIATE ASLA

The Scandinavians have mineral hot springs and saunas and the Swiss have water-focused wellness centers that offer everything from aromatherapy to massage. All of these provide relaxation and focus on healing of the body and soul. Not everyone has access to saunas and hot springs. But most of us do have access to trees.

Japan consists of a land mass just slightly smaller than California, with more than half of its land covered in forest. So it's no surprise that the Japanese have found ways to become one with their woods. Forest bathing—*Shinrin-yoku* in Japanese—is a poetic term for taking a short walk in the woods. It has become

very popular in Japan: Forty-two forest therapy bases have been established, and the Japanese government promotes forest bathing for tourists.

Asian researchers have been studying forest bathing's effects on human health since the 1990s, leading to the establishment of two new areas of research: forest medicine and forest therapy. In 2005, Chinese researcher Qing Li discovered that the inhalation of tree-derived wood essential oils known as phytoncides, such as alpha-pinene and limonene, resulted in an increase in the number and rate of production of natural killer (NK) cells in humans. NK cells, white blood

cells that play a role in the immune system, are reported to kill tumors and virus-containing cells. Li reported that the elevated NK cell count was sustained over a period of time after forest bathing trips.

We all know intuitively that spending time outdoors elevates moods, calms nerves, and promotes feelings of well-being. Anyone can do it—no strenuous activity is required. In fact, the Japanese advocate a slow pace and a short distance. Plant yourself next to a tree trunk to read or nap for a bit. A walk in the woods can be all it takes to make strides toward better health. ●



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BELOW

The Wave would protect the beach's fragile wetlands while giving surfers safe access to the beach.

IMAGE CREDIT

Courtesy Architecture for Humanity



A CHARITY WANTS TO GIVE BOARD RIDERS A NEW PATH TO THE BEACH.

The Trestles waves at Southern California's San Onofre State Beach are renowned among surfers all over the world. But the tens of thousands of visitors to this collection of surf spots are endangering both themselves and the beach's fragile wetlands.

Currently, the only means of beach access is a series of well-trod informal paths over active train tracks and through sensitive wetlands. But the non-profit design services firm Architecture for Humanity hopes to change that. The group recently announced winners of its Safe Trestles design competition, open to anyone, pro or amateur, with \$20 and a plan. Five teams were invited to refine their designs with input from stakeholders such as the San Onofre Foundation and the Surfrider Foundation.

The winning design, *The Wave*, was submitted by the CO-LAB design office in Los Angeles. Among the honorable mentions were *Safe Trestles Transect* by Philadelphia-based Lager Raabe Skafte Landscape Architects Inc. and *The Long Trail* by Ken Smith Landscape Architect: WORKSHOP WEST of Irvine, California.

The Wave would establish a new trailhead, near a special-events parking area, and a slightly elevated bridge over the

wetlands beyond the railroad crossing, leading to the most popular arrival point for surfers. The bridge divides into a gently sloped, easily accessible lower path and a steeper upper path offering vistas of the wetlands and the waves. The two paths are connected by a sloped surface clad in the same wooden decking; seating areas would be cut out of the slope to promote enjoyment of the views.

"Through the enormous range of ideas that were presented, the community was able to explore a lot of options, and to participate in a meaningful dialogue," says Architecture for Humanity design fellow Alix Ogilvie.

Implementation of *The Wave* is not a sure thing. "The project is still very young and will require a lot of development and approvals between the many stakeholders and the local community," says Ogilvie. The San Onofre Foundation will promote the project, but Ogilvie says that strong support from the California park system—currently struggling after years of budget cuts and a still-sagging state economy—will be needed to make the design solution a reality.

Visit architectureforhumanity.org for more information or to offer your own design services. ●

● THROUGH THE GLASS ROOF

A 33-FOOT-HIGH AGAVE BREAKS A BARRIER.

A tall but true tale emerged this autumn at Chicago's Garfield Park Conservatory: A blooming agave plant (*Agave americana* 'Variegata') sent up a flower stalk so high that conservatory staff had to remove panes of glass from the ceiling so the stalk could keep growing. As we went to press, the branchy stalk, similar in appearance to a huge asparagus plant, was about 33 feet high and beginning to flower, marking the end of its life cycle. "We don't track the number of visitors," says Zvezdana Kubat of the Chicago Park District, "but people are definitely asking about it and looking for it." ●



LEFT

Conservatory staff had to remove panes of glass to accommodate the flowering agave stalk, more than 30 feet tall.

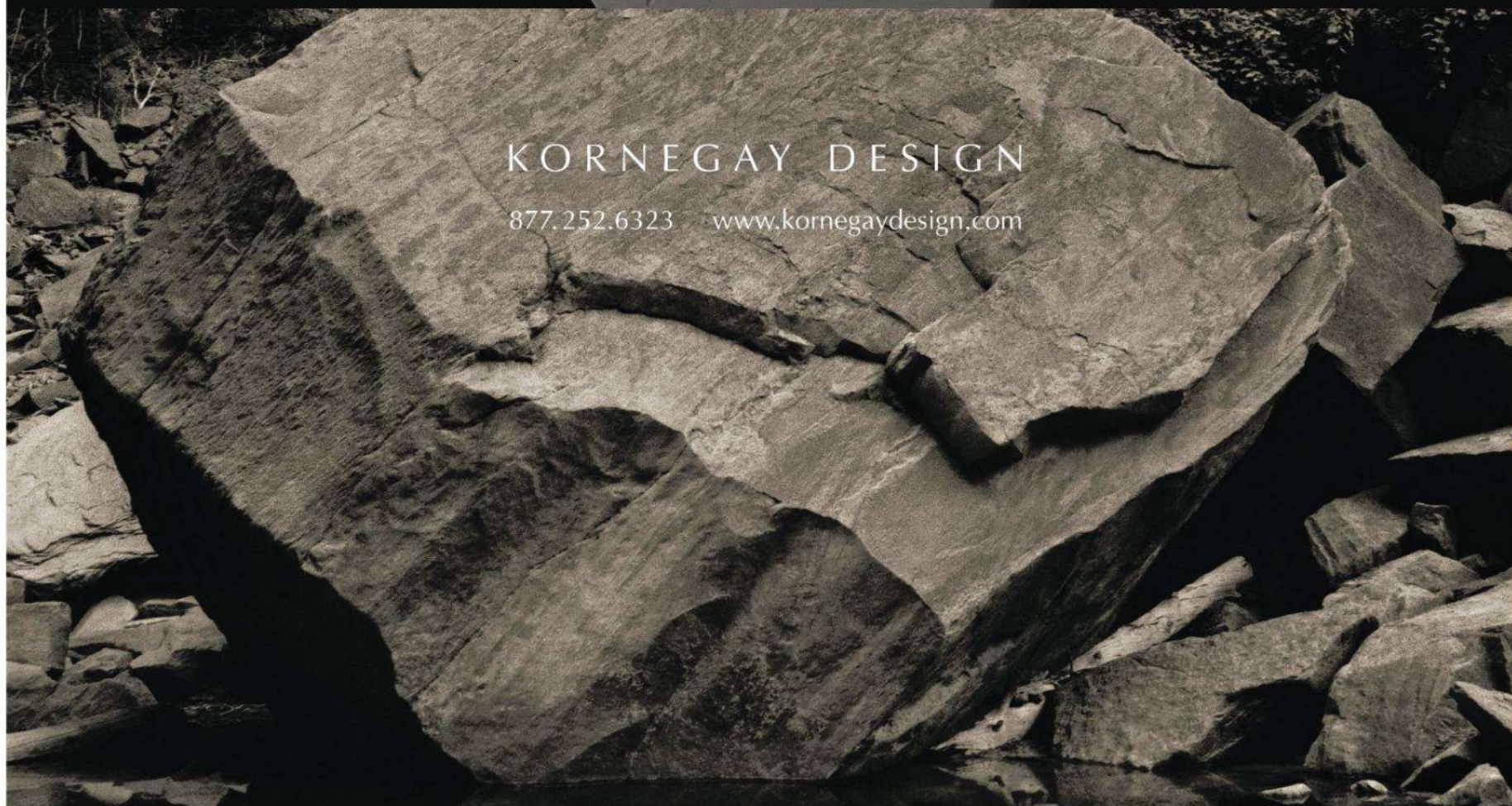
IMAGE CREDIT

Courtesy Chicago Park District



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THE CAUTION ON CAMPUS

**MANY PROJECTS FOR COLLEGES AND UNIVERSITIES ARE
MOVING AHEAD—JUST MORE DELIBERATELY THESE DAYS.**

BY ERNEST BECK

Colleges and universities have taken a major hit during the recession, as state budgets have dried up and private school endowments have sunk (and risen, and sunk again) with the stock market. In response, many schools across the country took measures to curtail student enrollment and faculty hiring, reduce academic programs, and shelve major expansion projects. California's woes, in particular, were so grim that Governor Arnold Schwarzenegger was forced to slash school funding by an estimated \$600 million to the state's 23-campus system to help balance a \$20 billion budget shortfall. Yet the turmoil has not meant an all-out stop to campus building and planning activities. In fact, landscape architecture projects, although scaled back in many cases, are continuing, especially those involving master planning. "Budget cuts hit personnel, not forward planning, and planning is the cheapest part of our operations," notes David Salazar, associate vice president for physical planning and facilities management at California State University Long Beach (CSULB).

That kind of news is good for landscape architecture firms that are struggling to generate new business in the construction downturn. While austerity measures are forcing many institutions to shift more work to in-house landscape architecture departments and refrain

from awarding big projects to outside firms, schools have not completely backed away from taking a long-term view when it comes to maintaining the beauty, efficiency, and sustainability of their campuses. So in a time of lowered expectations, both private and public institutions of higher learning are looking at planning and landscape architecture services in a new way. A survey of schools suggests that some smaller projects are going ahead and that opportunities exist to maintain relationships that might later lead to more substantial engagements when the economy recovers. Moreover, many schools realize that the appearance of their campus plays a critical role in attracting students and faculty and research dollars, and that investing in sustainability now can be a modest outlay that eventually reaps long-term benefits—all without massive funding up front.

CSULB is a good example. The 322-acre campus, with around 35,000 students, had \$45 million cut from its budget, including \$826,000 from the department of physical planning and facilities management. As a result, staff was reduced or furloughed. But Salazar says the department went ahead with a \$210,000 master plan project—looking at irrigation, parkscape, lighting, signage, pedestrian passes, roadways, accessibility, and sustainability—by SWA Group's Los Angeles office. Some of the upgrades

will begin even before the master plan is finished. "We will be using existing resources to start implementing pieces of the plan even before it is done," Salazar explains, noting that the sustainable aspects of the project were a major selling point to the administration. Even if budget numbers aren't known right now, he adds, "the idea is to get the plan in place first and then go from there."

California's large network of two-year community colleges has also been a continuing source of revenue for the region's landscape architects, one that is directly correlated with the recession. SWA, for example, has taken on projects for a half dozen schools in the Los Angeles area over the past three years, from Los Angeles Valley College to Riverside City College and College of the Desert. And with good reason, says Gerdo Aquino, ASLA, the president of SWA Group and managing principal of the L.A. office: "We get involved because we care about this first rung of education, and because they do have funding. Those are real dollars that are guaranteed by bond measures and need to be spent."

One of those projects was a master plan for Los Angeles Valley College's 82-acre site in the northeast section of the city that included many sustainability measures such as capturing graywater and undertaking an urban forest study for the entire campus that was

an add-on project first identified during the process of master planning. Community colleges are the future, Aquino believes, because with so many people unemployed, they offer a place to retrain and learn new skills. These schools, he says, "know what they have and what they need to spend money on to make their campus more accessible and a pleasant place to be." Mostly geared to commuter students, who come and park and then leave, the schools are seeking to give their campuses a new function and look, to make them places where students might stay longer.

Aquino, who is also an adjunct professor of landscape architecture at the University of Southern California's stately campus, says the approach to these schools should be practical and focused. "I don't go to city college meetings and say, let's turn this into USC," he recounts. "I say, let's see what you have. What are we talking about? What can we do? How big are your maintenance crews, and how can we train them?" While community colleges are still a relatively small part of SWA's L.A. office revenue, Aquino adds, projects have filtered in during the recession. "There is an opportunity to make a difference there, and to earn a dime or two," he says.

In a similar way, JJR, a 130-person firm with three offices in the Midwest—in

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October 28, 2010



UNIVERSITY OF CONNECTICUT
Storrs, Connecticut
Chemistry, Pharmacy, Biology, and Research - Linear Medical Garden Alternative
October 28, 2010



UNIVERSITY OF CONNECTICUT
Storrs, Connecticut
Whetton School of Business, TEB and Connecticut Commons Quad
October 28, 2010

ABOVE
At the University of Connecticut, Copley Wolff Design Group awaits budget approval for work on three quadrangles.

IMAGE CREDITS
Courtesy Copley Wolff Design Group

Chicago; Ann Arbor, Michigan; and Madison, Wisconsin—is using its long-standing connections to colleges and universities in the region to keep revenue flowing. In particular, community colleges and their many satellite campuses have been a good source of work for the firm, which has been asked to improve facilities at a number of commuter colleges that are taking advantage of low construction costs to pursue improvements. “They want to have common areas designed like traditional college campuses so students will linger,” says Deb Mitchell, FASLA, a senior vice president at JJR’s Chicago office. She adds that some of these schools “used to be like shopping centers.” At the College of DuPage, a 273-acre school with 30,000 students in Glen Ellyn, Illinois, outside Chicago, JJR was handed a \$600,000 project to renovate landscape plantings and courtyards, because the school want-

ed the campus to have a “unified look,” Mitchell explains.

JJR is also working with Loyola University in Chicago on “bits and pieces” of its campus, which is being overhauled to provide a more attractive residential component as well as revenue-generating operations—including its chapel as a venue for weddings. This project involved creating a way to accommodate the turning radius of stretch limos. “Most campuses have the goal of getting cars off the campus, but here was the case of letting cars in for special occasions,” Mitchell notes, which involved creating a plaza and redoing the access road.

In general, many schools have adopted a pragmatic approach to their landscape architecture planning, giving the go-ahead to projects that are feasible and

make sense financially while keeping others on the back burner until additional funding is secured.

At the 700-acre campus of the University of Connecticut in Storrs, a \$250,000 landscape master plan commissioned in 2008 with Sasaki Associates was completed in the spring of 2010 without a hitch. Several campus improvement projects came out of this effort and are currently in design, but several others—including a significant landscape improvement effort—were put on hold partially because of economic conditions. The university hopes to complete design work and contract documents and start construction for the other projects next year. “We don’t have full budget allocation yet, so it’s hard to say exactly when they might go ahead,” says Mark Westa, ASLA, an associate professor of landscape architecture and



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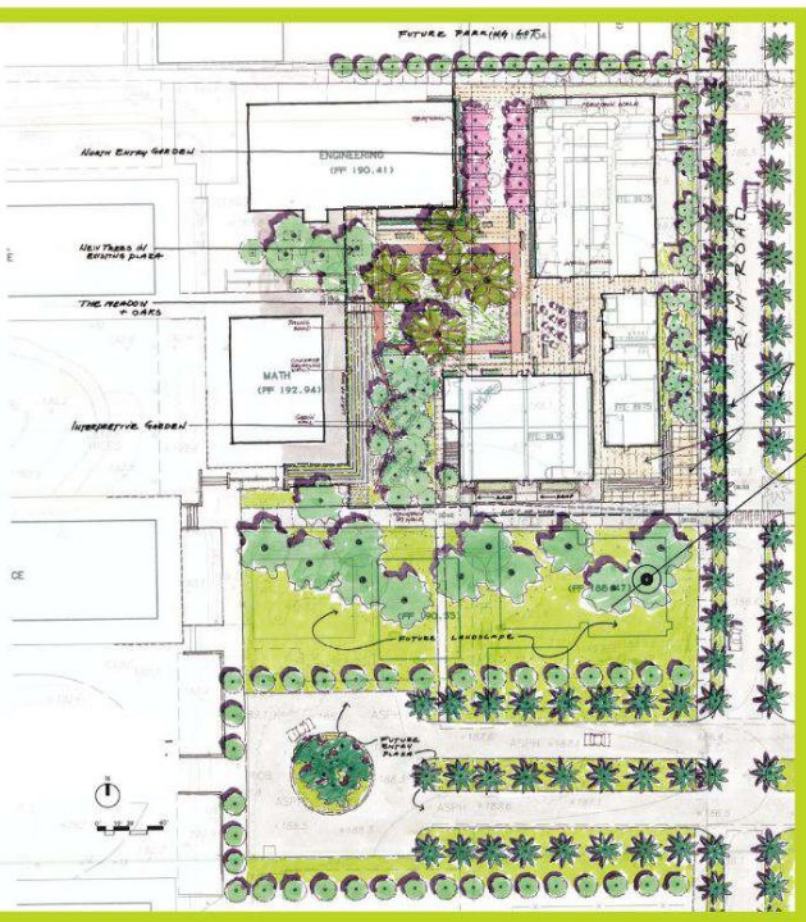
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LEFT

SWA Group's design for the College of the Desert is part of a push to improve community colleges in California.

IMAGE CREDITS

Courtesy SWA Group



a campus planner with the Office of University Planning. The Boston-based firm Copley Wolff Group is working on one of the projects involving upgrades to three different quadrangle spaces to enhance their character and resolve delivery and access issues while addressing campus stormwater concerns.

At other schools, in-house teams are taking on more responsibility. When Michigan State University in East Lansing embarked on the recent \$49 million Brody Building Renovation construction project, the university's landscape architects executed the planting plan as they normally do. For the upcoming renovations of the six residence halls, however, they will handle all site construction documents. "In better economic times, we usually use outside consultants for site planning on projects over \$1 million," notes Deb Kinney, a senior land-

scape architect at the school. "But on this one we won't use any because we had time, our docket of projects was slowing down, and it does save money."

Yet the fact that landscape projects are cheaper than building and construction initiatives has allowed some firms to stay busy even if an overall project is in a holding pattern.

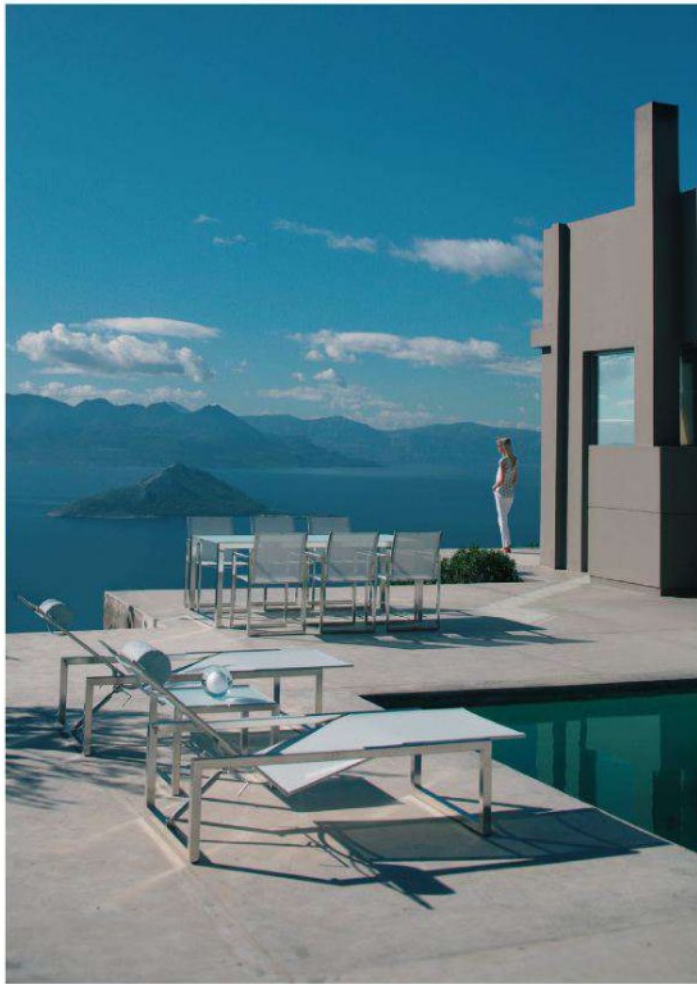
Since 2002, for example, discussions had been under way at Duke University regarding an ambitious long-range plan to unify the school's historic East and West campuses in Durham, North Carolina, but they were suspended in late 2008 at one of the critical moments of the economic downturn. However, Mark Hough, ASLA, the campus landscape architect, says the only group still working on the project and getting paid is Reed Hilderbrand, the Watertown,

Massachusetts, landscape architecture firm hired to do the master plan. "We were moving into the design process when the bottom fell out of the market," Hough recalls. "We put the brakes on what would have been a several hundred million dollar project." Reed Hilderbrand was kept on to look at infrastructure and environmental impact, Hough adds, and is therefore in a good position to take on a larger role if and when the project—which he describes as "the future of Duke"—goes ahead.

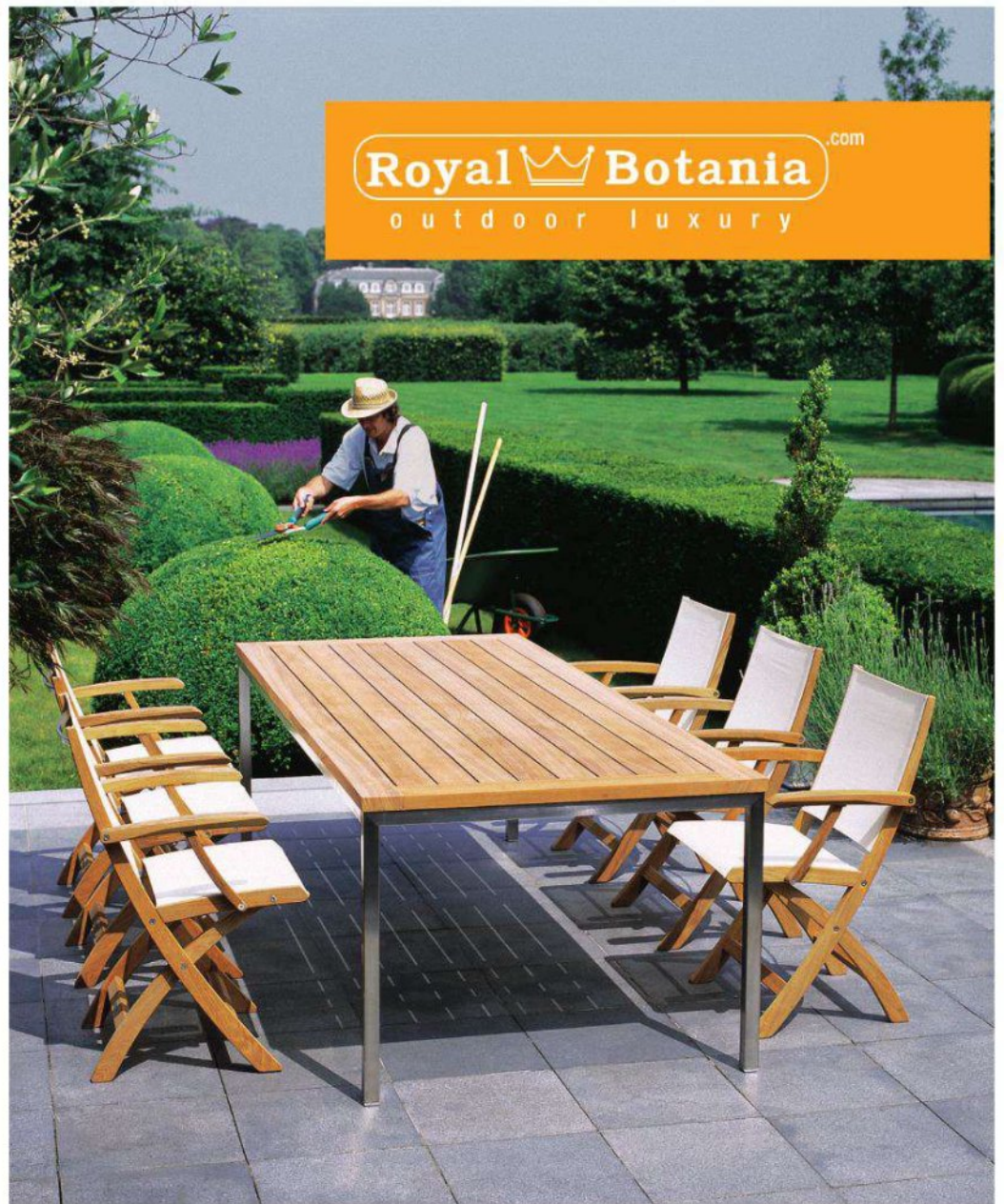
Smaller, private schools like Elon University, in Elon, North Carolina, with 5,500 students, have felt less of an impact from the downturn than state institutions, but are still watching their pennies. "We're working on tighter budgets and going less to outside firms," says Tom Flood, ASLA, assistant director of the physical plant and director of land-

scaping and grounds at the 600-acre campus. As a result, Flood says he's getting back to basics such as attractive landscape plantings and interesting gardens. He believes that one area of opportunity for landscape architecture firms is the increasing focus on sustainability and Leadership in Energy and Environmental Design (LEED)—for the design and planning of roof gardens, for example, and reclaimed water systems, as well as LEED certification calculations—which often cannot be done by his own staff. "The campus should be a garden," Flood says. "That's where universities are going, because we are in direct competition, visually, with each other." ♦

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STREETS THAT DRINK

PORTLAND'S STORMWATER DESIGNS ARE GROWING EVER SMARTER.

BY LISA OWENS VIANI

✓ AFTER



BEFORE



ABOVE
Kevin Robert Perry, ASLA, transformed the Southwest Park to Southwest Broadway block of the Portland State University campus from an autocentric street to a pedestrian plaza with stormwater planters that blend in seamlessly.

IMAGE CREDITS
Courtesy Nevue Ngan Associates

Walking through downtown Portland, Oregon, with its dense street tree canopy, ecoroofs, green walls, and short blocks bustling with pedestrians, bicyclists, and businesses, with light rail clanging in the background, it is easy to feel like you are in Ernest Callenbach's *Ecotopia*—or at least on a different, more advanced planet. The streets and their edges are a key piece of this picture. Throughout the city, sidewalks and streets are rapidly being turned into green streets that incorporate stormwater planters, curb extensions, and swales, using soil and plants to filter and

treat urban stormwater runoff before it flows into the city's often-overwhelmed combined stormwater/sewer system or directly into the Willamette River. While the scale of Portland's progress is astonishing enough—it now has 850 green stormwater facilities in the ground—its landscape architects are busy designing ever-more-innovative green streets. Kevin Robert Perry, ASLA, with Nevue Ngan Associates, has come up with a design—the Southwest Montgomery Green Street Plan—for a nine-block green stormwater spine that would ultimately connect the city's West Hills with

the river to the east. Two of the blocks, completed in the past two years, present a possible template for a new and improved generation of stormwater treatment facilities and a more “advanced” type of green street (see “Five Shades of Green Streets,” page 34).

Perry's goal is the seamless integration of stormwater retrofits into a busy urban scene within the confines of buildings and rights-of-way; he also wants to move away, wherever possible, from the deeper “bathtub” look of some of the city's earlier stormwater planters and curb extensions. “Since the first green street project in 2003 on Northeast Siskiyou Street [in a residential suburb; see “Infiltrating Portland,” *LAM*, August 2005], we've been moving into more and more complex urban systems,” says Perry, who formerly worked for the city of Portland's Bureau of Environmental Services. “We're now able to strategically put in these systems. They're not just plants growing in the bottom of a deep hole but are more aesthetic, functioning in all respects and defining the space—that's what we're trying to achieve.” David Goodyke, also of Nevue Ngan, adds, “We don't want them to look like pits anymore; there's got to be a balance between how much water you hold and treat versus designing for pedestrians.”

Somewhere along the line there was an evolution in design thought that may have gone too far, says Perry. Over the years, in an effort to hold and filter more stormwater longer before it either goes back into the combined storm drain/sewer system or infiltrates the ground, project engineers began designing stormwater planters as deep as two feet, contributing to the look of

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ABOVE

With flow-through stormwater planters and other green streets treatments, the nine-block Southwest Montgomery Stormwater Spine will connect Portland's hills to the west with the Willamette River to the east.

IMAGE CREDITS

Courtesy Nevue Ngan Associates

FIVE SHADES OF GREEN STREETS

LEVEL 1

Introducing as many landscape plantings as possible to the streetscape and minimizing impervious areas. Some runoff from the sidewalks may be managed in planted areas.

LEVEL 2

Adding street trees to achieve a significant canopy.

LEVEL 3

Actively managing stormwater on the street—fully managing street, sidewalk, and driveway runoff using a landscape system.

LEVEL 4

Emphasizing alternative transportation (biking, walking) and having those components be part of the green street.

LEVEL 5

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plants growing down in a pit—and to the perception that they are unsafe for pedestrians. “Northeast Siskiyou was only about six inches deep,” he says, referring to that first innovative project.

Tom Liptan, FASLA, now heads up the city’s ecoroof work with the Bureau of

perception that worries him even if the possibility is unlikely.

In the first block of the spine completed in 2009—Southwest Park Avenue to Southwest Broadway, which runs through the Portland State University campus—Perry dealt with both aes-

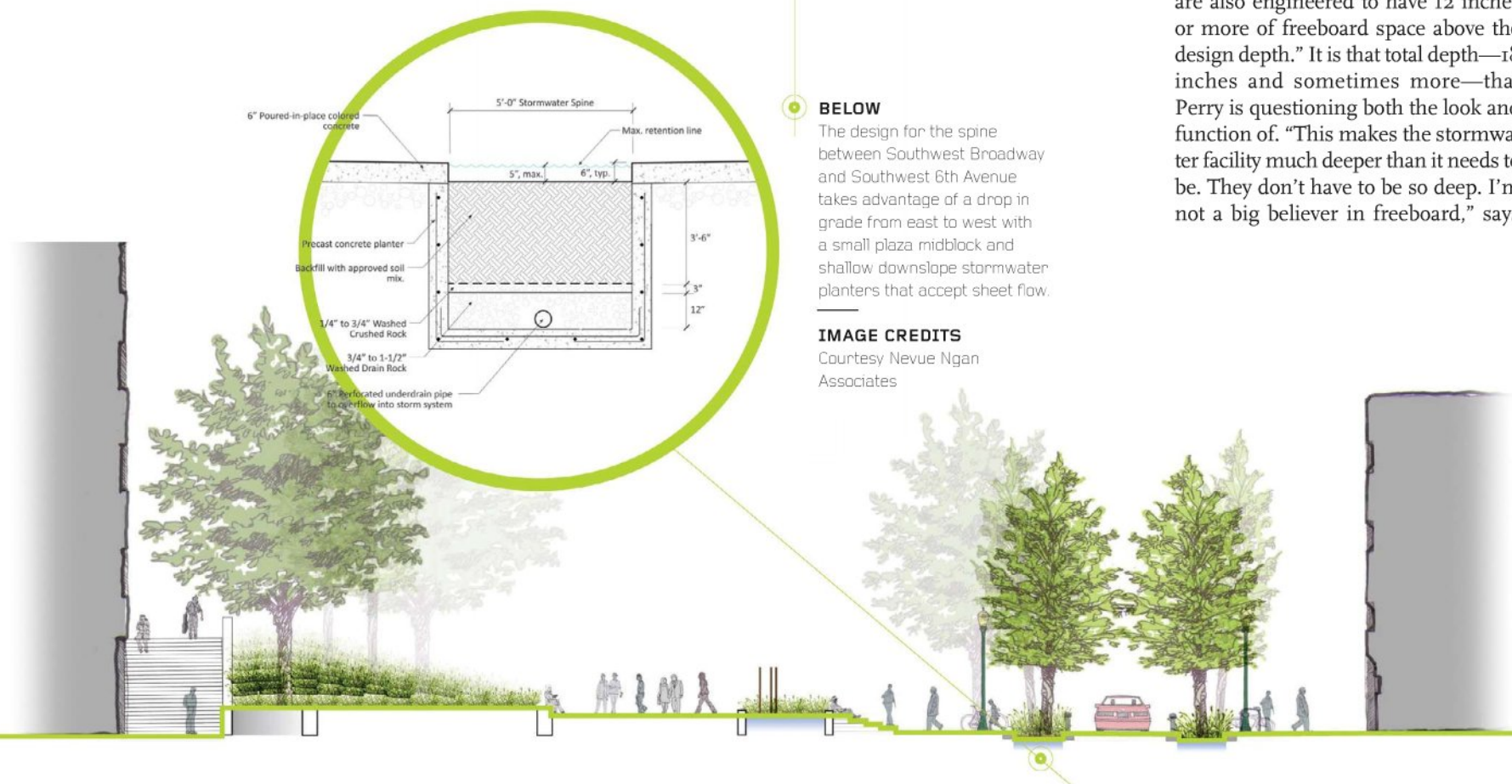
facilities such as pipes and conduits that needed to be protected. The planters hold four feet of soil—which some of the stormwater will percolate down into—but Perry’s goal was to have the water fill the planters to no more than six inches during heavy flows, with just a few inches of freeboard. “Many green streets might have a design depth of ponding water of six inches, but they are also engineered to have 12 inches or more of freeboard space above the design depth.” It is that total depth—18 inches and sometimes more—that Perry is questioning both the look and function of. “This makes the stormwater facility much deeper than it needs to be. They don’t have to be so deep. I’m not a big believer in freeboard,” says

BELOW

The design for the spine between Southwest Broadway and Southwest 6th Avenue takes advantage of a drop in grade from east to west with a small plaza midblock and shallow downslope stormwater planters that accept sheet flow.

IMAGE CREDITS

Courtesy Nevue Ngan Associates



Environmental Services and initiated many of the first green streets projects. He concurs with Perry but explains the reasoning behind the deeper facilities. “In southeast Portland, for example, we’re trying to get as much infiltration as we can, to get off the combined sewer/stormwater system. The engineers are trying to get a certain volume of water off the system, to get a certain amount of cubic feet per street per neighborhood.” Yet Liptan says the deeper planters have caused some Portland residents to worry that they could trip and fall into them—a

thetic concerns and people’s fear of falling in by designing the planters to have less freeboard, or extra space above the highest level the water is designed to reach, which resulted in a shallower look and alleviated the need for building protective curbs around them. A second innovation is that the planters allow stormwater to flow through them, almost like a stream, and move downhill into a subsequent part of the stormwater spine, rather than completely infiltrate the ground. Perry explains that this decision was made because there were underground

Perry. The Southwest Montgomery stormwater spine plan calls for capturing the flow-through stormwater when one of the downstream blocks of the spine is completed and then reusing the water in a university building and for irrigation. That block will house the Oregon Sustainability Center, a “living high-rise” to be developed by Gerding Edlen Development.

Another innovation is the way the stormwater gets into the stormwater spine: It flows across a gentle cross slope and downhill into the planters. “A major

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ABOVE

Most of Portland's stormwater retrofits have been designed to be deep, to hold and treat large volumes of stormwater runoff. Newer, shallower designs can achieve the same result but may require a larger footprint.

IMAGE CREDITS

Courtesy Nevue Ngan Associates

change is not using curb cuts," explains Perry. "I've seen lots of green streets that have failed to get stormwater into them; this way the water flows, unencumbered, into the planters."

The Southwest Park to Southwest Broadway block is now used exclusively by pedestrians and bicyclists; delivery zones were moved to an adjoining street. In addition to the spine of stormwater planters, smaller planters were installed at the bases of the support columns for a sky bridge that connects the buildings above the plaza. New benches and bicycle racks were put in, and curb extensions were added downstream on Southwest Broadway to capture additional runoff from the street. The stormwater spine was planted with a mix of natives and non-natives, says Perry. "We chose plants for harsh conditions—able to handle flood and drought—and we wanted everything to be evergreen for year-round interest. We've got diverse textures, so there's more interface with the runoff to slow it down."

One sign of just how successfully the stormwater spine has been integrated into the scene is how little attention it seems to get. Pedestrians walk by and

cross the planters on unobtrusive metal grates, students sit on benches in front of them, and bicyclists park their bikes next to them—all without seeming to notice anything unusual. This first block is also close to Portland State's Epler Hall stormwater planter system (which reuses the stormwater in the building) and the green streets stormwater planters on Southwest 12th Street (also designed by Perry), so that by now, stormwater facilities are nothing new to the students or Portland residents.

The second block of the Southwest Montgomery stormwater spine, completed in March 2010, stretches from Southwest Sixth to Southwest Fifth. Here, the spine was retrofitted into a plaza that acts as a major thoroughfare between Portland State University campus buildings for locals, students, and tourists. Three stormwater planters were added here, including one that cascades down a series of planted "steps" integrated into the plaza's staircase and collects runoff from the stairs. A trench drain under the sidewalk collects stormwater from Southwest Sixth Street and from adjacent sidewalks and the plaza and conveys it into a large planter on the east side of the plaza. Here, too, the planters retain stormwater to a

depth of four to six inches. They were planted primarily with aspens, which tolerate harsh conditions, are native to Oregon, and colonize with shallow roots, so they should not grow too deep into the planters, says Perry. A small green wall three to four feet tall will be installed along the planter that was tucked in next to an existing fountain.

Funding for the two completed blocks came from Portland State University, the city's Bureau of Environmental Services, and the Portland Development Commission, for a total cost of \$642,440, which includes 1,800 square feet of stormwater planters, new pavement in the plazas, some new landscape plantings in addition to those in the stormwater planters, and the to-be-installed green wall. All partners seem thrilled with the project so far—and on board for future projects. Emily Hauth, project manager with the city's Bureau of Environmental Services, says, "By trying to get as many green streets projects in the ground as possible, we're anticipating the development coming to Portland in the next 20 years and trying to reduce that 'first flush' [of stormwater] into the river. Everyone's embraced it—the landscape architecture community, academics, the city, the citizens."

The design concepts used in the first two blocks will be applied to the other blocks of the spine and are already being discussed in planning green streets in more challenging locations. One potential case will be a 30-block stretch of Southeast Division Street, a typical curb and gutter road, 36 feet wide, running through both residential and commercial neighborhoods. "The public definitely has some concerns about some of the deep green streets projects they've seen," Perry says. "The

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BEFORE



AFTER

ABOVE

Nevue Ngan cut into the steps in this plaza on the Portland State University campus to capture runoff from an uphill street and the plaza's pavement.

IMAGE CREDITS

Courtesy Nevue Ngan Associates

tradeoff [in making the stormwater facilities shallower] is that the footprint might have to be a little larger. There are several design ideas on the table right now, including curb extensions with curb cuts, but we are also strongly advocating a curbless street as well. It's a big proposition to make for a street that carries the volume of traffic that it does." Perry says bollards could be used in lieu of curbs in some spots to protect people and planted areas from cars. Liptan supports the idea of curbless streets, but points out that it would be prohibitively expensive to go back and make all streets curbless unless the street is already being upgraded with sidewalks and other improvements, as was done on Seattle's SEA (Street Edge Alternatives) Street and on the Logus Road Green Street in Milwaukie, Oregon (also designed by Perry). "We would never have 850 projects in the ground if we had removed all of the curbs. We've had to retrofit within the curb and gutter system." But, he adds, "We need to remain open to new ideas and learn as we go." For cities

that want to get more green streets in the ground—or just get started—Liptan and Perry recommend being opportunistic and seizing the chance to create green streets facilities whenever street improvements have to be made.

Retrofitting old urban streets to green streets is tricky but presents a "renaissance in landscape architecture almost back to Olmstedian days," Perry says. "Our role as landscape architects is that of problem solver. These green infrastructure projects in the urban environment are not just about water but about people, transportation, and retrofitting—changing the way the landscape has been developed in an unsustainable way and moving toward reversing the mistakes of auto-based design." Although Perry believes it's best not to "overthink and overdesign" green streets projects, he admits it can be complicated to retrofit the existing auto-oriented infrastructure, making grades work out and dealing with minutiae. Another challenge of green streets for landscape architects and

designers that Goodyke identifies is coordinating with the contractors installing the projects. "There's still a learning curve in building these things and a level of precision involved that many contractors are not used to," he says.

Perry has developed a framework for green streets design that he refers to as "multiple shades of green" (see "Five Shades of Green Streets," page 34). The completed Southwest Montgomery Green Street blocks, he says, are the first examples he knows of that are true "level 5" green streets. Moving forward, Perry says, he'd like to see even more plants used in green streets projects. "We don't call them 'green streets' for nothing. There's a trend toward more engineered, too formulaic, sparsely planted projects with too much rock. The plants themselves can act as energy dissipaters." The bottom line, he says, is that simpler is better when designing green streets, despite their complexities. ●

LISA OWENS VIANI IS A WRITER IN THE BAY AREA AND A FREQUENT CONTRIBUTOR TO *LANDSCAPE ARCHITECTURE MAGAZINE*.

Project Credits

PROJECT TEAM CITY OF PORTLAND BUREAU OF ENVIRONMENTAL SERVICES (EMILY HAUTH); PORTLAND DEVELOPMENT COMMISSION (LISA ABUAF AND IRENE BOWERS); PORTLAND STATE UNIVERSITY (ERNEST TIPTON, KATE VANCE, AND MARK GREGORY); GERDING EDLEN DEVELOPMENT INC., PORTLAND, OREGON (DAMIN TARLOW). **LANDSCAPE ARCHITECT** NEVUE NGAN ASSOCIATES, PORTLAND, OREGON (KEVIN ROBERT PERRY, ASLA, BEN NGAN, DAVID GOODYKE, AND JASON HIRST). **ARCHITECT** MERRYMAN BARNES ARCHITECTS, PORTLAND, OREGON (NANCY MERRYMAN AND MICHAEL RISCICA). **ILLUSTRATOR** MARK SANBORN, SANDY, OREGON. **CIVIL ENGINEER** SISUL ENGINEERING, GLADSTONE, OREGON (THOMAS SISUL, DOUGLAS JOHNSON, AND ADRIANA KOVACEVIC). **GENERAL CONTRACTOR** SKANSKA, PORTLAND, OREGON (BRETT MCKOY). **LANDSCAPE CONTRACTOR** DENNIS' 7 DEES, PORTLAND, OREGON (DOUG PICKETT).



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BY DANIEL TAL, ASLA



ABOVE
Shaderlight transforms a SketchUp model by adding and reflecting light, colors, and texture to create a photo-realistic image. This Shaderlight-rendered winter scene from the ASLA Sustainable Sites animation "Revitalizing Communities with Parks" conveys ambient light and color consistent with a cold but sunny winter day.

IMAGE CREDIT
Daniel Tal, ASLA

Google SketchUp broke ground by making 3-D modeling accessible to almost everyone. Its low cost and simple, intuitive interface launched SketchUp to the forefront of must-have, must-use software brands in many design offices and schools. Yet because SketchUp cannot simulate reflections, lighting, or atmosphere, its models tend to look flat.

Transforming a SketchUp model to a more realistic-looking graphic is not hard with the right program and expertise. For example, 3ds Max, the photo-realistic rendering program by Autodesk, can produce outstanding renderings from SketchUp models. The problem with 3ds Max is its steep price and learning curve. At a cost of \$3,495 per seat, it makes for a significant investment even before you con-

sider training and computer hardware. This shouldn't be a deterrent for offices that can afford it. In the right hands, it can produce fantastic imagery.

However, there are affordable alternatives to 3ds Max and similar high-end software. Programs like SU Podium, Render[in] (still in beta as of this writing), LightUp, and Shaderlight help make photo-realism a possibility for even the smallest offices. These applications are easy to use and integrate into SketchUp. They might not achieve the same rendering quality as 3ds Max, but they can produce excellent results when you are working on a small budget. And these days, who isn't?

Of the aforementioned programs, Shaderlight (\$200), released in October

2010, stands out. It combines easy-to-use menus and quick rendering times to generate quality images. With the right settings (some of which are described below), you get consistent results. Most important, Shaderlight provides the most options regarding reflection and finish. Shaderlight is exceptionally stable for new software. You do get the occasional crash, but when you hit the render button, Shaderlight will deliver.

Rendering in Shaderlight

At the heart of the process to create photo-realistic renderings are materials and textures. Materials such as concrete, bricks, gravel, and steel are applied to SketchUp faces in your model. These materials need to be positioned and scaled in SketchUp so that when they are rendered, they reflect a real-world

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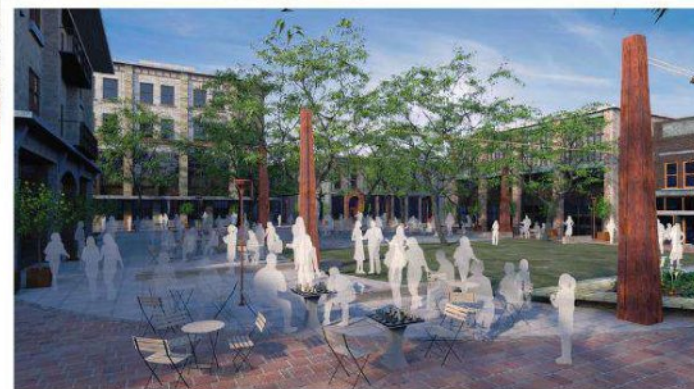


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BEFORE



AFTER

SHADERLIGHT (\$200), RELEASED IN OCTOBER 2010, COMBINES EASY-TO-USE MENUS AND QUICK RENDERING TIMES.

ABOVE

Adding the correct amount of amenities and detail (trees, people, tables, chairs, and even chess pieces) in SketchUp in the "Before" image is key to creating a realistic rendering. Shaderlight reflects light and texture off the model amenities in the "After" image, rendering each object photo-realistically.

IMAGE CREDITS

Daniel Tal, ASLA

aesthetic. This process is universal regardless of which integrated rendering program is used.

Once these textures are applied, the next step is to give each material a rendering value. These values correspond to how much light a material will reflect and the amount of bump, or 3-D depth and contrast, the material possesses. These values are key to transforming a flat SketchUp scene to a photo-realistic image.

Shaderlight's material editor is pretty straightforward. Using SketchUp's Paint Bucket tool, a material is selected and appears in the Shaderlight material editor. From the drop-down menu in the material editor, there are several options for reflection, referred to as "types." Options such as "matt" (sic) and satin are on the dull end of the spectrum; glossy to metal can produce sharp reflections. Using this menu, you can also make an object transparent or translucent or turn it into an artificial light by selecting "self-illuminating."

Each type of reflection has an additional value called the "finish." These options allow you to set how much

light is diffused by a material. The higher the value for the finish, the more light will be reflected, with the highest settings acting like mirrors in a range from blurred to lifelike.

These finish settings are unique to Shaderlight. Other programs allow for materials to reflect but not for how distinct or blurred these reflections can appear. For example, in Shaderlight, applying a satin type with a low finish allows paving to reflect light with a highly diffused or indistinct reflection of the environment and surroundings. Similarly, different types of metals can have mirrorlike reflections while other metals can be set to provide a less distinct or blurred reflection of the surrounds. These settings allow for greater permutations in material rendering.

The next value in Shaderlight's material editor is bump. The more bump, the rougher the material's surface will appear. For instance, adding bump values to stone or bricks allows the surface to appear coarse. Additionally, this allows the material to have more contrast between varying parts of the surface, which provides materials with the illusion of having actual depth, divots, grain, or protrusions even when the 3-D model is flat and smooth. Most bump settings range from +0.1

to +1.0. For concrete, a bump setting between 0.2 and 0.4 is ideal. Materials such as windows and polished metal surfaces get a bump value of zero.

As you make alterations, the editor provides a quick preview of what the material will look like when rendered. Observe the reflection and contrast on the material and adjust as needed. A typical error when first rendering is applying too much or too little reflection and bump.

Another menu you'll find useful is Shaderlight's "Render Settings." This menu is a bit more complex and will take some time to master. The included images provide recommended settings for lighting and background options for your first renders. In addition, SketchUp's native Shadow menu directly affects shadows in the rendering. How shadows are set in SketchUp is how they will render in Shaderlight.

Shaderlight has the ability to simulate artificial lighting and night scenes. A separate menu allows you to select various types of lighting elements including point lights (these are like light bulbs), spotlights, and area lights. Shaderlight also allows you to simulate photometric lighting using Illuminating Engineering Society lighting outputs.



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BELOW

The right textures for the roads, walks, metal on pedestrian poles, wood on benches, and building windows and cladding for the USDA Whitten Building are carefully selected and applied to the SketchUp model faces in the "Before" image. In the "After" image, Shaderlight transforms the applied textures to make them look realistic by diffusing and reflecting light off the materials and giving each texture bump or depth.

IMAGE CREDITS

Daniel Tal, ASLA

The last step is setting image resolution and quality. Always create preview renderings before creating a final image. This will allow you to assess the assigned material and light values and make adjustments. Preview renders can be completed in minutes. The high-resolution settings produce crisper images with better reflections and material contrast and depth. You can select Custom from the Preset menu

All that's left is to hit the Render button from the Shaderlight menu. This will launch a window outside of SketchUp allowing you to watch the rendering progress. Even better, this preview window is in real time. You can adjust the model view, shadows, and exposure while it's rendering, and it will be updated in the preview window. In addition to the wow factor of this feature, you can make snap decisions about the

A TYPICAL ERROR WHEN FIRST RENDERING IS APPLYING TOO MUCH OR TOO LITTLE REFLECTION AND "BUMP," OR ROUGHNESS.

Some General Pointers

Shaderlight has some additional features and shortcomings that are important to note. First, SketchUp's own materials palettes (in the Paint Bucket) are limited and not suited for photo-realistic rendering. You will need to create your own material library for your models.

Web sites such as *CGTextures.com* fortunately offer thousands of free textures ideal for photo-realism. *CGTextures* allows you to download up to 10 MB of images a day for free once you register (registration is free). For a small subscription, you can increase that limit to 100 MB a day. It's recommended that you download "Small" texture images from *CGTextures.com*. The medium and large sizes (most of which require a subscription) are too large for SketchUp or the various other rendering programs to handle.

Although Shaderlight is simple to learn and use, creating photo-realistic renderings is still nuanced. Professional photo-realistic renderers all echo the same sentiment: Photo-realism is an art form that takes time to master. It's worth noting that the stated goal of Shaderlight's development team is to allow users to create images that best represent concepts and design and not to drive toward the hyper-real images that are usually the hallmark of professional rendering artists. With that in mind, there are several details and processes that can be taken into consideration to achieve effective renders.

Professional renderers usually use Photoshop (or similar photo editing software) to tweak their renderings. It is highly recommended that you add a sky background to help situate the rendering in the real world. Some Shaderlight renders might appear flat, as light is too evenly distributed across a scene. This can be addressed by adjusting the scene contrast, darkening shadows, and adjusting color levels. Another edit is adding elements such as people, cars, or vegetation to create activity and context. Adjusting a rendering in Photoshop can be quick



AFTER ↗



↙ BEFORE

to produce larger images. Creating large, high-resolution renderings from complex models may take the computer a while—sometimes as long as 20 minutes or a couple of hours. Typically, while rendering, it is difficult to use your computer for other tasks and processes, so plan to run final renderings when not working (like at the end of the day when going home) or when you expect to have some down time.

quality of the rendering, since you can cancel the rendering at any given time by closing the preview window.

Shaderlight indicates when a render is finished at the bottom left corner of the preview window. Once it's completed, you can save the rendering. There are several options for the type of image format you can save including bitmaps, JPEGs, TIFFs, and PNGs.

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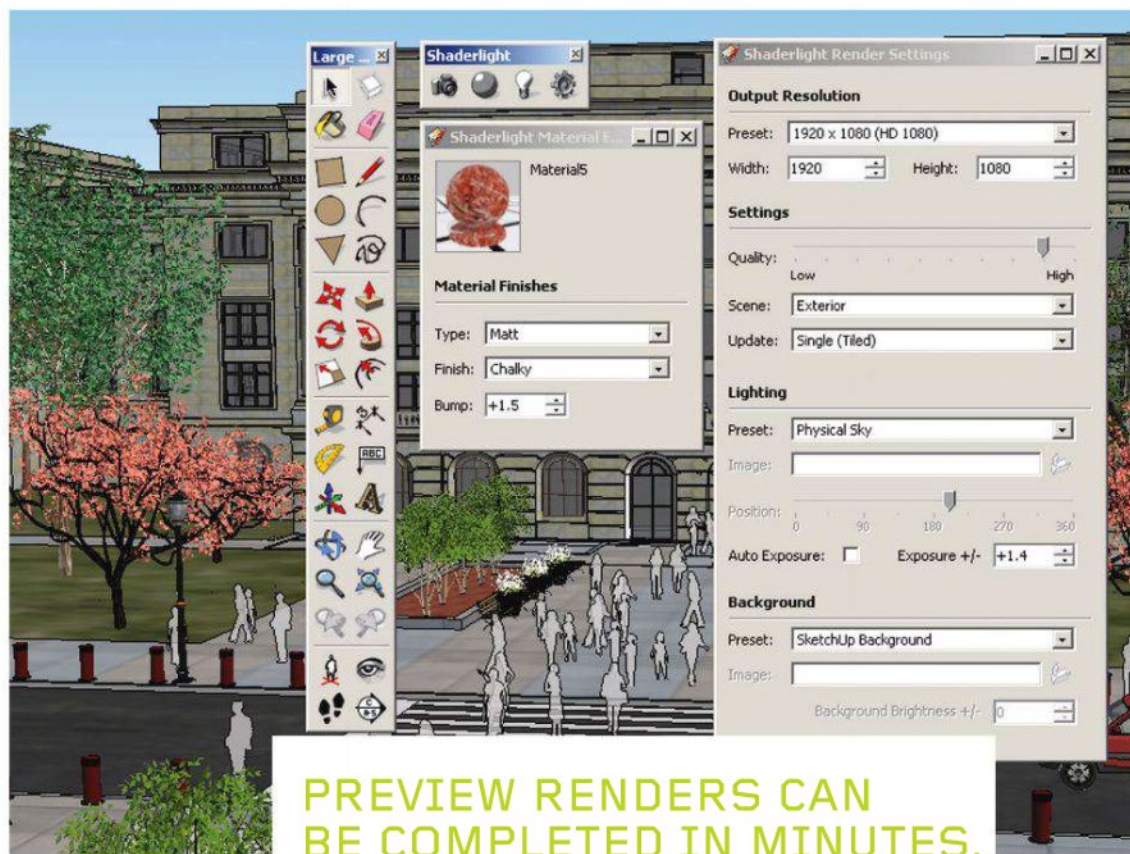
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PREVIEW RENDERS CAN BE COMPLETED IN MINUTES.

ABOVE

The Shaderlight Render Settings menu shows high-resolution render settings. For preview settings, adjust the quality bar a third of the way to the left and decrease the resolution output to 1280 x 720. Keep lighting, exposure, and background settings the same.

IMAGE CREDIT

Daniel Tal, ASLA

or take hours of work, depending on what you want to achieve.

The more detail in your model, the better. Creating a scene that contains all the elements that we might find in reality can be time-consuming. Adding buildings with windows, doors, mullions, and other articulations to the background of a site render is highly effective, and the reflection from glass alone can easily make a scene pop, but it can add hours to the process.

Learning to include the right number of details can take time. There is value in observing light, reflection, textures, and detail when out and about or in your home or office. It's been consistently stated by render artists that they find their inspiration and insight in simple (and sometimes obsessive) observations of the real world.

While you don't need a supercomputer to use Shaderlight, your average laptop and older desktops will struggle to do this work. Shaderlight's recommended hardware requirements, 2+ GHz processor, 2+ GB RAM, and 3-D class video card are not beyond most new desktops and some laptops. But a quad core computer with Intel i7 processors will considerably speed up the amount of time it takes to render a scene. Luckily, these types of computers are quickly becoming an affordable norm.

Shaderlight, because it's new, does have some bugs and shortcomings, not uncommon among plug-ins that work in SketchUp. After creating your first rendering, SketchUp can become unresponsive or very slow. You can render as many times as you want, but after the first time you render, if you want to make adjustments to your model, you will have to close and reopen SketchUp.

It is recommended that you always save before you render. (Regardless, you should be saving often.)

Another problem is using the background image option. For example, you can add background images in the Shaderlight Rendering menu that will be included in the outputted image. At the time of this writing this feature wasn't fully working as intended. The background images have a tendency to wash reflections in materials, creating white splotches in the render. The Shaderlight developers say they are aware of these issues and are working on updates.

Before committing to Shaderlight's software, you can download a 14-day free trial from the company's web site and try it out yourself. The site also has informative and fast tutorials covering and expanding on some of the information in this article. ArtVPS (www.artvps.com) offers excellent support and employs professional 3-D render artists who can provide tips and feedback in their user forums.

Shaderlight, SU Podium, Render[in], and other similar programs are worth trying out. Regardless if you are an avid SketchUp user or new to the program, these applications will add value to whatever you produce. Learning to render will require some time and experimentation, but the results will usually be superior and more expressive than a standalone SketchUp image. SketchUp represented the first wave of applications that allow for the illustration of a design in 3-D without devoting a career to being a 3-D modeler. Now, these rendering programs allow users to take the next step in the world of photo-realistic graphics. ●

DANIEL TAL, ASLA, IS THE AUTHOR OF *GOOGLE SKETCHUP FOR SITE DESIGN* AND A PRACTICING LANDSCAPE ARCHITECT. HE CAN BE REACHED AT SKETCHUP3DGURU@GMAIL.COM.

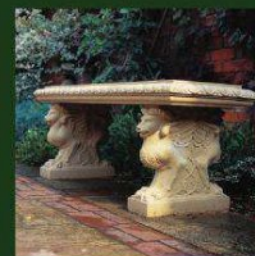
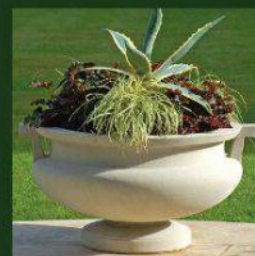
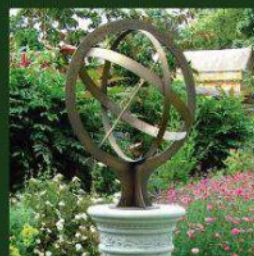
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FOR MORE INFORMATION, VISIT WWW.DEDON.DE.

IMAGE CREDIT

Courtesy Dedon



ROOM & BOARD'S MONTEGO COLLECTION

The Montego Collection, designed by artisans at Sielaff in Wisconsin, combines powder-coated stainless steel and solid ipe wood. The furniture is hand welded for durability. Cushions are available in a variety of colors. ●

FOR MORE INFORMATION, VISIT WWW.ROOMANDBOARD.COM.

IMAGE CREDIT

Courtesy Room & Board



TUUCI OCEAN MASTER MAX CANTILEVER

TUUCI's newest parasol-style umbrella, the Ocean Master MAX Cantilever, has a polished and anodized marine-grade, oval-shaped mast that was inspired by sailing yachts. A solid stainless steel milled fulcrum and an automatic telescoping mast allow the shade membrane to extend over tables and chairs, while the newly designed 4:1 tandem-retrieving crank system makes it easy to operate. It comes in a variety of sizes in square, octagon, and rectangle. ●

FOR MORE INFORMATION, VISIT WWW.TUUCI.COM.

IMAGE CREDIT

Courtesy Tuuci

PERSUASIVE PRICES

For patios, porches, and terraces, residential clients are looking for value in sturdy materials and longevity when they buy outdoor furnishings. For seating and tables, trim, contemporary designs are increasingly coming in at prices you wouldn't associate with the better auction houses. Room & Board has two great collections at reasonable retail prices: The canvas-covered Laguna seating line includes chairs from \$599 to \$649 and a sofa for as low as \$999—sectionals are priced up to \$3,895. Most benches and tables in its Montego line run between \$649 and \$799. At those prices, clients could consider splurging on a big TUUCI umbrella (prices run between \$5,695 for the eight-foot-square model and \$7,160 for a 10-by-14-foot model) or DEDON's new NESTREST hanging lounge (starts at \$12,000), created by the Paris-based designers Daniel Pouzet and Fred Frety.

ROOM & BOARD'S LAGUNA COLLECTION

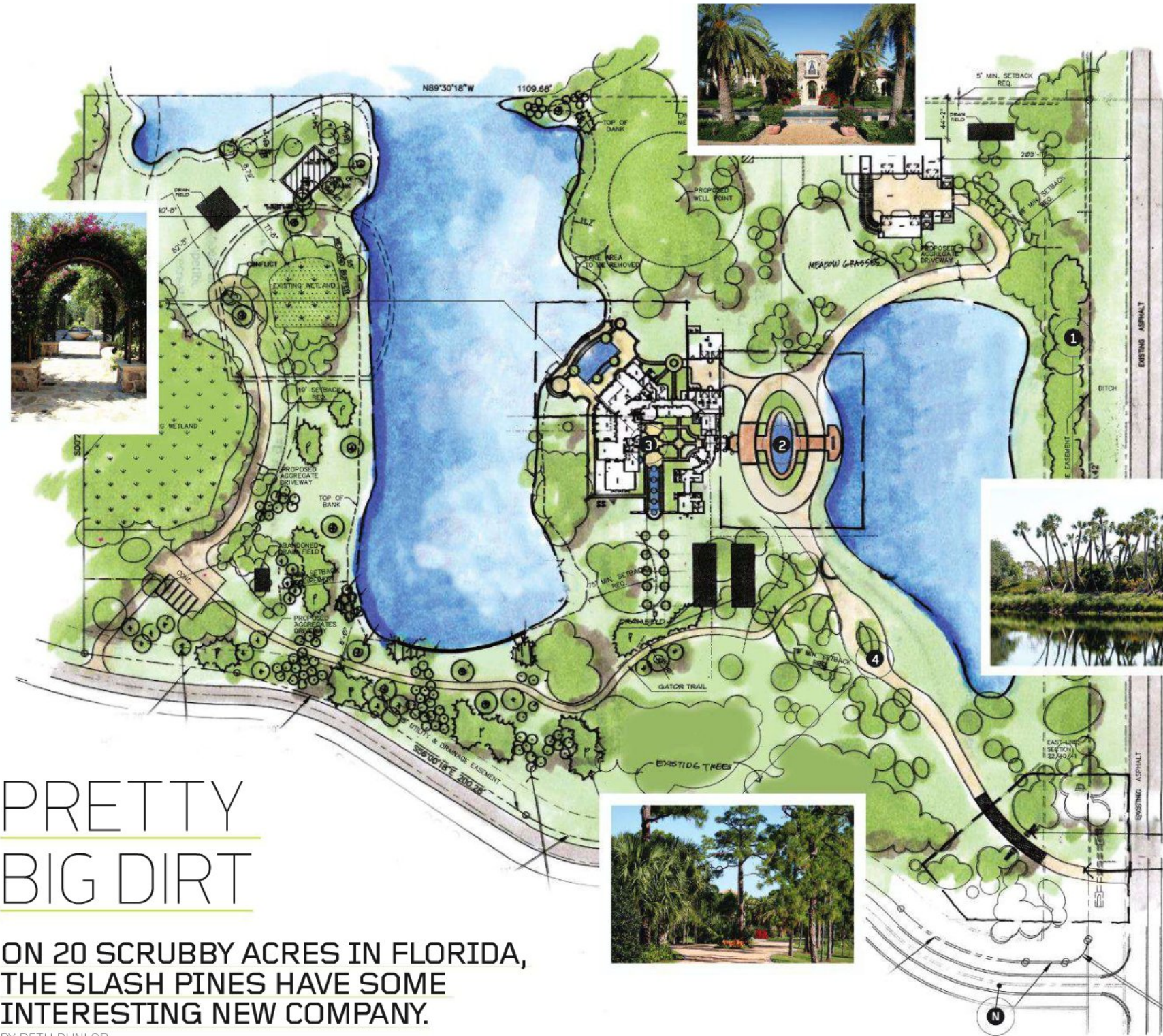
The Laguna Collection is Room & Board's line of outdoor modular lounge furniture. Each upholstered piece is made from marine-grade plywood wrapped with a water barrier that allows the furniture to breathe while repelling water. Fit for most outdoor climates, Laguna should be covered or brought inside during winter or long periods of rain. ●

FOR MORE INFORMATION, VISIT WWW.ROOMANDBOARD.COM.

IMAGE CREDIT

Courtesy Room & Board





PRETTY BIG DIRT

ON 20 SCRUBBY ACRES IN FLORIDA,
THE SLASH PINES HAVE SOME
INTERESTING NEW COMPANY.

BY BETH DUNLOP

1 SLASH PINES
Already on the site, they were kept to create a sense of the untouched landscape.

2 APPROACH
The approach to the house gives the idea of a formal European estate, albeit one transplanted to the subtropics.

3 TRELLISES
Landscaped trellises covered in bougainvillea lead from space to space.

4 DRIVE
The meandering drive into the property splits as it passes an existing tree.

IMAGE CREDITS
Courtesy Krent Wieland Design

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FOREGROUND / HOUSE CALL

RIGHT

Specimen trees and ancient oaks add to the idea of the "found landscape," while black bamboo combines with more typical Florida inland trees on the vast grounds of this Florida house.

IMAGE CREDITS

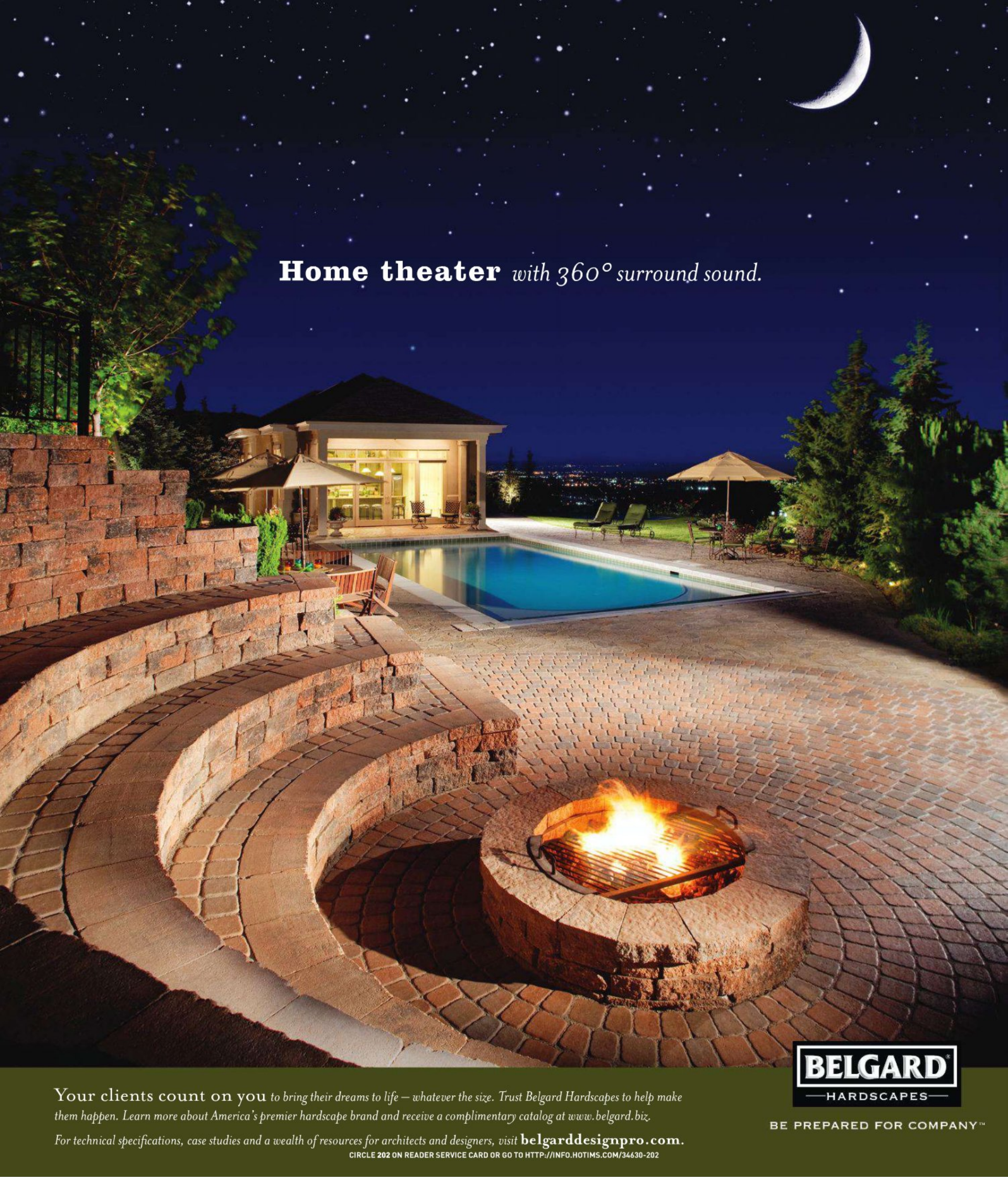
Courtesy Krent Wieland Design



The land, as Krent Wieland, ASLA, first encountered it, is not where you would expect to build a vast European-inspired house that sits on carefully designed grounds. It was 20 acres of slash pine uplands far inland from the Atlantic Ocean. To get to this spot, you have to drive west into the scrub of Florida's low-lying interior to a community far removed from the ready-made glamour of Palm Beach or Jupiter Island.

Yet that is where John F. and Sharon Chapple had chosen to build their new house, a part of a larger development known as Ranch Colony, which is aimed at luring avid golfers, pilots, equestrians, and even ranchers and carving out sizable homesteads where once only birds roosted and cattle roamed. And that is where Wieland faced the challenge of creating a fantasy out of fallow ground.

His eponymous landscape design firm—Krent Wieland Design Inc.—is based in Delray Beach, but the practice spreads beyond Florida to Texas and North Carolina and then into the Bahamas, the Caribbean, and on to points much farther, including Israel. But after 35 years of practice, it is Florida's landscape that is



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ABOVE

The house itself took on a more Italian-influenced feel as the design progressed. Krent Wieland, ASLA, chose specimen Canary Island date palms along with abundantly blooming bougainvillea for the more “domestic” landscape.

IMAGE CREDIT

Courtesy Krent Wieland
Design

closest to his heart; though he’s from a well-entrenched Midwestern furniture-making family, he moved south to the subtropics in 1975 with a landscape degree he had just finished at Michigan State University.

Wieland’s work shows his flair for contained drama and restrained romanticism, for creating from the proverbial tabula rasa, or blank slate. Wieland is no stranger to large holdings of untouched (and often uninteresting) terrain that

need to be transformed into lush botanical offerings, and he is no stranger to designing the landscapes of large houses. His practice embraces a wide range of residential landscape design, from entire new communities to private homes, most of them at a very large scale. “In the heyday, in the 1980s and 1990s and even the early ‘zeros,’” he says, “I was doing some pretty big dirt.”

And that was the case with the Chaple project, where Wieland got to

shape both the land and the landscape. “We had one lake and an old garage, and everything—except a piece of the garage—got bulldozed,” he says. “Then we began again.” First he dug out a second lake, then reshaped the existing one. His process includes storyboarding, and in this case the clients looked at several of these collage-like assemblages of images and “changed their whole architectural vocabulary,” he said. Once the architectural vocabulary became more Italianate and less

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"WE HAD ONE LAKE AND AN OLD GARAGE, AND EVERYTHING—EXCEPT A PIECE OF THE GARAGE—GOT BULLDOZED," HE SAYS. "THEN WE BEGAN AGAIN."

ABOVE

Two lakes, one already on the property and one added, exemplify the dichotomy between the wild and the tamed that pervades this design.

IMAGE CREDITS

Courtesy Krent Wieland Design

Spanish, as had originally been planned, both the house design (the architect was Spencer Goliger of Palm Beach) and the landscape plan became clear.

A formal entryway—wrought iron gates, stone piers, and two imposing specimen date palms—segues into a meandering and rustic road that in turn leads to a formal entry sequence. The driveway circles around an elliptical koi pond decorated with stone mosaic swags, in another nod to the house's Italian inkings. The front

door is marked by two brilliant—and big—bougainvillea plants.

At 20,000 square feet, this is a big house, but, Wieland says, "it's really like a compound," with separate pieces wrapping around courtyards and connected by loggias. In turn, the house looks across a horizon-edge swimming pool at the original lake. A guest house (it is comparatively small at 2,500 square feet) sits across the tip of the lake. One vista leads to another. "It all lines up axially," says Wieland.

Those axial views played an important role in Wieland's design: There are landscape sequences that direct the eye from house to garden, building to courtyard—all part of the intricate spatial arrangement of the complex. The landscape design runs the gamut from gardens, courtyards, terraces, pergolas, and follies that you might have found in an old formal country estate to what Wieland calls "near organic."

Indeed, the extensive site offered an enormous opportunity to delve into

landscape design history. Wieland chose to treat the site much the way Florida's earliest landscape architects—among them the Olmsted-trained William Lyman Phillips—had in creating what are now treasured historic gardens. Like Phillips and his turn-of-the-20th-century peers, Wieland shaped views and carefully arranged the landscape to look as natural as possible, as if it had been a found landscape.

Thus, formal interventions yield to a near-wild landscape on other parts

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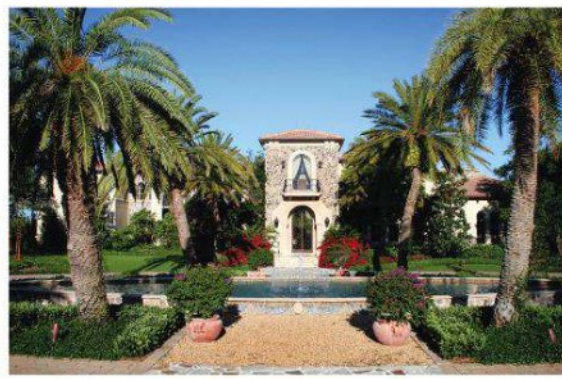
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ABOVE

The approach to the house juxtaposes new trees and the far more rustic pines. The more informal landscape of much of the grounds evolves into the cultivated look of the front of the house, with bougainvillea in urns adding to the Old World quality.

IMAGE CREDITS

Courtesy Krent Wieland Design

of the estate. Besides the canary date trees, he also brought in specimen oaks, “some of which were close to 100 years old, including a beautiful oak with five trunks,” he says, and large magnolia and bougainvillea trees. Certain plants were kept to specific locations—for example, black bamboo in the courtyards.

The hardscape—driveway, arrival area, back terraces, and poolside—follows a specific palette as well, one that worked with the stone cladding of the facade. The driveway itself is aggregate, but much of the rest relies on Pennsylvania limestone and marble, including built-in planter edges to allow only minimal poolside furniture and inlay detailing in the pool. Pergolas wrapped in bougainvillea allow for romantic passage from space to space, and iron fences and gates are not just punctuation points but further define and divide the grounds.

“Obviously,” he says, “up close to the house we’re more architectural, but when you’re doing 20 acres, you want to be as native as possible.” Besides the original pines, the site bore ferns, coco plum, holly, and sabal palms. Wieland kept much of the original vegetation, focusing largely on the predominant slash pines, in an effort to be true to the land and to the microclimate. “I made the new lake totally native, surrounded by sabal palm hammocks, live oaks, and native grasses,” he said. “The challenge for a lot of it was to make it look like it wasn’t designed.” ●

BETH DUNLOP IS AN ARCHITECTURE CRITIC AND AUTHOR WHO LIVES IN MIAMI BEACH. HER MOST RECENT BOOK (WITH JOANNA LOMBARD) IS *GREAT HOUSES OF FLORIDA*, PUBLISHED BY RIZZOLI.

Project Credits

LANDSCAPE ARCHITECT KRENT WIELAND DESIGN, DELRAY BEACH, FLORIDA (KRENT WIELAND, ASLA, AND KRIS WALTERS, DESIGNERS). **LANDSCAPE CONTRACTOR** LANDCO, DELRAY BEACH, FLORIDA (BILL LLOYD). **IRRIGATION CONTRACTOR** SUNNYLAND IRRIGATION, WEST PALM BEACH, FLORIDA (WADE HORNSBY). **GENERAL CONTRACTOR, HARDSCAPE FEATURES** SHAPIRO PERTNOY COMPANIES, WEST PALM BEACH, FLORIDA.

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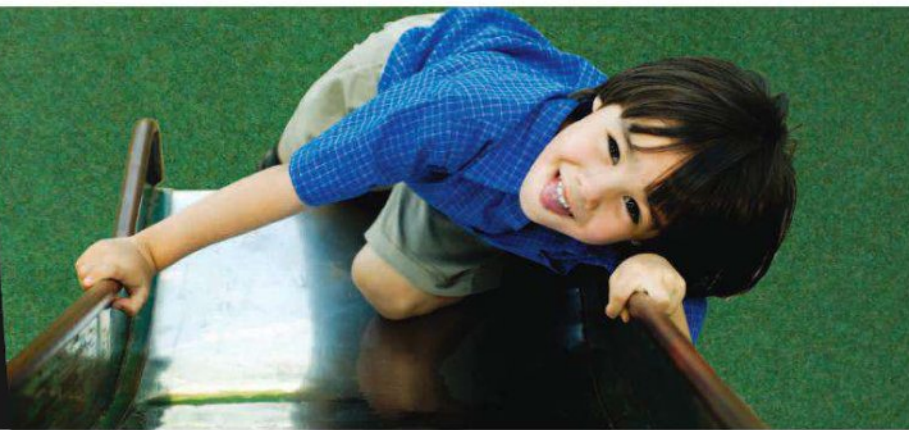


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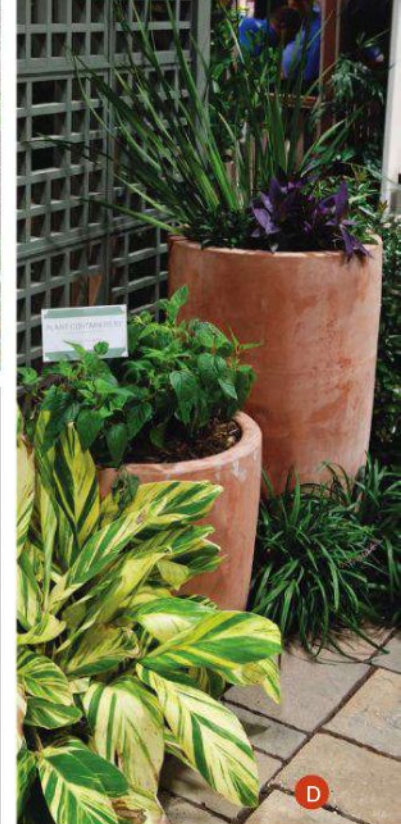
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GARDEN
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OUTDOOR HOME

Garden Design presented The Ultimate Outdoor Home to thousands of top landscape architects and trade professionals at the September 2010 ASLA Expo. Award-winning design professionals Mario Nievera and Mary Ellen Cowan partnered with Garden Design to unveil the latest in home products and luxury design within this custom outdoor show home. Garden Design salutes all the partners involved in creating The Ultimate Outdoor Home entertaining area, outdoor dining and kitchen space, and relaxing garden. The following pages feature highlights of the show home.



A The extraordinary plant chandelier at the center of The Ultimate Outdoor Home showcases the versatility of the modular gardening containers by Woolly Pocket.

B Barlow Tyrie outdoor garden furniture provides stylish comfort to enhance any living space; pictured here with Sunbrella® fabric.

C LatticeStix's entranceway arbor lattice creates an elegant

and striking doorway into The Ultimate Outdoor Home garden.

D Smooth textured Tuscan Imports planters from the Siena Collection for southern climates and indoor use. Monrovia plants include: (bottom) Variegated Shell Ginger, Emerald Goddess® Lilyturf, (middle) Black and Blue Sage, (large planter) Dwarf Fountain Grass, Purple Heart, Vera Jameson Stonecrop.

E Perfect for entertaining, Belgard Outdoor Kitchen Elements are constructed with the same materials as your outdoor hardscape. These pre-built modular kitchens can be ordered as individual cabinets or as pre-designed layouts.

F A bird's-eye-view of this dramatic transformation shows how just the right mix of design and functionality can create an amazing space for everyday living, relaxing and entertaining.

G To brighten any outdoor space, Bevolo's classic French Quarter design creates great ambiance at the entrance of The Ultimate Outdoor Home.

GARDEN DESIGN ULTIMATE OUTDOOR HOME

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H The relaxing garden featuring Belgard pavers, plants by Monrovia, LatticeStix panels, and pergola by Walpole Woodworkers and Shade FX™ creates a perfect

focal point at the heart of The Ultimate Outdoor Home.

I Monrovia plants include: Vera Jameson Stonecrop,

Festival Grass™ Cordyline, Dwarf Japanese Garden Juniper.

J Haddonstone USA stylish planters are great for informal and modern gardens as well as patios and terraces. Monrovia plants include: (bottom) Dwarf Fountain Grass (left to right in

urn) Whirling Butterflies Gaura, August Beauty Gardenia, Toffee Chip Carpet Bugle, Goldsturm Black Eyed Susan, Sun Parasol® Crimson Mandevilla.

K Chic outdoor furniture by Royal Botania creates the ideal setting for garden entertaining.

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Mario Nievera, principal of Mario Nievera Design Inc., provides landscape architecture and design services for residential, corporate, institutional and commercial clients.

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**MARY ELLEN COWAN****MESA in Dallas**

Mary Ellen Cowan manages the residential garden design studio and provides clients with exquisite design and construction management services, specializing in cutting edge planting design that mixes seasonal changes, garden ornament, urns and furniture. www.mesadesigngroup.com

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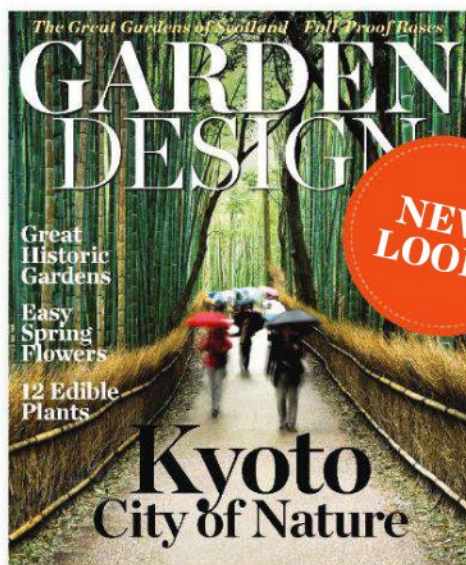
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The magazine and website will reflect a new era in which the boundary between indoors and

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Editorial highlights in the first issue of the new year include: the style and luxury embodied by black plants, urban farming in the Big Apple and history/trends of Victorians in the garden.

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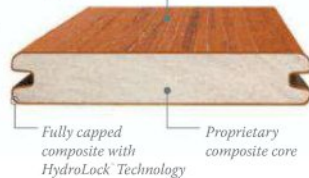


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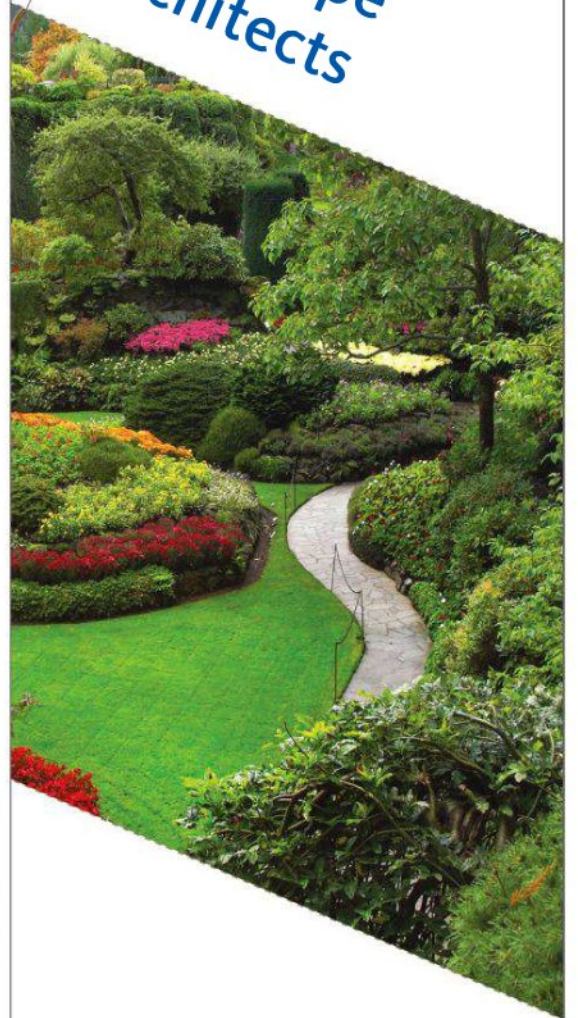
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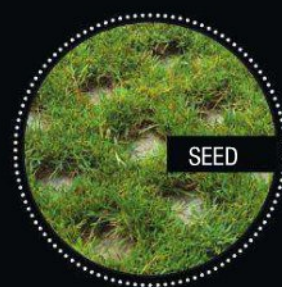
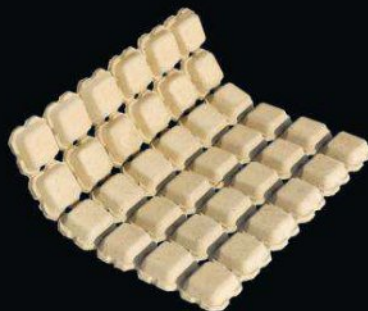
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FEATURES

LAND IN THE ARTSCAPE

Hard to tell if it's a coincidence or a movement, but three major American museums have been pushing their programs outside in ways that surpass old-school sculpture gardens (though each has sculptures here and there).

At the North Carolina Museum of Art in Raleigh, William Richards tracks the push to mix art and aesthetics around a new building's landscape hemmed among suburban roads. The Indianapolis Museum of Art recently opened a new 100-acre park on a piece of much-abused riverside; Frank Edgerton Martin ponders the park's long maturation ahead without its lead designer, the late Ed Blake. And Jennifer Zell, ASLA, sizes up the artist Robert Irwin's vivid Palm Garden at the Los Angeles County Museum of Art and sees allusions to history, humor, and an embedded opinion of the city at this particular place in time.



CULTURE

**LAPPAS + HAVENER
AND THE
NORTH CAROLINA
MUSEUM OF ART
DRAW UP
NEW RULES FOR
ART'S ECOLOGY.**

BY WILLIAM RICHARDS

IMAGE CREDIT
Scott Frances





AS ASSETS GO, A MUSEUM'S COLLECTION IS ITS GREATEST.

By 2000, the North Carolina Museum of Art in Raleigh (NCMA) needed a larger home for its growing collection, which includes works by Homer, Bierstadt, Giotto, and Giacometti. In planning to move the permanent collection to a new building, which was completed in 2010 by the architecture firm Thomas Phifer and Partners with Pearce Brinkley Cease + Lee, the museum incorporated its other great asset into the expansion plan: a 164-acre site between Raleigh, Durham, and Chapel Hill.

The firm Peter Walker and Partners (PWP) was originally hired by NCMA in 2006 to design the landscape around the new addition, working with the Durham firm of Lappas + Havener. Walker completed schematic designs for the museum's grounds,

which included several elements that survive today, including an entry allée and a series of reflecting pools meant to mirror the building's planes. But Walker left the project in 2007 (museum officials and members of the design team have been rather reticent around this issue), and the museum turned to Lappas + Havener to complete the design, which received an award of excellence last fall from the North Carolina Chapter of ASLA.

For the museum and sculpture park, Lappas + Havener developed a design for the entire site, from a series of formal sculpture courts around Phifer's new West Building outward to a looser, pastoral sculpture park that follows an existing greenway. "The interpretation of nature in the more rural part of the site is the framework for this museum landscape," says Walt Havener, ASLA, the principal designer. "We've taken the rolling topography [of the greenway] and intensified it around the museum in terms of landforms and drainage."

It's a topography Lappas + Havener knew better than just about anyone. The firm has been involved with the museum since the early 2000s, before Walker's or Phifer's arrival in Raleigh, and had completed an early site plan for the museum's property. The firm's

**THIS PAGE**

NCMA's South Court holds 14 granite boulders from western North Carolina.

OPPOSITE PAGE

Ursula von Rydingsvard's *Ogromna*, a series of stacked cedar and graphite discs assembled on site, draws visitors into the museum's south meadow.

IMAGE CREDITS

KC Ramsay, this page;
Jesse Turner, opposite



BAMBOO Bamboo canes balance the heft of Auguste Rodin's bronze casts in the Cantor Court.



SCULPTURE *The Three Shades* is part of Rodin's monumental "Gates of Hell" sculpture group, based on *Dante's Inferno*.



SOUNDS Rustling bamboo, the gravel's crunch, and trickling water define the aural elements of the court.

IMAGE CREDIT
Scott Frances



REFLECTIONS
Stormwater recharges the reflecting pool.

SITE PLAN

IMAGE CREDIT

Courtesy Lappas + Havener,
North Carolina Museum of Art

- 1** LAPPAS + HAVENER created a stripped-down version of the Museum Park forest's texture, color, and structure around the new West Building.
- 2** VISITORS ascend a bluff to enter the museum's sculpture park.
- 3** THE HOUSE CREEK GREENWAY TRAIL loops through NCMA's sculpture park, past half a dozen sculptures along the wooded "art loop."
- 4** THE LOWE'S PARK PAVILION by Tonic Design and Mike Cindric stands at the nexus of three sculpture park trails.
- 5** A MORaine defines the wildest part of the landscape design, which becomes more scripted as you get closer to the museum.



RIGHT

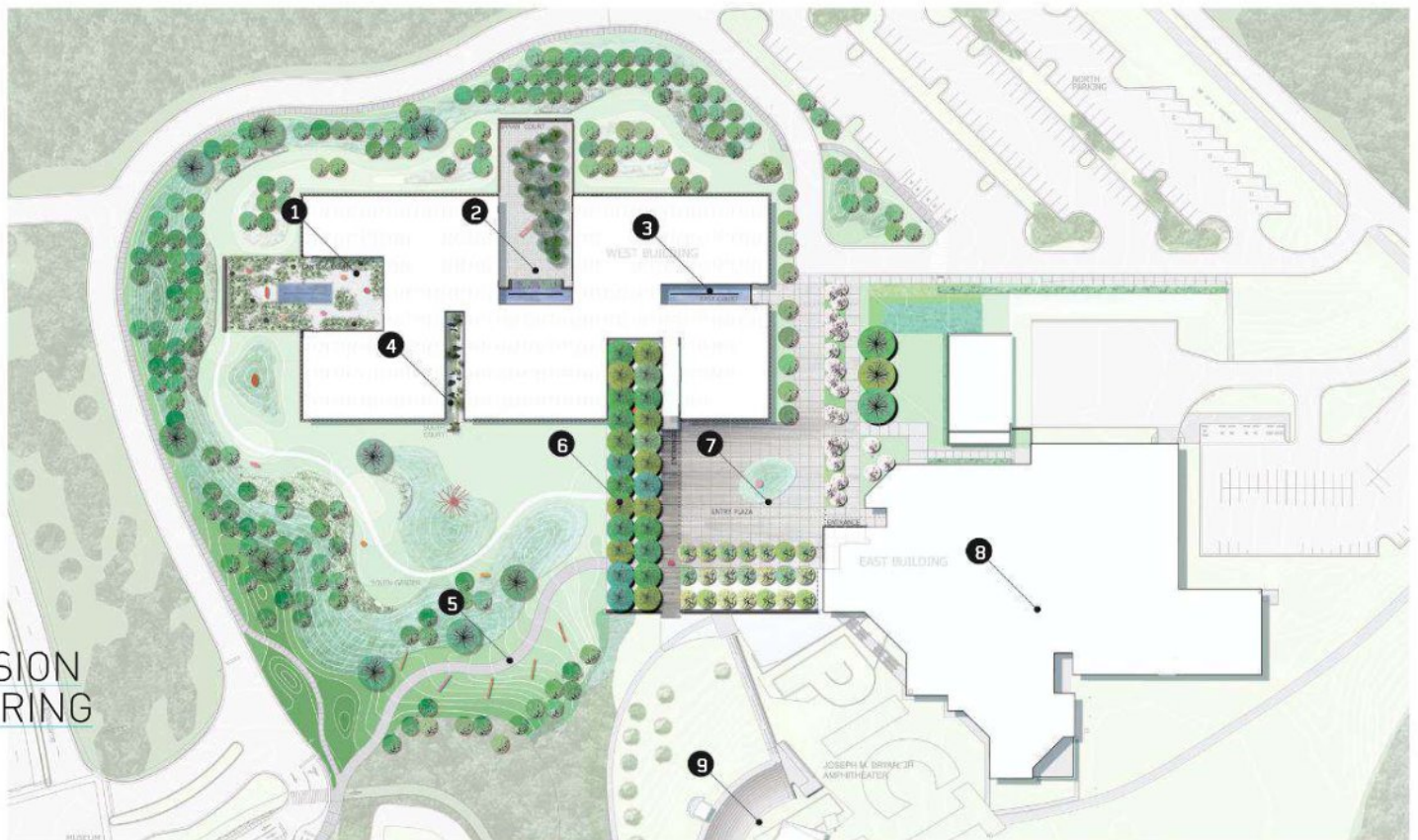
The entire building and its sculpture courts can be accessed by a meandering path through a grove of river birches, native meadow grasses, and fescue lawns.

- 1 West Building, Cantor Court
- 2 Bryan Court
- 3 East Court
- 4 South Court
- 5 Entry Path
- 6 Entry Court (Elm Allée)
- 7 Entry Plaza
- 8 East Building
- 9 Amphitheater

IMAGE CREDIT

Courtesy Lappas + Havener,
North Carolina Museum of Art

EXPANSION RENDERING



scheme for the bioretention pond that now sits southeast of the museum buildings also dates from this period.

Since 1983, NCMA operated out of an ungainly brick bunker designed by Edward Durell Stone and completed after his death. The building had major problems from the beginning. It came in way over budget, so many of its galleries had to be cut and the collection hung wherever there was wall space—including spaces along the walls of a cavernous atrium. Stone's original scheme included a series of Babylonian terraces that were also value-engineered out in the end, making it appear as though the museum—shrunk and denuded—had haplessly landed in a mowed field.

The plan for Phifer's 127,000-square-foot West Building is a central hall with five galleries that spiral away from its spine. It's a highly orthodox grid, to be sure, that orders the building's structure as well as your movement. Everything seems to snap to a line. Within that framework, five exterior courts open in the spaces between extruded galleries—some are long and thin; others are foreshortened and broad. Each gallery is programmed in concert with an elemental focus—on stone, water, or reeds—and conspicuously named for donors.

HOW MANY AMERICAN MUSEUMS COUNT THE LANDSCAPE AMONG THEIR PRIME ASSETS?

**LEFT**

Robert Bladen's *Three Elements* slices diagonally across the Wheeler Court to break an otherwise monotonous grid.

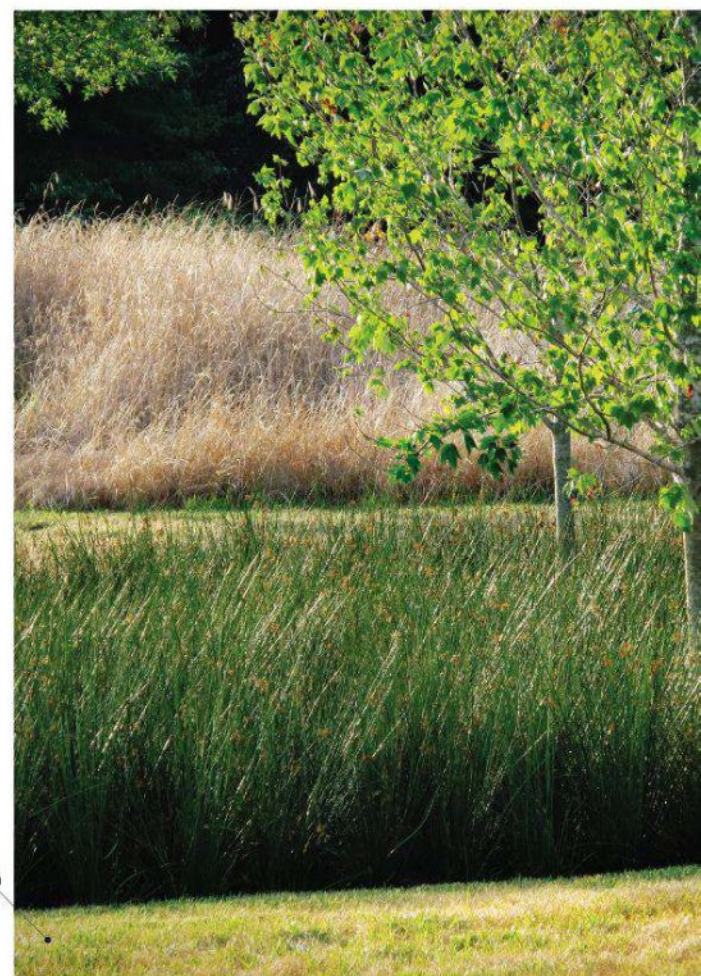
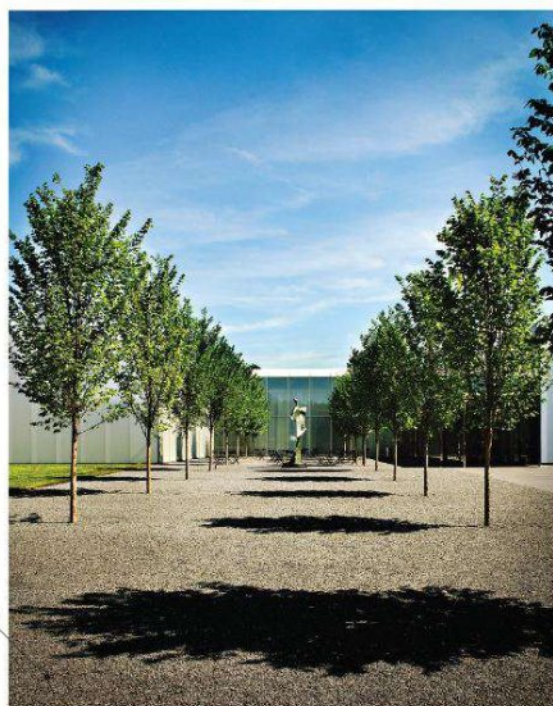
BELOW

Visitors don't arrive at the museum so much as they descend into its landscape and the entry plaza from the parking lot.

IMAGE CREDITS

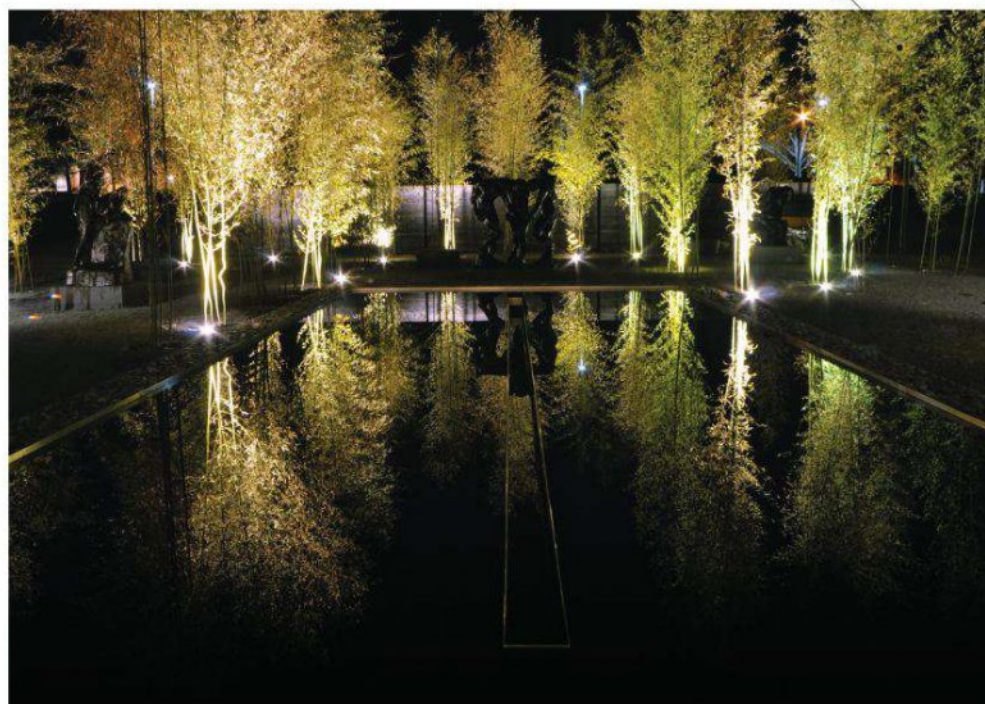
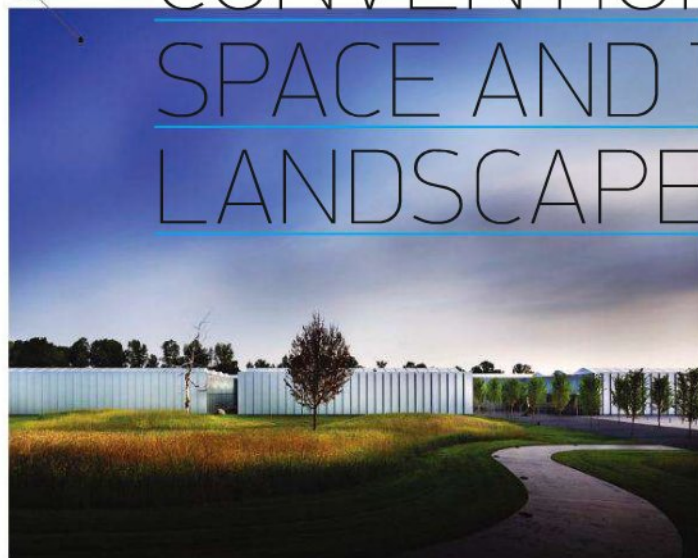
KC Ramsay







THE ENTRY PLAZA ACTS AS A HINGE BETWEEN CONVENTIONAL MUSEUM SPACE AND THE LANDSCAPE BEYOND.



1 WALL

A black, poured-in-place concrete wall defines the Cantor Court's western border.

2 CANOPY

NCMA's entry court is bounded by a canopy that's reflective on the outside and semitransparent from the inside.

3 ELMS

An American elm allée mediates between the entry path and the entry plaza.

4 PATH

The exterior sculpture courts can be reached by a meandering path through native meadow grasses and fescue lawns.

5 BAMBOO

The Cantor Court's underlit bamboo creates a sprightly presence at night against Rodin's torqued figures.

6 LANDSCAPE

"In time," says Thomas Phifer, "the landscape will grow and take over as the principal image of the museum."

IMAGE CREDITS

1. Courtesy Lappas + Havener, North Carolina Museum of Art; 2. Scott Frances; 3. KC Ramsay; 4. Courtesy Lappas + Havener, North Carolina Museum of Art; 5. Jesse Turner; 6. Scott Frances



ABOVE

Bioretention terraces, in part, filter storm runoff between the museum's festival lawn and the pond below.

IMAGE CREDIT

Courtesy Lappas + Havener, North Carolina Museum of Art

On the west is Cantor Court, which is bisected by a big reflecting pool and forces you to approach its Rodin bronzes and bamboo canes in a roundabout way. On the north is Bryan Court, which is more of a ramble among perennial beds and Chinese elms. Bryan Court also contains two sculptures that are notable: Robert Bladen's *Three Elements*, which slices diagonally across the court to break an otherwise monotonous grid, and Lappas + Havener's black, poured-in-place concrete wall that defines the court's western border. Striations in the wall, which are remnants of sand randomly distributed during the pouring process, rough up an otherwise sleek patio of granite pavers.

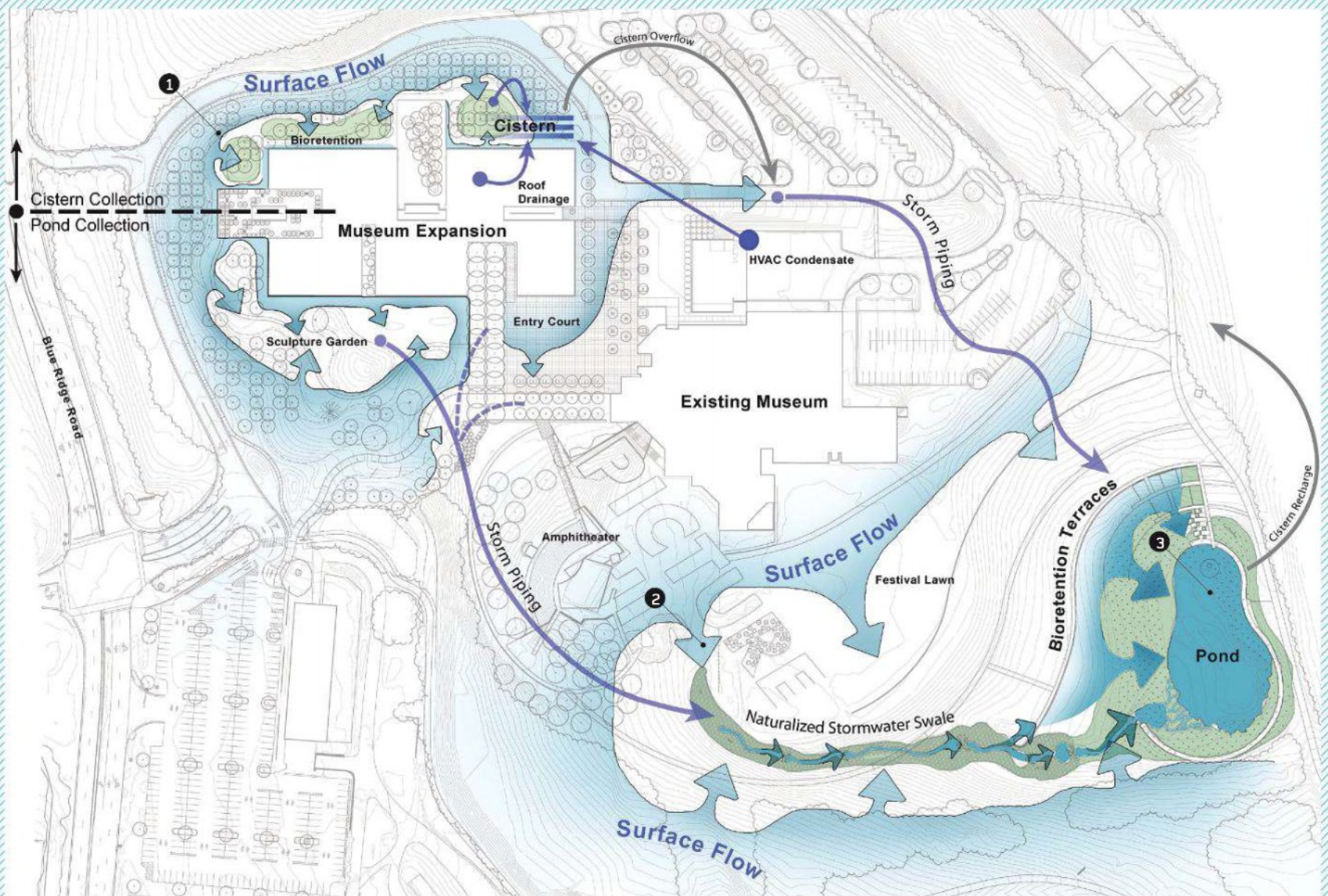
Phifer's expansion has an entry plaza, but it doesn't have a back side. The entire building and its sculpture courts can be reached by a meandering path through a grove of river birches, native meadow grasses, and fescue lawns. Because the museum does not charge admission, museum officials and the design team agreed that access to the galleries and courts does not have to be as highly controlled as it is at a museum that does charge. "The porosity of this building is unique," Havener says, "and because it's a free institution, you can enter from four different points and have different paths and experiences through the landscape."

On this walk around the Phifer building, two smaller courts appear as skinny incisions into the building's cubic volumes: a pool to the east that uses black dye to enhance its reflectivity and a boulder garden to the south, which is dotted with six-million-year-old granite rocks from western North Carolina and grounded by beds of vinca and hellebores.

People arriving at the museum can see the South Court as they move down toward the entry plaza. In the larger scheme, each of these courts actually acts as a stage you're supposed to view from the museum's interior. Phifer's interest in transparency plays out here in an almost voyeuristic way: The translucent sun shades that screen natural light into the museum also act as veils that blur the view out. The forms in each of the exterior courts—Rodins and rocks and so forth—appear in a soft white haze. You can detect people and sculpture outside, but the view in from one of these courts is obscured by these sun shades, and the courts effectively become stage sets.

The fifth court is the entry plaza, which brings you in from one of two skillfully hidden parking lots and governs the circulation

POND+BIORETENTION PROJECT



1 BIORETENTION Road surface flow is absorbed by a bioretention area between the Cantor and Wheeler courts.

2 SWALE Surface flow from the museum's festival lawn combines with runoff from the museum in a naturalized stormwater swale.

3 RECHARGE The pond recharges the museum's fountains and irrigation system after collecting water from multiple sources.

IMAGE CREDIT

Courtesy Lappas + Havener, North Carolina Museum of Art

A key component in Lappas + Havener's work for the North Carolina Museum of Art (NCMA) is its pond renovation project, which draws from the museum's cistern and irrigation system. The museum will incorporate the pond into its ecology education programming. It's bordered by two rings of pink step walls and sits at the museum site's far eastern edge along the sculpture park's return path to the museum's campus. As you go from the pond back up toward the museum's plaza, water is continually moving down into the low-lying wetland.

Between an access road to the north and a four-lane city road to the west, NCMA's new West Building landscape acts as a sponge for road surface flow down into a bioretention area between the Bryan and Cantor sculpture courts. Stormwater from these courts, as well as HVAC condensate from the older East Building, are funneled

into a 90,000-gallon cistern just to the east of Bryan Court. Storm piping from this cistern, as well as from the museum's entry court area, feeds into a series of bioretention terraces and a naturalized stormwater swale, which also collects surface flow from the bluff that separates NCMA's sculpture park from its building campus. From these sources, the water empties into the museum's pond, which is surrounded by red switchgrass, little bluestem, and Indiangrass along its upper terrace and a mixture of grasses along its lower terrace.

In this scheme, recycled water can recharge the museum's fountains and irrigation system, even during times of drought restrictions. Lappas + Havener and NCMA, in accordance with its grant from the North Carolina Clean Water Management Fund, hope that the pond will improve water quality in the House Creek basin. ●

NCMA WEST BUILDING PLANTS

SCIENTIFIC NAME

CANTOR COURT

Nymphaea 'Attraction'
Nymphaea 'Charlie's Choice'
Nymphaea 'Colorado'
Phyllostachys nuda

CHILDREN'S GARDEN (EAST)

Ilex cornuta 'Sizzler'
Ilex vomitoria 'Shadow's Female'
Illicium floridanum
Panicum virgatum 'Shenandoah'
Quercus phellos 'QPSTA'
Rosa 'Radsunny'

EAST COURT

Phyllostachys nigra 'Hale'

ENTRY COURT

Acer rubrum 'October Glory'
Betula nigra 'Dura Heat'
Geranium sanguineum 'John Elsley'
Helleborus orientalis 'Candy Love'
Magnolia grandiflora 'Little Gem'
Magnolia x soulangiana 'Dark Alexander'
Nepeta 'Snowflake'
Pleioblastus distichus 'Mini'
Ulmus americana 'Princeton'

MEADOW

Quercus nuttallii 'QNFTA'
Quercus shumardii 'QSFTC'
Schizachyrium scoparium

NORTH GARDEN BIO-CELLS

Acer rubrum 'Red Sunset'
Juncus effusus
Rosa 'Radsunny'

SOUTH COURT (BOULDER)

Helleborus orientalis 'Candy Love'
Vinca minor

SOUTH ENTRY WALK

Acer ginnala 'Red November'
Berberis julianiae 'Spring Glory'
Ilex vomitoria 'Shadow's Female'

WHEELER COURT

Carex muskingumensis 'Oehme'
Nelumbo 'Momo Botan'
Polystichum polyblepharum
Ulmus parvifolia 'Emer II'
Vinca minor

COMMON NAME

Attraction water lily
Charlie's Choice water lily
Colorado water lily
Nuda bamboo

Sizzler holly
Yaupon holly
Florida anise
Red switchgrass
Hightower willow oak
Sunny Knock Out rose

Dwarf black bamboo

October Glory red maple
Dura Heat river birch
Elsley geranium
Candy Love hellebore
Little Gem magnolia
Dark Alexander magnolia
Snowflake catnip
Dwarf bamboo
Princeton American elm

Highpoint Nuttall oak
Panache shumard oak
Little bluestem

Red Sunset red maple
Common rush
Sunny Knock Out rose

Candy Love hellebore
Common periwinkle

Red November Amur maple
Spring Glory barberry
Yaupon holly

Variegated palm sedge
Momo Botan lotus
Korean tasselfern
Alee lacebark elm
Common periwinkle

for the entire complex. An American elm allée, which survives from Walker's original scheme, defines the museum complex's processional path and marks the entrance to the amphitheater and sculpture park, which includes a clever in-ground piece by the installation artist Barbara Kruger that's largely imperceptible unless you are staring at an aerial photograph of the site.

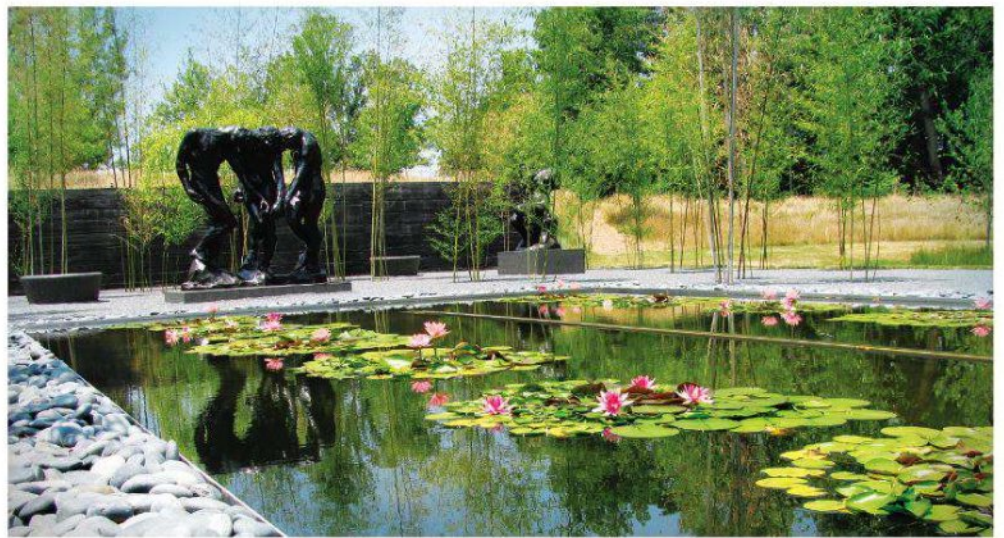
The plaza acts as a hinge between conventional museum space and the landscape beyond. But it's a creaky hinge. Even if it's clear to someone standing in the plaza that the amphitheater is an obvious part of the museum experience, the sculpture park beyond is not as visually obvious. You have to walk the length of a football field and forge ahead over a bluff to reach it.

Once you do, though, you are greeted by Thomas Sayer's *Gyre*, an enormous, three-ring gateway for the sculpture park's meandering paths. One path leads to a belvedere and the other becomes the House Creek section of the Reedy Creek Greenway. "The sculpture park has a strong environmental education component to it, and bringing people through, via the greenway, is a way to stretch that message," Havener says.

The sculpture park, which is open to the public, defines the southern half of the museum's entire site. The paths, activated by site-specific pieces like Martha Jackson-Jarvis's mosaic monolith *Crossroads/Trickster I* and Jim Gallucci's twisted *Whisper Bench*, represent both museum programming as well as places to relax. Tongue-in-cheek picture frames hung along the wooded portion of the greenway (with a rotating series of paintings) are juxtaposed with small shelters such as Chris Drury's *Cloud Chamber for the Trees and Sky*, which doubles as a camera obscura.

Although there is art throughout the whole site, Phifer and Lappas + Havener gave the museum experience a hierarchy that has to do with proximity to the museum proper. "The site is a bit like a French landscape," Phifer says, "as things are very rough in the distance, and the closer you get to the château, the more precise things get."

Phifer, Lappas + Havener, and NCMA worked to expand the visitor's experience out of a concern for the museum's continued relevance and a sense of environmental stewardship. They looked to precedents outside of France, like the Kröller-Müller Museum in the Netherlands and Yorkshire Sculpture Park in England. For the NCMA property, Lappas + Havener established a series of paths and spaces that lead the visi-



"THE PARTI IS ABOUT AN ARRANGEMENT BETWEEN NATURE AND ART," SAYS WALT HAVENER.

RIGHT

In the warmer months, water lilies soften the hard edges of the Cantor Court's reflecting pool.

IMAGE CREDIT

Courtesy Lappas + Havener, North Carolina Museum of Art

tor from a highly scripted series of formal sculpture gardens around the Phifer building to a completely wild landscape.

"The *parti* is about an arrangement between na-

ture and art," Havener says, "and the hand of horticulture and maintenance becomes more prevalent the closer you get to the building."

Although the sculpture park is several hundred yards from the museum's courts and plaza, the two spaces conceptually hang together. Stripping the sculpture park's forest down to its most basic elements to reflect texture, color, and structure, Lappas + Havener inserted those elements back into the museum's immediate landscape. Oak trees along the sculpture park's ecotone reappear along the museum's entry path and South Garden, as do the sculpture park's native tall grasses.

Striations in the site's hierarchy become apparent when you stand on a belvedere about 100 yards inland from the sculpture park's entry bluff. Distant sculptures appear along the tree line before the southern edge of a pliant, no-mow meadow. A centurion smokestack (the remnant of a Civil War prison) stands to the west and paths dip down into the meadow, signaling three distinct paths that contain installation art pieces. Adjacent to the belvedere is a park pavilion by Raleigh's Tonic Design with Mike Cindric, which signals the return path to the museum.

Along that return path, Lappas + Havener have designed a bioretention pond that manages surface water and HVAC condensate with a naturalized stormwater swale, a rock weir, a wetland garden, and a grove of bald cypress. The museum plans to use this area as part of its educational programming.

In a larger sense, NCMA finds itself in the unusual position of curating the equilibrium between old and new concepts of a museum experience: the scripted and the unscripted elements of site as well as art and nature. In its artifice, the pond is a vital way station for the building's ecology, but it also draws nature closer to the more conventional museum spaces on the hill above.

There are other great sculpture parks in the United States—Storm King in New York or Laumeier in St. Louis come to mind—but how many preexisting American art museums count the landscape among

their prime assets beyond a sculpture court? How many even have a landscape to count?

The only other one that comes close is the Indianapolis Museum of Art (IMA) (see "The Understory So Far," page 98). In 2010, the IMA opened its 100 Acres: Virginia B. Fairbanks Art and Nature Park west of the museum proper, designed by the late landscape architect Edward Blake with the architect Marlon Blackwell. Like NCMA, the IMA is advancing the idea that an art museum can include site-specific outdoor works in addition to painting and sculpture.

"Save for Indianapolis, there's nothing like what we have here," says Daniel Gottlieb, NCMA director of planning and design. "There are a lot of sculpture parks without our collection, and there are lots of collections without our relationship to the land."

"There is a strong functional relationship between the museum and the land, and there's an educational and curatorial relationship," Havener says. "But porosity and light are really what's at the heart of this project. They're integral to the building's concept of nature in the building, and they guided our ideas about movement through the landscape."

In a recent *Artforum* dedicated to defining the contemporary museum, the Danish artist Olafur Eliasson noted, "I like to distinguish between the museum as a reality producer and the museum as a reality container." NCMA offers a postscript to this distinction as a place to house art and a place to interpret it. The museum has invited the landscape to be part of our conventional notions of a contemporary museum and, as an agent of art's expansive definition, NCMA stands somewhere between exhibition, experience, and ecology. ●

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Project Credits

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BETWEEN

FRONDS



**ROBERT IRWIN TURNS THE
LANDSCAPE AT ONE OF
LOS ANGELES'S BIGGEST MUSEUMS
INTO A HEART OF PALMS.**

BY JENNIFER ZELL, ASLA

IMAGE CREDIT

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