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## \*Fine Spirits:

District Distilling Co. Effects Change  
and Oozes 'Cool' in Washington, D.C.

+ More Hospitality & Entertainment Projects

\*TREND ALERT:  
wellness

THIS  
ISSUE IS  
INTERACTIVE!

See Page 12

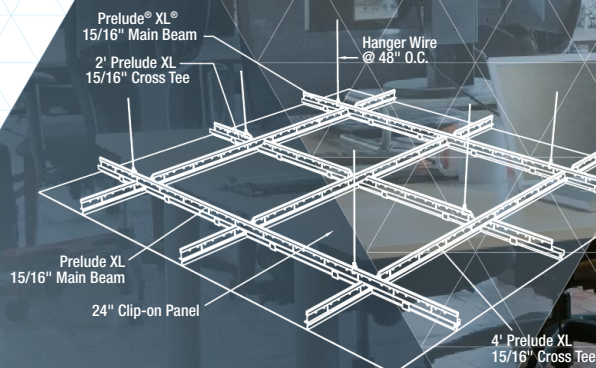
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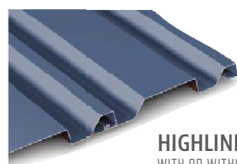
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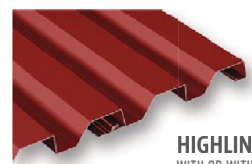
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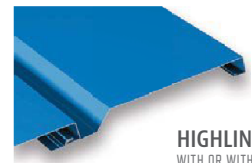
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- Cliff Lodge, Snowbird, Utah
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- Donatos Pizza, Nashville, Tenn.
- Recce Point Club House, Beale Air Force Base, Marysville, Calif.



← cover

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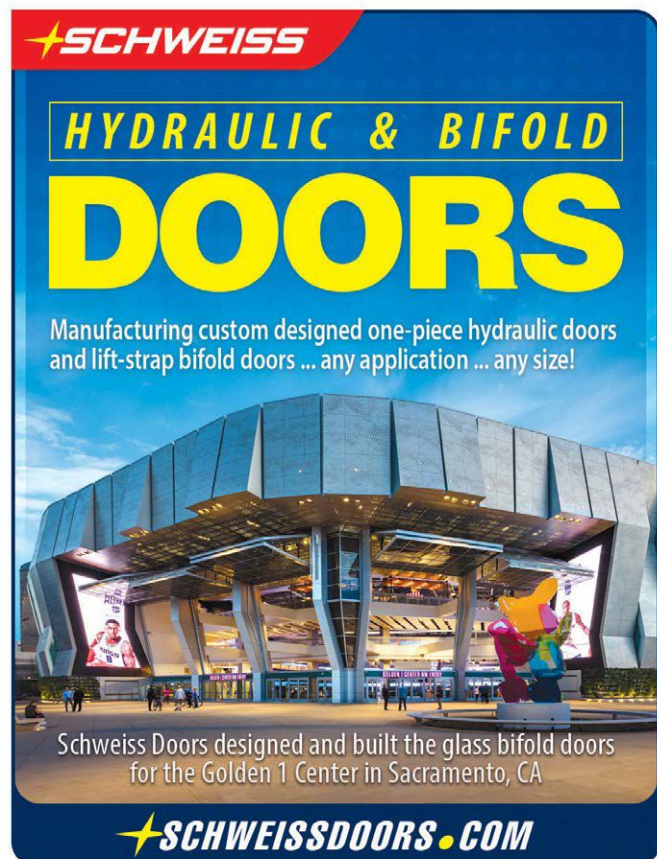
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## THE POWER OF RENEWABLE ENERGY AND ENERGY EFFICIENCY



Our new administration seems more focused on fossil-fuel usage than the past administration, considering Trump's executive actions signed in January that put the Dakota Access and Keystone XL pipelines back on the agenda. I assume jobs and the economy are the president's motivation, but I can't help but wonder whether he has done his research. (Feel free to do your own investigation about how many of these pipeline jobs will be permanent and how much the pipelines actually will contribute to the U.S. economy.)

Meanwhile, a new report from the Retail Industry Leaders Association, Arlington, Va., and the Information Technology Industry Council, Washington, D.C., ranks all 50 states based on how easily corporations can acquire domestic renewable energy, such as solar and wind, for their operations. (Read more about the report in "News", page 18.) The report states Fortune 500 companies—think Amazon, Google and Walmart—want to establish operations in states with clean-energy production because of fossil-fuel price volatility and pollution concerns. RILA's press release notes, "The index is intended to inform business leaders and guide state policymakers, hoping to attract new job-creating businesses and foster economic growth."

Iowa, the state in which I live, resoundingly voted for Trump in the November 2016 election. Iowa also is ranked No. 1 on this "Corporate Clean Energy Procurement Index". "Access to low-cost renewable energy is a critical part of our economic development strategy," says Iowa Lt. Gov. Kim Reynolds in the report's press release. "These job-creating businesses cite our access to low-cost renewable energy as a major reason for locating in Iowa. In fact, Iowa's newly released state Energy Plan underscores Iowa's leadership in renewable energy and the significant role it plays in our economy. Every Iowa wind turbine means income for farmers, revenue for counties and jobs for Iowa families."

In a Dec. 5, 2016, article on [www.greenbiz.com](http://www.greenbiz.com), Greg Kats reports there are more jobs in renewables and energy efficiency than in fossil fuels. He states: "The World Bank estimates that U.S. wind and solar creates about 13.5 jobs per million dollars of spending, and that building retrofits—energy efficiency—creates 16.7 jobs per million dollars of spending. This is more than three times the 5.2 jobs per \$1 million for oil and natural gas, and more than two times the 6.9 jobs per \$1 million for coal." (Read Kats' full article at [www.greenbiz.com/article/how-many-jobs-does-clean-energy-create](http://www.greenbiz.com/article/how-many-jobs-does-clean-energy-create).) In addition, Kats points to another study by AltEnergyStocks that underscores clean-energy jobs are higher quality and pay better than fossil-fuel jobs.

I hope Trump will recognize the economic benefits of renewable energy and energy efficiency. Unfortunately, I've heard through a friend who works on the Hill there are rumblings Trump plans to dismantle the Department of Energy's Office of Energy Efficiency and Renewable Energy. I am confident all the strides we have made in the building industry related to renewable energy and energy efficiency won't just disappear, however. In fact, one of **retrofit**'s conference advisors reminded me, "It helps to have a federal focus but what's driving these technologies are the local architects and

contractors and building owners."

Thank you for the good work you do! I will continue championing those of you on the ground and in manufacturing who keep working toward better, more efficient existing buildings and, consequently, are creating jobs.

**CHRISTINA KOCH**  
Editor in Chief

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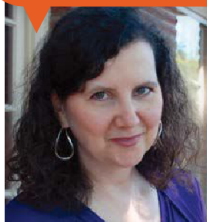
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## CONTRIBUTING WRITERS



**KJ Fields**, a Portland, Ore.-based *retrofit* contributor, writes about the effectiveness of Green Globes certification for existing buildings by illustrating three commercial building examples. Read about this green-building certification program managed by the Green Building Initiative, Portland, in "Business", page 20.



Did you know lighting (or a lack of lighting) could be causing insomnia and other health problems? **Rebekah Mullaney**, M.S., manager of Research Communications at the Lighting Research Center at Rensselaer Polytechnic Institute, Troy, N.Y., explains in "Component", page 52, that architectural lighting for circadian rhythms supports health and wellbeing.



**Maria T. Vargas** is director of the Washington, D.C.-based U.S. Department of Energy Better Buildings Challenge. In "Energy", page 58, Vargas writes about season two of the Better Buildings Challenge SWAP, in which the Air Force and Navy swap energy teams to uncover new energy-efficiency strategies.



From Arlington, Va., **Kim O'Connell** writes about architecture, sustainability, history and other topics for a range of national and regional publications. In "Historic", page 62, O'Connell shares the Strand Theater's happy ending. The San Francisco theater built in 1917 as a silent movie house recently was refurbished by Skidmore, Owings & Merrill LLP's San Francisco office.



**Cara McKedy**, NCIDQ, LEED AP ID+C, is an interior designer with REMIGER DESIGN, St. Louis. In "Transformation" page 70, she shares how the industrial vibe of a former power plant helped create a unique dining experience in a revitalized St. Louis neighborhood.



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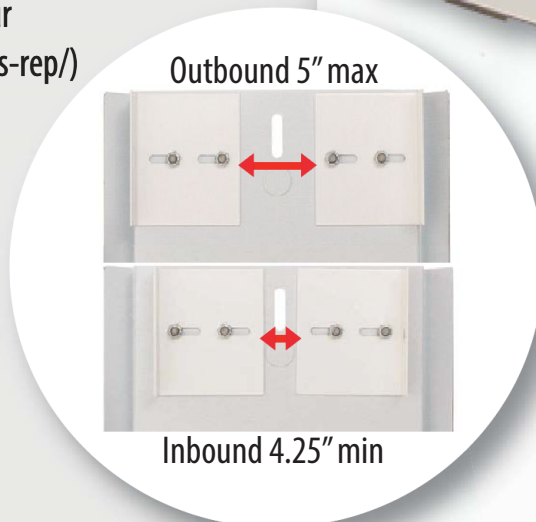
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### IF SPORTS AND ENTERTAINMENT FACILITIES CAN SAVE WATER, YOUR BUILDINGS CAN, TOO

Los Angeles-based AEG, a member of the Green Sports Alliance and one of the world's leading sports and entertainment providers, launched its AEG 1EARTH initiative in 2007. The goal of the initiative is to make changes to how its sports and entertainment venues are operated and to retrofit them in such a way that they use less energy, save water, produce less trash and promote sustainability overall. One of AEG's primary focuses has been water consumption. As part of its 1EARTH program, AEG set a goal of reducing water consumption in 2020 by 20 percent based on 2010 consumption levels. As of its 2016 sustainability report, AEG is on track to meet its goals. Learn how.

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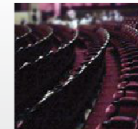
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## Report Ranks States for Easy Domestic Renewable-energy Procurement

A new study, "Corporate Clean Energy Procurement Index: State Leadership & Rankings" released by the Retail Industry Leaders Association, Arlington, Va., and the Information Technology Industry Council, Washington, D.C., ranks all 50 states for the first time based on the ease with which America's most recognizable brands can procure domestic renewable energy, such as solar and wind, for their operations. ¶ The study notes demand for clean energy among retailers and technology companies is expected to increase to 60 GW by 2025, the equivalent of powering more than 43 million homes. Retail and tech companies, such as Amazon, Apple, Facebook, Google, Microsoft, Target and Wal-Mart, are among nearly half of the Fortune 500 companies seeking to locate operations in states with clean-energy production because of fossil-fuel price volatility and pollution concerns. The index is intended to inform business leaders and guide state policymakers, hoping to attract new job-creating businesses and foster economic growth. ¶ "As adoption of the cloud accelerates, so does the energy consumption of the data centers that power the cloud. Meeting these energy needs with renewable energy is good for our business, the economy and the environment," says Dan'l Lewin, corporate vice president of technology and civic engagement at Microsoft. "Our

clean-energy investments provide economic and sustainability benefits to the communities where we operate while enhancing the reliability of the local grid. We hope this report will create opportunities to expand this work." ¶ In addition to ranking all 50 states, the report identifies barriers that inhibit states from growing their economies through domestic renewable energy. They include over-regulation and high artificial taxes that shut state power markets off from competition and regional cooperation to protect legacy fossil-fuel-electricity production. The report also includes examples of multiple states benefiting when they lower barriers, including a deal between an Illinois-based Ikea wind farm and a Virginia clean-energy developer. ¶ The results show a wide disparity in clean-energy policy at the state level, making some states far more attractive to businesses that use large amounts of electricity. ¶ The report recommends state policymakers focus on deregulating their power markets to enable customer choice of renewable energy and competition from renewable-energy producers. It urges states to lower artificial taxes that target their domestic clean-energy producers. The report also recommends allowing businesses to have onsite production, such as solar panels on their roofs or cutting-edge battery energy-storage technologies, to help ease power-grid demand during peak times. To back its findings, the report includes specific case studies where states succeeded and examples where barriers remain. ¶ Read the report at [bit.ly/2ktBDJR](http://bit.ly/2ktBDJR).

### Corporate Clean Energy Procurement Index: Top 20 states

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2 ILLINOIS	12 DELAWARE
3 NEW JERSEY	13 NEW HAMPSHIRE
4 CALIFORNIA	14 MAINE
5 TEXAS	15 PENNSYLVANIA
6 MASSACHUSETTS	16 OREGON
7 NEW YORK	17 NEVADA
8 OHIO	18 VERMONT
9 RHODE ISLAND	19 OKLAHOMA
10 CONNECTICUT	20 VIRGINIA

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The User's Manual for ANSI/ASHRAE Standard 62.1-2016, "Ventilation for Acceptable Indoor Air Quality", provides information about the requirements of the standard and includes tables, illustrations, and examples to aid users in designing, installing and operating systems for ventilation in buildings.

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# Jewel in the Crowns

WRITTEN BY KJ FIELDS

## Green Globes Certification Showcases Existing Buildings' Sustainable Practices

PHOTOS: GREEN BUILDING INITIATIVE

In 1981, Jim Mark joined Melvin Mark Cos., the commercial property-management firm his grandfather started four decades earlier in Portland, Ore. Long before “sustainability” was a recognized term, making smart environmental choices was part of the company’s ethos. “Environmental stewardship was a family value,” Mark, now the firm’s CEO, recalls. “My mom was a consummate recycler. When I was a kid, we’d drive to the recycling sorting station downtown with our light bulbs, glass and newspapers. We’ve always known that the little things we do make a big difference, like keeping materials out of the landfill and cutting back on power use.”

To verify buildings’ environmental attributes, the company began certifying buildings as soon as third-party certification processes became available. Melvin Mark Cos. owns and manages 1.2 million square feet of property and third-party manages and leases approximately 2 million additional square feet of space, often buying and selling buildings for clients and representing tenants looking for space. After one positive experience certifying a property under the Portland-based Green Building Initiative’s Green Globes rating system, Mark decided to seek Green Globes certification for the Crown Plaza building in downtown Portland.

“I’m all about efficiency and when I first heard about Green Globes certification, it seemed like a really efficient process,” Mark says. “My building staff knows our buildings inside and out, and Green Globes takes advantage of that, letting them be involved. It’s as rigorous as other certification systems, and I think Green Globes is especially useful for existing buildings.”

In the opposite corner of the nation, Midgard Management, Fort Lauderdale, Fla., used the Green Globes process to concurrently certify two projects: 1201 Crown Center and 1475 Crown Center. The commercial property-management company manages 2.5 million square feet of space and hired Michelle Raigosa Cottrell, president of Fort Lauderdale’s Design Management Services, as project manager for the certification processes. Raigosa Cottrell also sees Green Globes as a strong choice for certifying existing buildings. “It’s a more flexible rating system. Green Globes gives you credit for individual



strategies, like having MERV 13 filters in place. When you're working with existing buildings' limitations, it's critical to have viable options for making improvements," she says.

## The Green Globes Process

Each team launched its Green Globes for Existing Buildings (EB) certification processes by completing an online survey and submitting relevant information about their projects for review. The Green Globes EB rating system assesses environmental impacts on a 1,000-point scale across six different environmental assessment areas: Energy, Water, Resources, Emissions, Indoor Environment and Environmental Management. Each environmental assessment area includes weighted criteria with an assigned number of possible points. (See the "About Green Globes" sidebar, page 22.)

Green Globes also includes a "non-applicable" provision, essentially customizing the tool to each project. The provision reduces total points possible to prevent penalization for items that don't make sense given each building's type, climate zone and use. Although there are no prerequisites in the program, the minimum threshold projects must score is 35 percent of the total applicable points. Projects are rated with One, Two, Three or Four Green Globes, depending on their level of accomplishment.

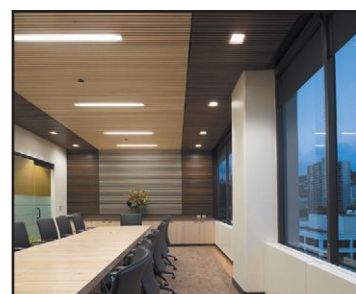
"We recognize each building is unique and our goal is to make certification complement the companies' sustainable achievements," explains Vicki Worden, executive director of the Green Building Initiative. "It's more than a certification tool though; Green Globes offers a great roadmap for decision-making—now and in the future."

## Accountability and Clear Direction

The Green Building Initiative assigns an individual Assessor to each project. The Assessor evaluates information submitted by the team and conducts an onsite walkthrough to visually inspect environmental claims. The Assessor is a contracted industry expert, not employed by the Green Building Initiative, who must possess professional credentials and relevant experience. For an EB project, an Assessor is required to have 10 years or more of applicable industry experience directly pertaining to commercial buildings and a minimum of five



The Green Building Initiative assigns an individual Assessor to each project. The Assessor evaluates information submitted by the team and conducts an onsite walkthrough to visually inspect environmental claims.





# “I THINK GREEN GLOBES IS ESPECIALLY USEFUL FOR EXISTING BUILDINGS.” — JIM MARK, CEO, MELVIN MARK COS.

years in facilities maintenance or operations management. (Learn more at [www.thegbi.org/professional-certification/gga](http://www.thegbi.org/professional-certification/gga).) Assessors also must carry at least one credential from 11 designated credentials for EB Assessors, such as a Certified Facility Manager from the International Facility Management Association, Houston, or a Certified Energy Manager from the Association of Energy Engineers, Atlanta. “In addition, we require involvement in three or more projects where building sustainability principles were applied in the areas of energy, water, site, resources/materials, emissions, indoor environment, management,” says Shaina Weinstein, GBI’s senior director of engagement. “By requiring so much experience from our Assessors, they can plant seeds of innovation and bring new ideas to each project team they work with.”

“It was interesting to see Crown Plaza through the Assessor’s eyes,” notes Elizabeth Hirst, assistant property manager with Melvin Mark Cos. “He was really thorough. He examined the building’s interior and exterior components, including tenant build-outs, parts of the mechanical and HVAC system, and the parking structure. Afterward, he offered guidance on how we can further improve the building’s systems, as well as ways we can further push ourselves toward greater resource reduction.”



Raigosa Cottrell thought the Assessor was an advantage in the Crown Centers’ process. “There’s nothing like a face-to-face interaction with someone—you’re always more productive and it’s a more efficient way of interacting. After the walkthrough, we sat down together and I pulled the additional information he needed, emailed those things to him on the spot and checked them off the list,” she explains.

## Features that Shine

Set in Portland’s downtown core, Crown Plaza combines a 293,300-square-foot, 11-story office building and adjacent

241,300-square-foot, eight-floor parking structure that includes offices and retail. The project achieved Four Green Globes, the rating system’s highest award. Notable sustainable features of the project include energy-efficiency measures, such as a motor retrofit to a parking garage elevator that increased operating efficiency by 30 percent and strategies that cut the HVAC’s fan system horsepower needs in half. Melvin Mark Cos. also purchases renewable energy through Portland General Electric’s Clean Wind program, resulting in an offset of 5 percent of the building’s total energy

*(continues on page 24)*



## About Green Globes

Green Globes originated from the United Kingdom’s BREEAM (Building Research Establishment Environmental Assessment Method), which was adopted in Canada and subsequently became Green Globes before arriving in the U.S. Now, the U.S. federal government recognizes Green Globes certification as equivalent to any leading sustainable building certification.

Green Globes for Existing Buildings covers six environmental assessment areas:

- Energy
- Water
- Resources

- Emissions
- Indoor Environment
- Environmental Management

Once an assessment is verified by a third party, properties achieving 35 percent or more of the total possible points (up to 1,000) receive a Green Globes rating based on the percentage achieved.

### 85-100 percent = Four Green Globes

Demonstrates national leadership and excellence in the practice of water, energy and environmental efficiency to reduce environmental impacts.

### 70-84 percent = Three Green Globes

Demonstrates leadership in applying the best practices regarding energy, water and environmental efficiency.

### 55-69 percent = Two Green Globes

Demonstrates excellent progress in achieving reduction of environmental impacts and use of environmental-efficiency practices.

### 35-54 percent = One Green Globe

Demonstrates a commitment to environmental-efficiency practices.



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## THE GREEN GLOBES EB RATING SYSTEM ASSESSES ENVIRONMENTAL IMPACTS ON A 1,000-POINT SCALE ACROSS SIX DIFFERENT ENVIRONMENTAL ASSESSMENT AREAS: ENERGY, WATER, RESOURCES, EMISSIONS, INDOOR ENVIRONMENT AND ENVIRONMENTAL MANAGEMENT.

use and a carbon reduction of 595,722 pounds of CO<sub>2</sub>. Dedicated recycling areas for paper, glass, cardboard, batteries, electronic devices, wooden pallets, metal, and ink and toner cartridges serve tenants. A bicycle storage room inside the building offers repair equipment, tire air pumps and wall-mounted bike storage.

The two Crown Center projects in Fort Lauderdale each achieved Three Green Globes. Built in 1987, 1201 Crown Center is a 108,645-square-foot, 1- and 2-story commercial office building. The 1475 Crown Center building was constructed in 1986 as a 3-story, 66,837-square-foot office facility. Strategies that gained Green Globes points for both projects include an array of Midgard Management's formalized and

implemented policies, such as an Energy Management Plan, Green Cleaning Policy and Program, Integrated Pest Management Plan, a campus-wide Indoor Water Efficiency Policy to aggressively reduce water consumption and a Sustainable Purchasing Policy. Tenant spaces are submetered, and the structures have automated lighting controls, occupancy sensors and task lighting incorporated into the desk units to save energy. Both buildings have very high ENERGY STAR ratings (92 for 1201 Crown Center and 96 for 1475 Crown Center) with demonstrated year-over-year reductions in energy consumption.

### Tenant Preferences

Third-party verification of environmental

stewardship has a constantly increasing following. "Tenants across the nation tell us they want to go into a space that has been environmentally certified," Mark says. "They even write it into their RFPs and RFQs, specifying the space must be certified in some way."

Hirst's professional experience echoes this fact; she has seen avid tenant interest in being located in buildings that reduce environmental impacts and support occupant health.

At Design Management Services, Raigosa Cottrell says her client is pursuing certification because the buildings contain federal government tenants. "They want to attract more government tenants, so bringing their buildings into

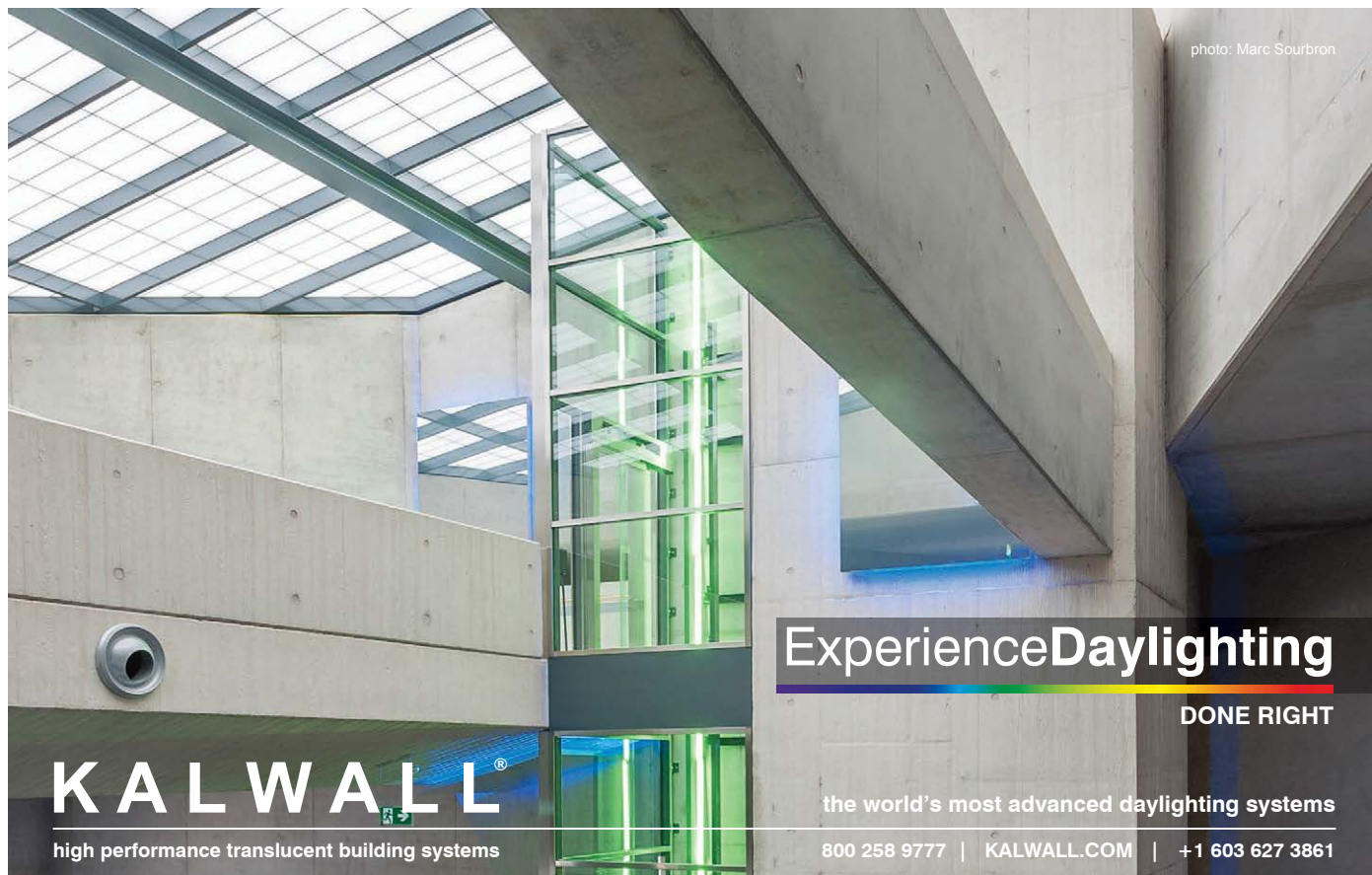


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compliance was a compelling reason to seek Green Globes certification. It's also a very streamlined process. We got a site visit within a few weeks and found out our results almost immediately."


### Internal Messages

Strategies that keep existing building operations and maintenance costs down are critical when competing in an open market, but Mark says Green Globes certification offers his company internal benefits, too. "Getting independent certification is really important to my staff. They want to know they're working for a company that puts its values into practice," he explains. "My building professionals got to manage the Green Globes process and learn from it. And we can divert the funds saved by an internally driven process into further enhancing our own structure."

Green Globes certification culminates with a detailed final assessment report that provides benchmarks, includes conversation notes with the team and outlines

clear suggestions for future improvement.

"We received tips that were tangible and directly applicable to the projects," reports Raigosa Cottrell. "The Assessor's report can bring up something completely new to consider or help the owner discover that a certain measure isn't as difficult to implement as previously thought."

Mark adds achieving Green Globes certification was gratifying for his company. "We were really proud to get Four Green Globes," he affirms. "You can't buy that. Our people look at that and know it was something we worked hard at and achieved as a company." 



Existing buildings have limitations and Green Globes gives credit for individual strategies, as well as offers guidance for making further improvements.



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# IN THE SPIRIT OF

BEFORE PHOTOS: GRIZFORM DESIGN ARCHITECTS  
AFTER PHOTOS: AMBER FREDRIKSEN

After Modification to Washington, D.C.,  
Liquor Laws, **District Distilling Co.**  
Opens with Hospitality in Mind



# CHANGE

WRITTEN BY | CHRISTINA KOCH

If you peruse state and local liquor laws in the U.S., you may be surprised by the differences from state to state and even from county to county or city to city. Designed to oversee the manufacture, sale and consumption of alcohol, some local laws haven't changed since the Prohibition era (1920-33).

In fact, our nation's capital, which has become a foodie mecca in recent years, seemingly was behind the times when it came to serving alcohol in breweries and distilleries—the hottest trend in drinking establishments in other areas of the country. In fact, until 2012, Washington, D.C., did not allow breweries to sell or offer free samples onsite. By early 2015, the D.C. Council approved a “distillery pub permit”, which finally allowed restaurants and pubs to manufacture liquor onsite. By May 2015, the local government approved Washington's distilleries to sell cocktails on premises though these locations still cannot have full bars (at least half the spirits served in a cocktail must be made onsite).

This new rule opened the door to create a new type of distillery—one in which patrons were welcome to sip spirits manufactured on premises and stay awhile. The owners behind District Distilling Co., which is located at 14th and U Streets, were instrumental in ensuring the new rules were passed. They hired Griz Dwight, AIA, owner and principal of Washington-based GrizForm Design Architects, to help them establish their vision for District Distilling, which would become the first distillery/restaurant/bar in Washington.

Although Dwight's firm has designed more than 100 restaurants in the past decade, he says this was a project that kept his team on its toes. “We have distilleries in D.C.; there's certainly nothing new about them,” he says. “But this was the first project that took advantage of this new local law, which was different for us. We had to take the typology of the distillery and marry it with more of a hospitality, public space.”





Because the 8,000-square-foot distillery, which creates whiskey, gin and vodka, would be located in a prominent restaurant area, the owners wanted a beautiful, comfortable space that would draw patrons. “They needed some pizzazz, so they reached out to us because we have a great reputation of designing cool and interesting spaces for restaurants,” Dwight notes. “Our client knew that was going to be important.”

The more than 100-year-old building chosen for District Distilling

complements the age-old vocation of distilling liquor beautifully. Consequently, Dwight and his team have created a space Yelp reviewers describe as “beautiful” and “trendy with a comfortable, friendly vibe”. Another says it “absolutely oozes cool”.

### Great Character

District Distilling is housed within row houses that had been transformed from residential space to a couple different restaurants. In recent years, a developer

bought the row houses and the land behind them where he built an apartment building. The row houses had been in use up until about five years ago but had fallen into disrepair. Despite their poor condition, the row houses were among District Distilling’s owners’ top picks for their new establishment.

“It was just one of those love-at-first-sight sort of spaces where you had the right mix of location and great bones,” Dwight recalls. “It seemed perfect right away.”

District Distilling’s owners leased



The 8,000-square-foot distillery, which creates whiskey, gin and vodka, is the first in D.C. to take advantage of a new rule that allows patrons to sip spirits manufactured onsite.







The former row houses' deconstructed interior provided the right character for the distillery. Industrial charm is created via original brick and exposed joists, as well as an artistic flowchart (bottom left) that illustrates how spirits are made.

three of the row houses entirely, as well as the second floor of a fourth row house. (The other spaces are leased to another restaurant.) Despite having “great bones”, the building’s interior required a lot of remedial structural work. “It was pretty rough in there,” Dwight remembers. “There was peeling plaster, falling-down wood studs. It was amazing that it was in the condition it was.”

However, the deconstructed interior provided just the right character for the distillery, Dwight says. “It was a beautiful

building, and 90 percent of the exposed brick looked the way it does now naturally. I think there were some areas where we cleaned off the peeling plaster but the brick was all there and was great to have,” he declares.

The stills’ mixed metals of copper and stainless steel inspired the design strategy for the rest of the space. “You can see these metals in the bar and in the some of the details around the restaurant,” Dwight notes.

The row houses’ long history may have

helped create its interior design scheme but it impeded the overall design of the space. “The previous restaurants were on the ground floor only, so we were dealing with tiny little spaces,” Dwight explains. “One thing we had to do was really open it up to create larger spaces that were serviceable. We had to cut a lot of openings in structural walls to get the function. For example, the bar straddles the party wall between two old row houses.”

The small spaces helped create cozy nooks to make District Distilling warm







and comfortable. “In some buildings, we took down the party wall and combined spaces and some buildings we just opened up portals,” Dwight says.

## Central Theme

Acoustics are always a factor in GrizForm Design Architects’ restaurant projects and was no different in the distillery. “We knew we wanted to expose the bricks, which are hard surfaces, so we left the joists exposed in the upper ceiling and added sound pad-

ding to absorb the sound in the space,” Dwight explains.

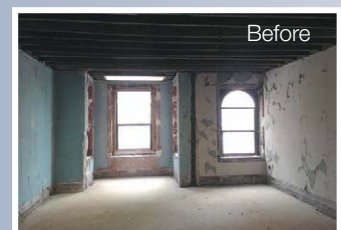
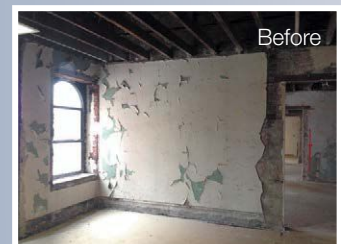
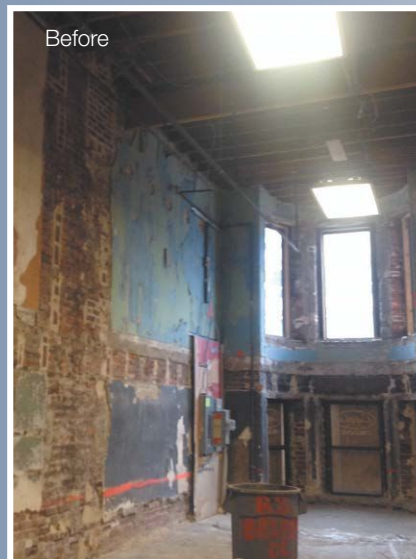
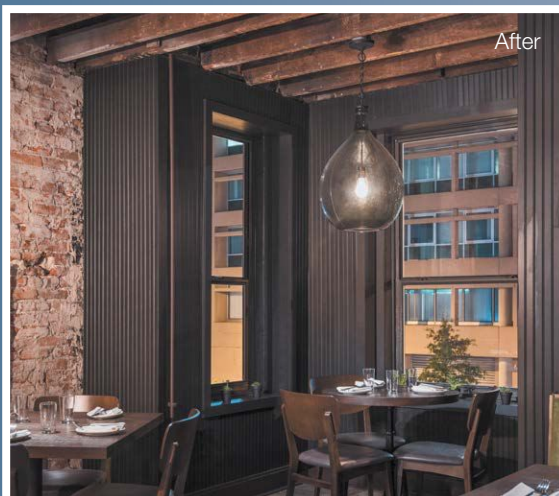
When it comes to lighting, which GrizForm Design Architects does in-house, Dwight says his team’s strategy is to light things and not spaces. “You’ll see a lot of highlighted features,” he says. “Light only exists with dark, so the space has these dark corners to make those lighter areas pop. It really works well creating that contrast.”

Antique wooden barrels are among the items lit within the space. Another is an

old-fashioned flowchart, suggested by the distillery’s owners, that artistically demonstrates how patrons’ spirits were made. “They were anticipating how often they’re going to answer the question of ‘how do you distill spirits?’ It’s fun to see that very basic, almost cartoony way of how a bill becomes a law type of thing,” Dwight notes.

The stills themselves also are a design feature. Dwight and his team specified large panes of glass that look directly into

*(continues on page 32)*



The former row houses’ small spaces helped create cozy nooks to make District Distilling warm and comfortable.



# Question Conventional Boundaries



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## >> Retrofit Team

**ARCHITECT** // GrizForm Design Architects, Washington, D.C., [www.grizform.com](http://www.grizform.com), Griz Dwight, Michelle Bove, Brooke Loewen, Natalia Sicilia, Victoria Wallace

**GENERAL CONTRACTOR** // Potomac Construction Services Inc., Bethesda, Md., [www.pcs-gc.com](http://www.pcs-gc.com), Tom Dailey, Debbie Thrasher, Colleen Swisher

**ENGINEER** // Allen & Shariff, Columbia, Md., [www.allenshariff.com](http://www.allenshariff.com)

**MECHANICAL CONTRACTOR** // Airtech Specialist, Alexandria, Va., [www.airtechspecialist.com](http://www.airtechspecialist.com), Lee Tran

**LIGHTING DESIGNER** // GrizForm Design Architects and One Source Associates Inc., Columbia, [www.onesa.com](http://www.onesa.com), Soledad Pellegrini

## >> Materials

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**LIGHTING** // Shades of Light, [www.shadesoflight.com](http://www.shadesoflight.com); Pottery Barn, [www.potterybarn.com](http://www.potterybarn.com); The Light Choice, [www.thelightchoice.com](http://www.thelightchoice.com); Restoration Hardware, [www.restorationhardware.com](http://www.restorationhardware.com); Juno Lighting Group, [www.junolightinggroup.com](http://www.junolightinggroup.com); WAC Lighting, [www.waclighting.com](http://www.waclighting.com); Lithonia Lighting, [www.lithonia.com](http://www.lithonia.com); Columbia Lighting, [www.columbialighting.com](http://www.columbialighting.com); Hubbell Lighting, [www.hubbelllighting.com](http://www.hubbelllighting.com); and Copper Lighting Co., [copperlightingcompany.com](http://copperlightingcompany.com)

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**FURNITURE, BAR** // Tablebases.com and Industry West (barstools), [www.industrywest.com](http://www.industrywest.com)



the distillery from the bar/restaurant. In addition, stills are located against the street windows so passersby can see them. Dwight explains: "The vodka stills are 2-story-tall units. We cut a hole in the floor of the bar so that the tips of the vodka stills are visible when you're in the bar. We spent a little bit extra to put lights and windows in the tops of the stills, so you can actually see the bubbling, gurgling when they're distilling." If patrons want to take their distilling education even further, tours are available daily.

District Distilling already is being recognized for its spirits, winning the Gin Distillery of the Year award at the 2016 New York International Spirits Competition. Dwight who notes he's never had a spirit he didn't like, says the food is delicious, as well. "It's American fare, a little bit on the rustic side. Nothing on the menu is going to jump out at you as being unique, but it is executed so incredibly well; it's delicious," he says. "I think that a lot of times in the restaurant industry people try to get a little too

fancy or be a little bit too unique. In this case, it's just really well-executed simple food, which goes so much further."

### Gratifying Combination

The project took longer than Dwight anticipated because of the permitting and inspection processes for a newly regulated combination of facilities. District Distilling opened in August 2016 and Dwight is incredibly happy with the way the bar and stills came together. "I think there's a really nice synergy with it; it's kind of the circle of life—you know, a certain kind of circle of life. I just really like that combination," he states.

Dwight says he never tires of the feeling he gets after laboring over a design and then actually sitting at the completed restaurant or bar. "Sitting with the ownership and tasting their rye blends, that's what it's all about. Being in the space you design and seeing it all to completion is really great," he says. "Plus, there's something cool about watching your booze being made and then drinking it." 

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PHOTOS: LIVEWALL

## B.O.B. | Grand Rapids, Mich.

### » Materials

The B.O.B.'s 900-square-foot Sky Patio was completed in August 2015 when its signature green wall was installed. The distinctive double-sided green wall surrounds guests with nature and provides fresh ingredients for the food they enjoy.

"Our living wall on the Sky Patio is a vivid symbol of our commitment to sustainability and support of the local environments where our restaurants are located," says Alice Jasper, director of sustainability, the Gilmore Collection. "It greens up the exterior and interior of the rooftop patio, contributing to the beautification of downtown, making the patio more inviting from the street below and enhancing the dining experience of our guests."

The two-sided green wall totals 608 square feet. Three exterior sections (48 inches in height) are attached to the outside of the fencing that surrounds the patio. Facing out to the street, these sections frame the Sky Patio on three sides with flowering annuals and perennials. There are five interior sections (45 1/2 inches in height): three on the inside of the perimeter fence, two on the back wall of the building. In addition to flowers, the interior sections include vegetables and herbs used in the kitchen.

"Local sourcing of ingredients is one of our main sustainable hospitality practices," says Barbie Smith, the Gilmore Collection's gardener. "With the green wall at the B.O.B., we grow ingredients right near the tables where our guests dine. You cannot get more local than that."

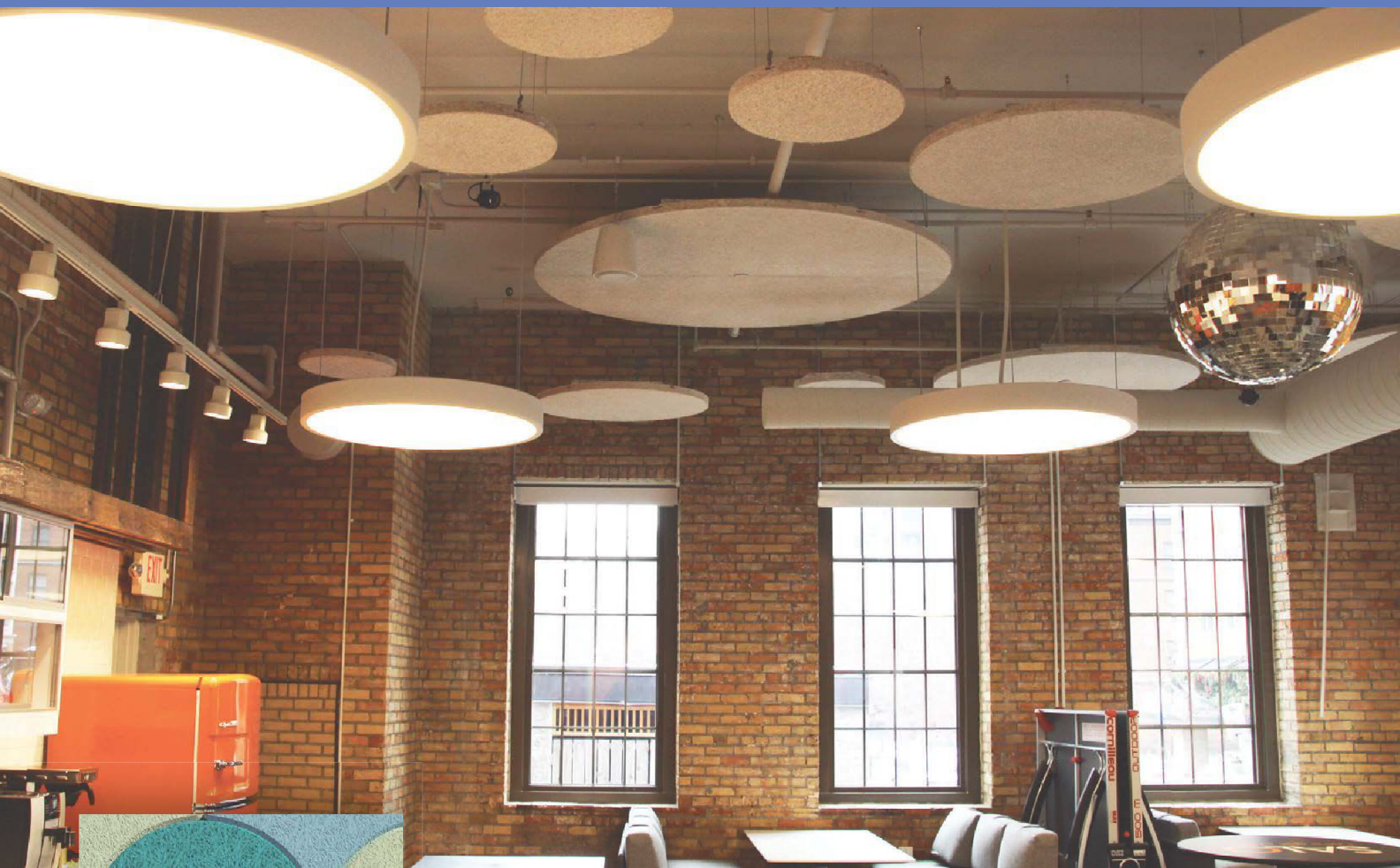
"What chef wouldn't want a garden with fresh herbs and produce right in their restaurant? A green wall makes it practical," adds Mick Rickerd, chef at Bobarino's. "We utilize the herbs in all our everyday dishes and the vegetables, like Swiss chard and rainbow carrots, in daily features. Our mixology team incorporates fresh basil, mint, lemongrass and thyme into special summer cocktails."

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### » The Retrofit

The B.O.B. is the Gilmore Collection's most ambitious project, and it exemplifies the company's commitment to sustainability. B.O.B. is an acronym for Big Old Building; the 70,000-square-foot, 4-story, red brick building was constructed in 1903 as a grocery warehouse. It stood vacant for decades before the Gilmore Collection saved it from demolition and began its transformation into a landmark hospitality destination in downtown Grand Rapids. The B.O.B. offers multiple venues, including bars, restaurants, comedy and nightclubs, as well as the rooftop Sky Patio, which is accessible through Bobarino's restaurant on the second floor.





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Extended Stay America owns its properties, ensuring the strategic initiative would be consistent in its rollout across the portfolio. The guiding principle was to "improve the guest experience." The initial launch focused on external aesthetics. Anecdotal research indicated a need to improve the exterior lighting at many of the facilities. The existing technology used to light the buildings, parking lots and common areas was outdated. The desired light levels were unachievable and maintenance costs were unsustainable.

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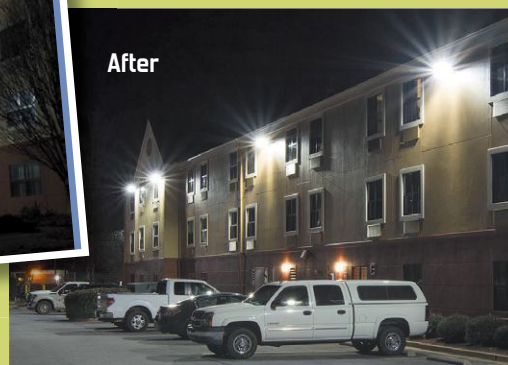
The end result of the upgrade has been improved outdoor lighting levels, which contribute to the safety and security of guests, visitors and staff. Lighting performance and quality have been improved, affording Extended Stay America the ability to achieve better light uniformity and increased light levels in critical places that were flagged as potential areas of risk.

LIGHTING MANUFACTURER: Hubbell Lighting, [www.hubbellighting.com](http://www.hubbellighting.com)

### » The Retrofit

The LED technology has had an immediate return on investment for Extended Stay America. When all 629 facilities are completed by 2018, the hotel chain's leaders expect significant returns (18.5 million kWh per year, translating to a savings of \$1.75 million per year). There has been a substantial impact on short-term maintenance costs, and Extended Stay America's representatives expect this to be the benchmark moving forward as associated costs are anticipated to decrease \$1.2 million per year. The expected environmental impact is a CO2 reduction of 10,216 metric tons, which is equivalent to removing 2,151 passenger vehicles per year from U.S. roadways.

PHOTOS: HUBBELL LIGHTING





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PHOTOS: BERNER INTERNATIONAL CORP.

## O'TOOLE'S IRISH AMERICAN GRILL & BAR | Royal Oak, Mich.

### >> Retrofit Team

HVAC, DUCTWORK AND AIR CURTAIN INSTALLER:  
Pro Mechanical Services Inc., Trenton, Mich., (734) 676-9565  
DOWN FLOW AND KITCHEN DUCTWORK FABRICATOR:  
Steve's Sheet Metal Shop, Hazel Park, Mich., (248) 543-0933  
AIR CURTAIN MANUFACTURER'S REPRESENTATIVE:  
Buyline Building Products, Rochester, Mich., (248) 651-1328

### >> Materials

A recent remodel included improvements to the bar area, outdoor patio, restrooms, HVAC systems and more. The most critical factor in creating the indoor/outdoor experience is seven air curtains above 46 feet of retractable glass walls and overhead doors. The air curtains separate the indoor environment from flying insects, hot and cold temperatures, and vehicle emissions when the glass walls and overhead doors are open.

During moderate weather in spring and fall and nearly every day from May through September, the bar's owner Keith Wadle opens the glass walls and overhead doors. The air curtains, which are mounted to the interior top of the frontage wall, discharge a "curtain" of air that meets just inside the 3-foot-high exterior sill. While energy savings wasn't the primary goal, the air curtains prevent more than 75 percent of the building's air conditioning or heating from escaping outdoors.

Air curtains are designed for doorways and openings, but typically occupants don't sit in or near the opening. The bar's most popular seating is under the air curtains. Therefore, the manufacturer's engineering department customized the blower assemblies for a lower velocity while providing the necessary 1,407 feet per minute at window-sill level for performance. The customization required a factory-tested balance of protecting the opening while preventing napkins or tips from blowing off tables. The air curtains include adjustable three-speed fans for precise onsite environmental separation.

Five 72-inch-long Commercial High Performance (CHC-10) air curtains in the bar area are powder coated to match the Irish green decor. The enclosed patio features two 96-inch-long Industrial Direct Drive (IDC-12) air curtains in a custom bronze to match the brown ceiling and exposed spiral ductwork.

Pro Mechanical Services replaced aging 5- and 7.5-ton rooftop HVAC units with two high-efficiency 5-ton units and one 7.5-ton unit, which maintain the restaurant's three zones: kitchen, billiards/large screen TV, and dining. The units are monitored and controlled by digital programmable thermostats.

AIR CURTAIN MANUFACTURER: Berner International Corp., [www.berner.com](http://www.berner.com)

ROOFTOP HVAC UNITS MANUFACTURER: Carrier, [www.carrier.com](http://www.carrier.com)

PROGRAMMABLE THERMOSTATS MANUFACTURER:

White-Rodgers, [www.emersonclimate.com](http://www.emersonclimate.com)

SPIRAL DUCT MANUFACTURER: SEMCO LLC,

[www.semcohvac.com](http://www.semcohvac.com)

GLASS DOORS MANUFACTURER: NanaWall, [www.nanawall.com](http://www.nanawall.com)

### >> The Retrofit

The bar's sales jumped 25 percent after the remodeling, which Wadle believes proves the open frontage is inviting to passersby and that suburban Detroit patrons prefer an outdoor dining experience with air comfort and indoor air quality. Wadle expects the sales increase to deliver a short payback on the renovation investment.





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## PALACE CASINO RESORT | Biloxi, Miss.

### » Retrofit Team

METAL PANEL DEALER AND INSTALLER: FL Crane & Sons, Fulton, Miss., [flcrane.com](http://flcrane.com)  
 ARCHITECT: Cuningham Group Architects, Biloxi, [www.cuningham.com](http://www.cuningham.com)  
 GENERAL CONTRACTOR: Killian Construction Group, Springfield, Mo., [www.killco.com](http://www.killco.com)

### » Materials

Keeping budget and the coastal location in mind, the architects chose metal panels for the exterior of the building. About 18,664 square feet of CENTRIA Formawall Dimension Series insulated metal panels and 5,286 square feet of Concept Series CS-660 single-skin panels were finished in a Fluorpon coating in Off White.

The Fluorpon coating is known for its resistance to ultraviolet rays and protection against heat and humidity. Providing an added layer of durability to the metal panels, Fluorpon protects against dirt and stains, as well as corrosive salt spray. The coating ensures the casino will be able to withstand the many weather conditions that befall the Mississippi Gulf Coast while maintaining the panels' luster.

METAL PANEL MANUFACTURER: CENTRIA, [www.centriaperformance.com](http://www.centriaperformance.com)  
 FLUROPON COATING MANUFACTURER: Valspar Corp., [www.valsparcoilextrusion.com](http://www.valsparcoilextrusion.com)

### » The Retrofit

Hurricane Katrina hit Biloxi in summer 2005, destroying nearly all the infrastructure on the coast and significantly impacting the Palace Casino Resort. Ten years later, investments in the area have revitalized the shoreline and brought the city back to life. In 2011, the Palace Casino Resort underwent a \$50 million expansion and renovation. Cuningham Group Architects set out to not only rejuvenate the existing 46,000-square-foot property, but also construct a new 64,000-square-foot addition. Once left ravaged by one of the most devastating hurricanes in memory, the Place Casino Resort now stands as a testament to coastal communities' resolve to overcome and rebuild.



PHOTOS: PETER MALINOWSKI

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## MALARKEY'S PUB AND TOWNIES GRILL | Wausau, Wis.

### >> Retrofit Team

WINDOW INSTALLER: Precision Glass and Door LLC, Stevens Point, Wis., [www.precisionglasswi.com](http://www.precisionglasswi.com)

### >> Materials

When Malarkey's Pub opened Townies Grill in 2007, the businesses occupied what previously had been two separate but connected locations in the 1929 Mayer-Lotz building. The building had been divided and built-out in the 1960s for various retail businesses, offices and restaurants. "There was a disjointed look to the existing storefront. It had been updated many decades ago using large, single-pane glass. It offered a mostly unobstructed view, but it was old and the seals had deteriorated," remembers Tyler Vogt, co-owner of Malarkey's Pub.

The Mayer-Lotz building co-owners, Kurt and Ed Kraimer, saw an opportunity to foster a greater connection to the activity of adjacent Courthouse Square and draw more patrons inside Malarkey's Pub and Townies Grill. The Mayer-Lotz building features a touch of Art Deco near the roofline, geometric capitals and engraved columns. To capture a traditional look while offering modern performance, the owners chose to install four Kolbe Ultra Series folding windows, each crafted with a different configuration to maximize views. Beveled glazing beads accentuate the historic aesthetic. For the Malarkey's/Townies installation, the windows' exteriors are clad in low-maintenance extruded aluminum finished in a durable Dark Bronze anodize. On the interior, oak wood is stained a Chestnut color.

"There was a lot taken into consideration for the new windows' performance and aesthetic," explains Kurt Kraimer. "Now we have a uniform appearance that coordinates across our entire space and fits with the neighborhood. Because the building's almost 100-years old and Mr. Vogt is operating a restaurant, there are a lot of rules. We didn't want it to look out of touch or out of time with the other historic buildings [surrounding Courthouse Square]."

The folding windows have side-retracting, black screens to keep out early-evening bugs. Three of the units have four panels totaling 9 1/2-feet wide and one has three panels totaling 6.2 feet wide to maximize views. Kolbe can accommodate up to eight panels on each side, spanning more than 50 feet and as high as 72 inches. The units for Malarkey's are each 55 7/5-inches high.

"Kolbe worked with us to give us a lot of options in customizing the windows—which way each window opened, how many panels were in each window, how wide each panel was and how the mullions were balanced," Kraimer adds. "All of this helped to maximize the view of the park and minimize obstructions for Malarkey's guests."

WINDOW MANUFACTURER: Kolbe Windows & Doors, [www.kolbe-kolbe.com](http://www.kolbe-kolbe.com)

### The Retrofit

Given its proximity to the 1927 Grand Theatre, the Mayer-Lotz building is often called "Grand View" by Wausau's residents. Thanks to a storefront update with folding windows, Malarkey's Pub and Townies Grill guests now truly have a grand view. "Everyone wants to sit by the windows. It's the No. 1 question asked at our hostess station," Vogt notes. "The windows definitely give our place a more modern, big-city feel with a connection to the activities downtown."

In addition, Vogt has noticed a boost in business. "Since the windows have been added, we've increased our reservations by 150 to 200 percent," he says. "We're the busiest we've ever been."





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“We didn’t want it to look out of touch or out of time with the other historic buildings. Kolbe made sure it looked correct, while meeting the City’s requirements.”

*Malarkey's Pub and Townies Grill | Wausau, WI*

When Malarkey’s opened its restaurant in 2007, it occupied what previously had been two separate, but connected locations, which gave a disjointed look to the existing storefront. Kolbe’s folding windows were chosen to embrace the downtown atmosphere by opening up the space bringing the outdoors inside. Capturing the traditional look, while offering modern performance, each of the four Kolbe folding windows is crafted in a different configuration to maximize views.

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PHOTOS: LG

 View a video about LG's work on this project. See page 12 for details.



## HAMPTON INN CHICAGO DOWNTOWN

### » Retrofit Team

**MECHANICAL CONTRACTOR:** State Mechanical Services, Aurora, Ill., [www.statemechservices.com](http://www.statemechservices.com)  
**MANUFACTURER'S REPRESENTATIVE:** Midwest Applied Solutions, Hillside, Ill., [midwestapplied.com](http://midwestapplied.com)

### » Materials

It was imperative the renovated Chicago Motor Club building maintain its original appearance as a tribute to car culture while it was transformed into a Hampton Inn. State Mechanical Services was hand-selected to provide a heating and air-conditioning system that would allow the Chicago Motor Club to keep its architectural integrity while serving its new purpose in a practical manner. It was also essential any HVAC equipment installed in the building address installation challenges of limited interior and rooftop space (35 by 35 feet) and offer conditioning options that could efficiently respond to cold Chicago winters and warm summers. The new HVAC system, which would be operating on a 24/7 basis, also was required to maintain low sound levels so it wouldn't disrupt the hotel's guests and individual room temperatures could be centrally monitored to help control and identify any guest-comfort issues.

Given the building's historic status, Midwest Applied Solutions installed the LG Multi V IV Heat Recovery system with the Art Cool Mirror indoor units and the AC Smart IV central controller, which provide utility, aesthetics and controls, respectively. The Multi V IV Heat Recovery system, which can be installed on the roof for minimal visibility,

requires limited ductwork and enabled State Mechanical Services to execute a minimally invasive installation, which kept installation costs low.

Multi V IV compressors feature LG Vapor Injection Technology, which allows for maximum heating performance in cold climates and in low ambient conditions without the need for an additional low-ambient kit. An attractive element to the owner was the Multi V IV's ability to keep the compressors running down to -13 F, meaning heating will not be compromised in Chicago's extreme cold temperatures.

VRF technology offers custom temperature control in specific rooms, allowing each hotel guest to heat or cool based on his or her personal comfort needs. The building also can take advantage of recovered waste heat, moving that energy to the zones that need heat, so one guest can have heating and another cooling simultaneously. Additionally, for each individual guest room, ductless Art Cool Mirror indoor units met the owner's requirement of maintaining low sound levels for minimal guest interruption, operating as low as 23 dB.

Finally, the AC Smart IV communicates with and monitors each of the indoor Art Cool Mirror units (up to 128 units). The AC Smart IV is outfitted with a 10.2-inch LCD touchscreen display with web access, making monitoring the hotel's complete HVAC system simple and convenient.

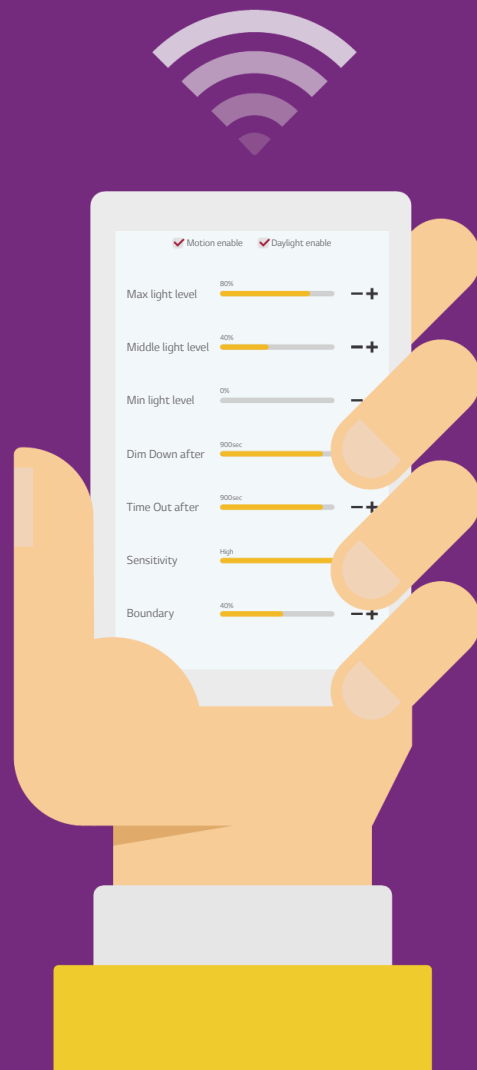
**HVAC EQUIPMENT MANUFACTURER:** LG, [www.lghvac.com](http://www.lghvac.com)

### » The Retrofit

The Chicago Motor Club building is a historic city landmark that still embodies the Art Deco design elements that have long been held as cultural treasures. The 17-story building, which first opened in 1928 and was added to the National Register of Historic Places in 1978, was crafted with a terra-cotta and limestone façade and features an iconic 29-foot U.S. map mural in the grand lobby that highlights the building's original tenants' popular driving destinations. The triple-height, rectangular lobby features small mezzanines at the north and south ends, alcoves against each wall and is finely detailed throughout with Art Deco-style ornamentation.

In 1986, the Chicago Motor Club relocated its headquarters to Des Plaines, Ill., leaving the original building to suffer through a tangled web of owners. When Hampton by Hilton approached the building's then-owners with hopes of transforming it into a hotel, the hotel chain was met with the daunting task of undergoing a full renovation of the historic space that had been unoccupied since 2004.

The Chicago Motor Club building reopened May 19, 2015, as the LEED Certified Hampton Inn Chicago Downtown, incorporating all the functional amenities of a bustling, modern hotel property while still maintaining the original historic grandeur of the building.



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## CLIFF LODGE | Snowbird, Utah

### >> Retrofit Team

INTERIOR DESIGNER: Beecher Walker Architects, Holladay, Utah, [www.beecherwalker.com](http://www.beecherwalker.com)

### >> Materials

The resort's double sliding-door entrance performed well, except for one serious issue: The 9-story building's atrium lobby and escalators created a chimney effect, causing a ferocious wind tunnel throughout the winter months. "It was like standing in a windstorm," recalls Jerry Giles, director of Village Operations. "With outside temperatures as low as -20 F, the atrium was really, really cold." Given the resort's popularity, particularly during ski season, the doors were often open, and the entrance vestibule and lobby's comfort was dramatically affected.

Cliff Lodge representatives made the commitment to spend \$10 million to remodel the vestibule entrance area and the guest rooms. A new Duotour automatic revolving door was at the center of the vestibule plans. The two-wing door is 16 feet in diameter with two generous compartments that allow guests to easily move through with luggage, carts, and ski or golf equipment.

In addition, the revolving door uses less interior space than the previous double-door vestibule. The

existing space was opened up, removing a luggage storage room and moving the valet desk to where the old double-door vestibule had been. "People now enjoy meeting and relaxing in the atrium, and with the open design, new lighting and furniture, we have a much more vibrant presentation for our guests. It's 10 times better than what we had previously," Giles says.

Giles reports the resort is experiencing energy savings from the revolving door. "We couldn't keep the vestibule or the atrium lobby warm no matter how much heat we pumped in; we even had interior plants freeze with the old sliding doors!" he notes. "By simply changing the type of door, we've solved a number of challenges and we've definitely enhanced our guests' Snowbird experience."

REVOLVING DOOR MANUFACTURER: Boon Edam, [www.boonedam.us](http://www.boonedam.us)

### >> The Retrofit

Located in the Wasatch Mountains, 29 miles from Salt Lake City International Airport, the resort is one of the most accessible all-season resorts in the world. Cliff Lodge is known for its consistent snow quality, varied terrain and friendly staff.



Before



After

PHOTOS: BOON EDAM

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**OPENING KEYNOTE:** Jason Roberts, chair of the Better Block Foundation board of directors. In 2010, Jason organized a series of "Better Block" projects, converting blighted blocks in southern Dallas into temporary walkable districts with pop-up businesses, bike lanes, café seating and landscaping. Better Block now is an international movement.

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## HYATT REGENCY O'HARE | Chicago

### » Materials

Following an interior facelift, guests may find the hotel's contemporary décor and high-tech features as enticing as its proximity to O'Hare International Airport. The public restrooms in the hotel's lobby have a draw of their own because of the latest in touchless commercial restroom products. The restrooms feature slate-gray panels with all-white ceramic bowls and bright chrome fixtures that offer a clean, fresh and high-tech aesthetic.

Water closets with Sloan 8115 exposed, battery-powered sensor-activated flushometers, urinals with Sloan 8186 sensor-activated flushometers, Sloan EAF 250 touch-free faucets and ADA-compliant sinks with large mirrors—each with its own television—round out the upgrade.

RESTROOM PRODUCTS MANUFACTURER: Sloan,  
www.sloan.com

### » The Retrofit

Visitors come to Chicago's sixth-largest hotel because of its location by O'Hare, its covered walkway to the Donald E. Stephens Convention Center and its easy access to downtown Chicago.



PHOTOS: SLOAN



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## DONATOS PIZZA | Nashville, Tenn.

### » Retrofit Team

WALL SYSTEM INSTALLER: McGrory Glass Inc.,  
Paulsboro, N.J., [www.mcgrory.com](http://www.mcgrory.com)

### » Materials

A collaborative design team worked with Donatos Pizza to redefine its brand and create an open and inviting space in a former hair salon.

A black anodized DRS Rail System was specified for the project, providing base material for a specialized red glass wall. With a slim profile that supports maximum expanses of glass, the rail system discreetly floats the glass without obstructing its beauty.

RAIL SYSTEM MANUFACTURER: dorma+kaba,  
[www.dormakaba.com](http://www.dormakaba.com)

### » The Retrofit

The project has been recognized internationally as Shaw Contract Group's 2016 Design Is Award winner in the Retail category. From a field of approximately 450 entries from around the world, Donatos Pizza's design won the nod from a panel of 17 judges, consisting of experts from within the architectural design community.



PHOTOS: DORMA+KABA

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## RECCE POINT CLUB HOUSE, BEALE AIR FORCE BASE | Marysville, Calif.

### » Retrofit Team

ROOFING CONTRACTOR: Rua and Son Mechanical, Lincoln, Calif., [www.ruainc.com](http://www.ruainc.com)

ARCHITECT: Gary W. Madjedi, Arroyo Grande, Calif., [www.madjedi.com](http://www.madjedi.com)

GENERAL CONTRACTOR: North Star Construction and Engineering Inc., Yuba City, Calif., [www.northstarconstruction.biz](http://www.northstarconstruction.biz)

### » Materials

Rua and Son Mechanical took a little extra care with the installation of the 238T Plank and Pencil Rib standing-seam metal roof to solve ongoing leaks at the clubhouse. "We installed a system with better lapping and counterflashing," explains Louie Rua, president of Rua and Son Mechanical. "At the transition, we installed a 1/2-inch aluminum welded saddle."

The roofing manufacturer brought a rollformer and curver to the job site, located on Air Combat Command at Beale Air Force Base. Approximately 30,800 square feet of the 238T panel in Surrey Beige was formed and installed. The longest panels were almost 70-feet long. Five areas required curved panels: the four entrances and a large vented area for the HVAC equipment in the attic. The 238T symmetrical panel system offers wind-uplift resistance and strength [characteristics](#),

individual panel replacement capability and job-site rollforming for long-length panels.

Working at Beale Air Force Base requires crew members to obtain government clearance. "And there are high safety requirements on the base," Rua adds. "That's nothing new for our crews; we work hard to follow safety regulations on every job."

Andrew Drumheller of North Star Construction and Engineering oversaw the reroofing project. "There is a lot of security protocol in place on this military base," Drumheller notes. "Security is very tight, and the building was in use the whole time, so our challenge was coordinating the job with the occupants. Our installer did a great job."

ROOFING PANEL MANUFACTURER: McElroy Metal, [www.mcelroymetal.com](http://www.mcelroymetal.com)

### » The Retrofit

For more than a decade, the patrons of the Recce Point Club House at Coyote Run Golf Course were forced to put up with a leaky roof at the entrances. The problem areas were the valleys between the roofing and the curved roofing over the entrances. " ... They were dealing with leaks from day one," Rua notes.

The reroof was completed in November 2014 and is performing well.



PHOTOS: MCELROY METAL





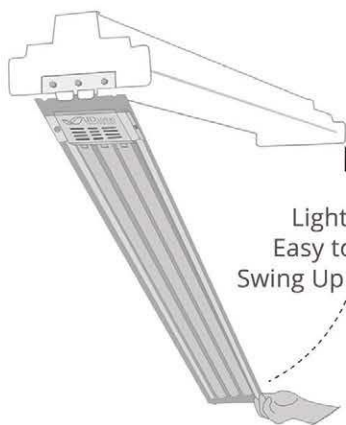
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# The RHYTHM of LIGHT

## Circadian Lighting Supports Health and Wellbeing in the Office Environment

**L**ighting design for office buildings has typically focused on energy efficiency and the amount of light required for work in terms of vision. Little attention has been given to understanding how light affects health in the built environment.

### Attend this Presentation at LIGHTFAIR International in Philadelphia

Dr. Mariana Figueiro, Light and Health program director at the Lighting Research Center at Rensselaer Polytechnic Institute, will present, along with Bryan Stevenson of the U.S. General Services Administration and Donna McIntire-Byrd of the U.S. Department of State, in a session titled "Circadian Light for Your Health: Light, Not Laughter, is the Best Medicine". The session is part of LIGHTFAIR's new Light & Health Forum and takes place Wednesday, May 10 at 10 a.m.

Learn more about the Light & Health Forum, as well as other LIGHTFAIR events, at [www.lightfair.com](http://www.lightfair.com).

Biological rhythms that repeat approximately every 24 hours are called circadian rhythms. Robust daily patterns of light and dark synchronize our circadian rhythms to local time. Disruption of this 24-hour rhythm affects every one of our biological systems from DNA repair in single cells to melatonin production by the pineal gland in the brain. Circadian disruption is most commonly linked with disruption of the sleep-wake cycle—feeling sleepy during the day and experiencing sleep problems, such as insomnia at night—but may also increase the risk for diabetes, obesity, cardiovascular disease and cancer.

In general, office lighting is designed for the human visual system, not the circadian system. Unfortunately, lighting characteristics that are effective to the circadian system are different from those effective to the visual system. An ideal lighting system for dayshift workers would provide cool, high light levels during the daytime—in particular, during morning hours. Many lighting systems currently installed in office buildings provide too little circadian-effective light during the day. This can lead to delayed bedtimes, insomnia and depression.

*(continues on page 54)*



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## CIRCADIAN DISRUPTION IS MOST COMMONLY LINKED WITH DISRUPTION OF THE SLEEP-WAKE CYCLE... BUT MAY ALSO INCREASE THE RISK FOR DIABETES, OBESITY, CARDIOVASCULAR DISEASE AND CANCER.



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### Circadian Stimulus Study

In 2013, the Washington, D.C.-based U.S. General Services Administration awarded a contract to the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute, Troy, N.Y., to study how measures of sleep and mood are linked with measures of circadian light exposure in federal buildings. Led by Dr. Mariana Figueiro, Light and Health program director at the LRC, the study is among the first to measure personal circadian light exposures in office workers and to relate those measures to sleep and mood.

The study included 109 participants from five different buildings managed by GSA: the GSA Central Office in Washington, D.C.; Edith Green-Wendell Wyatt Federal

Building, Portland, Ore.; Federal Center South Building, Seattle; Wayne N. Aspinall Federal Building and U.S. Courthouse, Grand Junction, Colo.; and GSA Regional Office Building, Washington, D.C.

During the study, the LRC researchers measured circadian stimulus (CS), the calculated effectiveness of light's impact on the circadian system. CS is a transformation of circadian light—irradiance at the cornea weighted by the spectral sensitivity of the human circadian system, as measured by nocturnal melatonin suppression—into relative units, from 0 (the threshold for circadian system activation) to 0.7 (response saturation).

Daysimeters, personal wearable technology developed by the LRC in 2004, were used to measure the study participants' circadian light exposure and activity patterns for one full week. The LRC also collected data on the study participants' sleep and mood.

The results of the study show that office workers receiving CS greater than 0.3 in the morning exhibited greater circadian entrainment, were able to fall asleep more quickly at bedtime, and experienced better quality sleep than those receiving a morning CS of 0.15 or less. Participants receiving high CS during the entire workday also exhibited reduced depression and better sleep quality compared to those receiving low CS.

Although most of the GSA buildings in the study were designed to maximize daylight availability in the space, CS exposures were typically not delivered at the desired level. Furniture placement, window-shade position, desk space location and orientation, among other factors, can affect CS levels.

"Lighting designers, architects and building managers should consider how to effectively use electric lighting to supplement daylight to ensure every worker receives enough light during the daytime to support circadian health and wellbeing in the office environment," Figueiro says.

*(continues on page 56)*



LAST YEAR, THE LRC RESEARCH TEAM APPLIED THE RESULTS OF PREVIOUS STUDIES AND INSTALLED **CIRCADIAN-EFFECTIVE LIGHTING**, LIKE THIS DESKTOP LIGHTING, IN TWO FEDERAL BUILDINGS.

PHOTOS: LIGHTING RESEARCH CENTER AT RENSSELAER POLYTECHNIC INSTITUTE



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Circadian wellbeing depends upon a person's light exposure over 24 hours, not just the light received at the office. Even if a particular building provides ideal circadian-effective lighting, too much light after work can lead to circadian disruption. Nevertheless, office buildings may still provide the greatest opportunity for workers to meet their daily requirements for light exposure, especially in winter months.

## Results in Action


Last year, the LRC research team applied the results of the previous studies by developing and then installing circadian-effective lighting, providing a CS of 0.3 or greater, in two additional federal buildings: the White River Junction VA Medical Center in Vermont and Turner-Fairbank Highway Research Center near Washington, D.C.

The LRC researchers demonstrated two

basic strategies to achieve a CS of 0.3—overhead lighting and desktop lighting. For the desktop lighting, two types of light (a cool white and a blue light) were used to deliver a CS of 0.3 or greater at eye-level. Similar to the previous studies, Daysimeters were used to measure personal circadian light exposure. The LRC also collected data on the participants' sleepiness and energy levels.

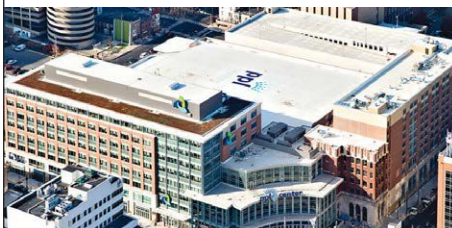
With help from GSA, the LRC collaborated with 37 volunteers at these sites. Participants completed a three-day protocol in summer 2016. Preliminary results using summer data from both buildings revealed that participants reported feeling less sleepy and more energized on days two and three after receiving the lighting intervention, compared to day one.

The LRC is performing similar studies in northern Europe at U.S. embassies in Reykjavik, Iceland, and Riga, Latvia, in a project funded by GSA and the U.S. Department of State. Preliminary results will be discussed at the LIGHTFAIR presentation on May 10 in Philadelphia. (See the box on page 52 for more details.)

"Office workers in the far north, near the Arctic, experience a dramatic reduction in daylight during winter months, which can lead to decrements in sleep, mood, and general health and wellbeing," says Donna McIntire-Byrd, U.S. Department of State. "We are interested in finding solutions by testing whether lighting can help mitigate these issues." 



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## Learn More

To help lighting professionals select light sources and targeted photopic light levels that will increase the potential for circadian light exposure in buildings, the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute, Troy, N.Y., developed a circadian stimulus, or CS, calculator, which can be used to determine CS for any combination of source type and light level in photopic lux. The CS calculator is available at [www.lrc.rpi.edu/programs/lightHealth/index.asp](http://www.lrc.rpi.edu/programs/lightHealth/index.asp).

The LRC also has developed a portfolio of lighting patterns, available online at [lightingpatternsforhealthybuildings.org](http://lightingpatternsforhealthybuildings.org), along with CS guidelines and methodology, so CS may be used as the primary design component and applied to practical design solutions. Application of the CS metric as the primary design component could have far-reaching effects on sustainable lighting design as a means to enhance the health and wellbeing of office workers.





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# GAME ON

WRITTEN BY | MARIA T. VARGAS

**W**hen the U.S. Navy and Air Force faced off in their annual college football matchup in October 2016, fans were likely focused on their age-old rivalry. Little did they know that, in the weeks leading up to the big game, the Naval and Air Force Academies were working closely together—along with the U.S. Department of Energy, Washington, D.C.—on the Better Buildings Challenge SWAP to enhance energy efficiency at both campuses.

The Better Buildings Challenge SWAP is a DOE initiative that involves two industry giants swapping energy teams to uncover new energy-efficiency strategies and further accelerate each

organization's energy-reduction goals. Read about season one of the SWAP, which featured Whole Foods and Hilton Worldwide, in *retrofit*'s March-April 2016 issue, page 52, or [retrofitmagazine.com/better-buildings-challenge-swap](http://retrofitmagazine.com/better-buildings-challenge-swap).

To create season two, the Navy and Air Force teams toured a variety of buildings, including dormitories, cafeterias, academic buildings and labs, exchanging notes and talking through new opportunities to increase energy efficiency while challenging each other to find ways to reduce energy waste. Both academies benefited from exchanging ideas and experiences. They also discovered they are facing similar issues—from feeding 4,400 students at once to heating and





PHOTOS: BETTER BUILDINGS CHALLENGE

# THE **NAVY** COMPETES AGAINST **AIR FORCE** IN THE LATEST BETTER BUILDINGS CHALLENGE SWAP

cooling massive 1 million-square-foot academic buildings. The results are captured in a fun and engaging way in the SWAP.

## Historic Campuses Save Energy

Saving energy and reducing waste is important to both military institutions. Their students represent the future of the Navy and Air Force and the challenges they've addressed through the SWAP reveal energy-efficiency practices the students and energy experts can implement throughout their tenure in the military. Through the academies' participation in the Better Buildings Challenge SWAP, energy experts and students realized there is much more that can be done to raise

awareness about campus energy use and waste day-to-day on campus.

## ■ AIR FORCE NOTES WINDOWS

The Air Force Academy's 1.2 million-square-foot Fairchild Hall in Colorado Springs, Colo., which uses roughly 50,000 Btu to power its HVAC and lighting systems, presented an incredible opportunity to increase efficiency.

Jabe Nekula, chief electrical engineer PWD Annapolis, U.S. Naval Academy, suggested window upgrades to help keep energy from the sun from warming the hall.

"Some of what I saw at Fairchild, like its single-plane glass windows, that's technology that in a



View videos  
from the Better  
Buildings Challenge  
SWAP's seasons.

## GSA Oversees Navy and Air Force's SWAP Upgrades

The U.S. Naval and Air Force Academies' buildings in Annapolis, Md., and Colorado Springs, Colo., respectively, are overseen by the Washington, D.C.-based U.S. General Services Administration. The Air Force and Navy will work with the GSA to implement the upgrades uncovered in the SWAP. However, the GSA was not tremendously involved in motivating the academies to participate in the SWAP. The Naval and Air Force Academies independently agreed to participate in the Better Buildings Challenge SWAP to promote the military institutions' energy-efficiency efforts.

The U.S. Department of Energy, Washington, D.C. chose these academies to participate in the SWAP because their campuses include large academic facilities that can provide a great example for other college campuses around the country. Ultimately, DOE would like to see other federal agencies and college campuses apply the SWAP lessons to their own operations.

lot of cases would have been upgraded years ago," Nekula says. "It gets so hot in that space, they must have been using a ton of air conditioning to keep temperatures under control."

Russell Hume, energy program manager, U.S. Air Force Academy, says hosting the Navy team helped spark a little urgency in upgrading its single-pane windows at Fairchild Hall.

"We took a lot away from having the team at the Air Force Academy," Hume notes. "In particular, the windows at Fairchild Hall are something we're going to have to focus on immediately."

### NAVY CONSIDERS SOLAR

The Navy's energy team was particularly impressed with its rival's solar-roof technology; the Air Force's 832,923-square-foot Vandenberg Hall boasts rooftop solar panels, which generate solar energy on a completely flat surface.

"We get about 12 percent of our annual electrical requirement from solar power," Hume says. "The panels on Vandenberg Hall make up a small amount of that. On a sunny day, the south array is creating about one-third of the power the academy is using at the time."

The Navy team discovered flexibility to incorporate solar technology on some of its historical buildings in Annapolis, Md. Nekula

says the aerial view of the academy is an important aesthetic element the Naval Academy has to maintain. It also must preserve the academy's historic look and feel. However, the flat surface of the Air Force Academy's solar panels offer Navy tremendous flexibility in working through aesthetic requirements.

"I think some of our own concerns about implementing solar technology have proven to be false here," Nekula notes. "Seeing this in application really speaks to how flexible solar power can be."

The Air Force institution harnesses the power of the sun to not only power student labs, but also to power cadets' daily appliances, from coffeemakers to computers. The Air Force also ensures solar technologies are studied by the students to help them develop interest in renewable energies, as well as make midshipmen more aware of their excessive energy consumption.

Air Force students contributed in the SWAP challenge and helped the Navy consider its own solar roof implementation strategy. The students compiled data on what the implementation of solar roofs could mean in energy and financial savings.

The Navy team thought the challenge meant much more than simply developing an energy-efficient campus in Annapolis. Helping cadets become more energy conscious



Representatives from the Navy and Air Force meet with Maria T. Vargas (center), director of the Washington, D.C.-based U.S. Department of Energy Better Buildings Challenge, to discuss the Better Buildings Challenge SWAP.



at the academy is essential to the sustainability of Naval assets once cadets are deployed. The Navy relies on a constant supply of energy when sailors are deployed and operational. However, logistical demands for energy replenishment put Marine Corps and Naval assets at risk, making energy-efficiency practices all the more critical to cadets.


### Academies Tackle Food Waste

Both academies face similar challenges when it comes to food waste because of the thousands of people who dine on their campuses every day. Using its bio digester, the Naval Academy converts food waste into compost for local farmers—a practice that can positively impact hundreds of universities and their local communities if replicated.

The Navy also processes its food waste into pulp. Once the pulp is gathered and stored, an inoculate is introduced to the waste in the bio digester. The bacteria eat the pulp, digest it and create methane gas that is converted into electricity. If the Navy elicits 60 megawatt-hours of electric energy from the bio digester, it can achieve a net benefit of \$7,000 per month. [Learn more about turning food waste into energy in *retrofit*'s May-June 2014 issue, page 56, or [bit.ly/2kjiAp9](http://bit.ly/2kjiAp9).]

The Naval Academy's success with a bio digester on its campus inspired the Air Force Academy team to think differently about food waste and apply its own waste strategy in Colorado Springs. With food waste being a concern for most campuses across the U.S., these military academies could develop a successful model to reduce wasted scraps.

### A Successful SWAP Reprise

The Navy and Air Force teams have taken advanced measures to ensure their campuses are energy efficient, but after participating in the SWAP, they found ways to increase efficiency even further. Through the SWAP, DOE is continuing to show how easy and thrilling it is to change the culture among leaders who literally hold the keys to energy-efficiency implementation, encouraging energy technicians to share their efficiency playbook, even if it's with a bitter rival. 

## Learn More about the Better Buildings Challenge SWAP

The Better Buildings Challenge SWAP includes a web series with three episodes, interview videos, technical videos, a podcast and blog posts at the Better Buildings Challenge Solutions Center website, [betterbuildingssolutioncenter.energy.gov/swap](http://betterbuildingssolutioncenter.energy.gov/swap). Follow the conversation on social media with #SWAPPED17.

Season three of the Better Buildings Challenge SWAP will feature energy leaders from Boston and Atlanta. Follow these two cities' energy teams this spring to learn what efficiency ideas they discover to better power communities of millions.



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[HISTORIC]

# High Drama

A San Francisco Theater Company Refurbishes  
a 1917 Silent Movie House

BEFORE PHOTOS: DENYS BAKER  
AFTER PHOTOS: BRUCE DAMONTE





WRITTEN BY | KIM O'CONNELL

**L**ike a great movie, the Strand Theater's first act was full of promise. Built in 1917 on San Francisco's famed Market Street, the Strand began life as a silent movie house called the Jewel before transitioning into a regular movie theater through the mid-20th century. The theater's second act saw more conflict and drama, as the Strand changed ownership and hosted a series of business ventures, including a tailor's shop. By the 1990s, it was screening adult movies and was raided by the authorities.

Eventually, the marquee went dark and the theater was abandoned, visited only by pigeons and the occasional graffiti artist.

Thanks to a comprehensive renovation, however, the Strand is now poised for its third-act happy ending.

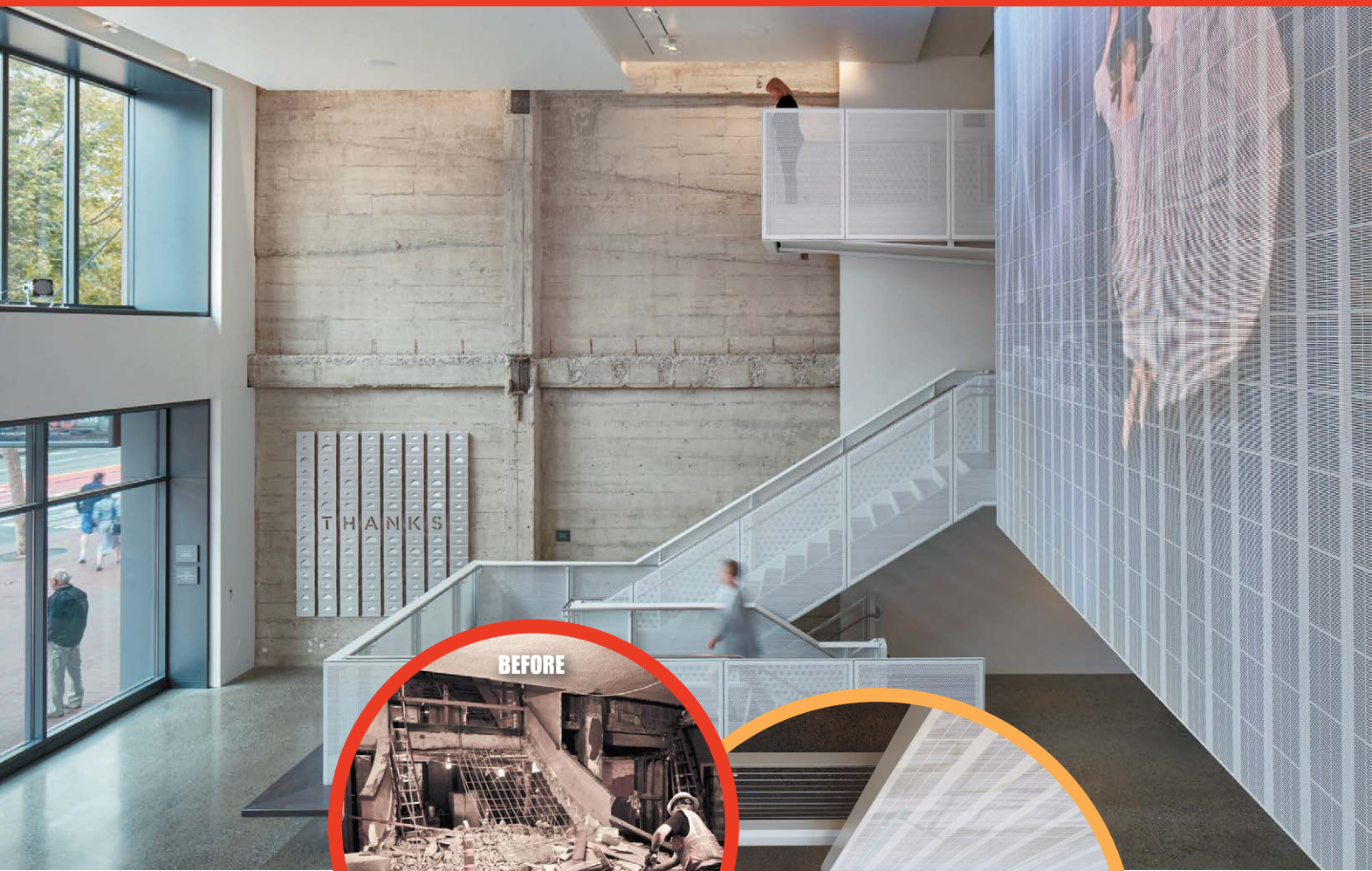
It now serves as the second performance venue and an education center for the non-profit American Conservatory Theater (ACT). As San Francisco's most prominent theater company, ACT's primary performance space is a landmark building in Union Square called the Geary Theater, which dates to 1910. The luxe main theater seats more than 1,000 people and is a thriving part of the city's urban fabric. This sense of history and urban connection would inform the renovation of the Strand, designed by Skidmore, Owings & Merrill (SOM) LLP's San Francisco office, but it was clear from the beginning that this theater would have its own distinct feel.



## An Intimate Theater

Despite the challenges inherent in renovating any old, abandoned building, ACT and the design team were attracted to the structure's strong bones and location, as well as practical matters, such as the existing alley behind the building that would allow for easy load-in and -out for performances. The building is located in the Mid-Market neighborhood across from the city's Civic Center and United





**THE ORIGINAL 1-STORY LOBBY WAS OPENED TO DOUBLE HEIGHT IN A BRIGHT, WHITE MODERN SPACE WITH METAL STAIRCASES AND LANDINGS OFFERING VISITORS EXPANSIVE VIEWS AROUND THE LOBBY.**



Nations Plaza, and San Francisco institutions, such as the Orpheum Theatre and the Public Library, are nearby, so the visibility and foot traffic were desirable.

That part of Market Street had only recently climbed out of a depression, thanks to major companies, such as Twitter and Airbnb, moving into old buildings nearby. The trend led to *The New York Times* calling Mid-Market “the beating heart of adaptive reuse in San Francisco,” and the Strand renovation contributes to and benefits from that rebirth.

“For a company that has been around since the ‘60s, they hadn’t had a smaller second venue for teaching and experimental works,” says Michael Duncan, FAIA, design director for SOM. “Market Street, which had once been the public living room for the city, had become pretty derelict. But now that companies like Twitter have moved in down the block, that whole area has been reborn.”

Today, the once-derelict movie house has a bold new theater, a light-filled modern lobby, and a “black box” teaching and performance space, which can accommodate smaller audiences. The original space accommodated 725 seats, but ACT wanted something more intimate, where the spoken word could be more deeply felt. The new theater has 285 seats and is painted red, an edgy choice that is a stark contrast from the more placid and ornate Geary. (In its last iteration before the renovation, the Strand had a rusty red exterior and a burgundy red interior.) Because the Strand had been a movie house, the design team had to build a new stage and used a series of perforated metal insertions to help define the space and focus its sight lines. Some of the seating is removable so the company can put in tables for more reception-style seating, as well.

“We wanted this to be a more intimate theater but we didn’t want to drive



**THE NEW THEATER HAS 285 SEATS, SOME OF WHICH ARE REMOVABLE SO THE NON-PROFIT AMERICAN CONSERVATORY THEATER CAN PUT IN TABLES FOR MORE RECEPTION-STYLE SEATING.**



## ● Retrofit Team

**ARCHITECT //** Skidmore, Owings & Merrill (SOM) LLP, San Francisco, [www.som.com](http://www.som.com)

- Design Director: Michael Duncan, FAIA
- Managing Partner: Gene Schnair, FAIA
- Senior Designer: Aaron Jensen, AIA
- Project Manager: Gayle Tsern Strang, AIA
- Technical Coordinator: Maurice Hamilton, AIA
- Design Team Members: Eric Cole, Alex Cruz, Patricia Haight, Lisa Hedstrom, Jongsun Lee, Yuji Nishioka, Jessica Said, Joan Young Park and Beatrice Hsu

**STRUCTURAL ENGINEER //**

SOM Structural Engineering

- Mark Sarkisian, P.E., SE, LEED AP BD+C; Neville Mathias, P.E., SE, LEED AP; Jeffrey Keileh, P.E., LEED AP; and Joanna Zhang

**GRAPHICS //**SOM

- Lonny Israel, Brad Thomas and Nicholas Gerstner

**MECHANICAL ENGINEER //**

WSP Flack + Kurtz, San Francisco, [www.wsp-pb.com](http://www.wsp-pb.com)

**THEATER CONSULTANT //**

The Shalleck Collaborative Inc., San Francisco, [www.shalleck.com](http://www.shalleck.com)

**ACOUSTICS //** Charles M. Salter Associates Inc., San Francisco, [www.cmsalter.com](http://www.cmsalter.com)

**HISTORIC CONSULTANT //**

Page & Turnbull, San Francisco, [www.page-turnbull.com](http://www.page-turnbull.com)

**LIGHTING DESIGN //** Pritchard/Peck Lighting, San Francisco, [www.pritchardpeck.com](http://www.pritchardpeck.com)

**GENERAL CONTRACTOR AND CONCRETE RESTORATION //** Plant Construction Co. L.P., San Francisco, [www.plantconstruction.com](http://www.plantconstruction.com)

**SUSTAINABILITY CONSULTANT //** Rick Unvarsky Consulting Services Inc., San Francisco, [rucs-inc.com](http://rucs-inc.com)

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away all the ghosts,” Duncan says. “Our strategy was to take our cues from what was preserved and its relationship to the outside.”

The original 1-story lobby was opened to double height in a bright, white modern space with metal staircases and landings offering visitors expansive views around the lobby. The team installed a large see-through LED screen in the lobby as a nod to the old movie house. This screen can be seen from the street, enlivening the space for patrons but also letting them be part of the “show” for passersby outside. A lobby coffee bar offers more public engagement, as well, staying open to the public during the day and then serving as the intermission

destination during performances. Yet the past remains visible in the form of an old concrete wall that was kept exposed in the lobby and the salvaged letters from the old marquee that hang above the café.

### Raw Character

The team gave the theater a new, modern canopy on the exterior, which provides contrast with the original ornamentation, of which the designers took castings and extended down to eye level. The exterior was painted a vivid red and on one side of the building different graphic typefaces proclaim all that is happening within, including the words “engagement,” “education,”

*(continues on page 68)*



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**FABRIC-WRAPPED PANELS IN MAIN THEATER //** Conwed Wall Technology, [conweddesignscape.com](http://conweddesignscape.com)

**PANEL FABRIC //** Carnegie Fabrics, [carnegiefabrics.com](http://carnegiefabrics.com)

**WOOD-GRILLE WALL PANELS IN "BLACK BOX" THEATER //** 9Wood, [9wood.com](http://9wood.com)

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**CONCRETE-FLOOR FINISHING //** Bay Area Concretes, [www.bayareaconcretes.com](http://www.bayareaconcretes.com)

**FLOORING IN "BLACK BOX" THEATER //** Worthwood from Oregon Lumber Co., [www.oregonlumber.com](http://www.oregonlumber.com)

"tradition," "community" and "art." In all, about 80 percent of the original structure was preserved, which allowed the team to benefit from a historic-preservation grant.

"The contrast helps you to be aware of both old and new," Duncan says. "The graphic type on the exterior reinforced this raw character while still referencing ACT's original brand. You walk through this red façade into this white room. There is some old steel in the side wall that we kept exposed. There was even a moment on the project where there's a rusty beam that was coming out, and I'd been very specific about leaving the rust on it [but it had been accidentally removed]. The stagehand painted the rust back in."

Being in San Francisco, seismic reinforcement was a major element of the renovation. The team focused particularly on shoring up the wall that connects to a reinforced masonry building adjacent to the Strand. Because of the tight site, the construction team installed shoring from within, basically following the footprint of the existing walls and being careful to avoid nearby subway and rail lines. Already, the renovation has won awards from the Washington, D.C.-based American Institute of Architects and others.

Beyond the red main theater and the white lobby, the upper-level "black box" theater is far from black or boxy. Warm wooden panels help with acoustics while a wall of windows provide a view to the city outside, including a dramatic view of City Hall. (The team kept the original window frames but upgraded to insulated glass.) According to Duncan, already one performance has used the flickering city lights as a backdrop.

Unlike a typical project where the client takes over the completed building and the architect is no longer engaged, with the Strand, the designers have a chance to experience the space as patrons and watch it evolve, Duncan says. "So far, ACT has loved it," he says. "One of the first performances they did was about relationships between people in the tech age, and they had a set with a projection of an audience looking back at the actual audience. The director reinterpreted the space and incorporated it into the art. It was a wonderful surprise." 

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# ELECTRIC ATMOSPHERE

A Former Power Plant Provides a Unique Dining Experience in a Revitalized Neighborhood

WRITTEN BY | CARA MCKEDY, NCIDQ, LEED AP ID+C

**O**n the outskirts of downtown St. Louis sits Lafayette Square, a historic neighborhood established in 1836 by Victorian settlers. This neighborhood, named after the famed French military officer Marquis de Lafayette, was once home to City Hospital—an iconic institution that shut its doors in 1985 after serving the St. Louis community for nearly 150 years. At its peak, City Hospital occupied four city blocks and consisted of 12 separate structures, including a power plant that supplied power to the entire complex.

Lafayette Square, once one of St. Louis' most fashionable places to live, began to steadily decline after a devastating tornado dismantled the area at the turn of the 20th century. Decades later, developers began to breathe new life into the historic area. At the center of the neighborhood's revitalization sits Element, a restaurant and lounge with a unique dining experience located on the second and third floors of the once thriving power plant.

Element's innovative design, created by St. Louis-based architecture and design firm REMIGER DESIGN, lends a hand to its unique food and drink offerings. This adaptive-reuse project concentrated on uncovering the beauty of the raw space and, in doing so, created an industrial-chic environment. Now, this once forgotten power plant bears a significant role in Lafayette Square's rebirth.

BEFORE PHOTOS: REMIGER DESIGN  
AFTER PHOTOS: DEBBIE FRANKÉ





## Retrofit Team

**ARCHITECT** // REMIGER DESIGN,  
St. Louis, [remigerdesign.com](http://remigerdesign.com)  
**GENERAL CONTRACTOR** //  
Kadean Construction, Fenton,  
Mo., [www.kadean.com](http://www.kadean.com)  
**FOOD-SERVICE CONSULTANT**  
// Dennis G. Glore Inc., Eureka,  
Mo., [www.dgg-inc.com](http://www.dgg-inc.com)  
**LIGHTING DESIGNER** // Randy  
Burkett Lighting Design, St.  
Louis, [rbldi.com](http://rbldi.com)  
**FURNITURE DEALER** // Interior  
Investments LLC, St. Louis,  
[interiorinvestments.com](http://interiorinvestments.com)

## Materials

**CUSTOM MILLWORK** //  
Gravois Planing Mill Co.,  
[www.gravoisplaningmill.com](http://www.gravoisplaningmill.com)  
**KITCHEN EQUIPMENT** //  
Ford Hotel Supply, [fordstl.com](http://fordstl.com)  
**GLASS DOOR** // Horizon  
Glass Co., [www.horizonglasscompany.com](http://www.horizonglasscompany.com)  
**RECLAIMED WOOD** //  
Historic Timber & Plank Inc.,  
[historictimberandplank.com](http://historictimberandplank.com)  
**CARPET** // Shaw Contract,  
[www.shawcontract.com](http://www.shawcontract.com)  
**PAINT** // PPG Porter Paints,  
[www.ppgporterpaints.com](http://www.ppgporterpaints.com)  
**ROLLER SHADES** //  
Draper, [www.draperinc.com](http://www.draperinc.com)  
**PLUMBING FIXTURES** //  
Porcher Inc.,  
[www.porcher-us.com](http://www.porcher-us.com)  
**FAUCETS** // Vigo,  
[www.vigoindustries.com](http://www.vigoindustries.com)  
**TILE** // Porcelanosa, [www.porcelanosa-usa.com](http://www.porcelanosa-usa.com); Trends  
in Tile, [www.trendsintile.com](http://www.trendsintile.com);  
and Daltile, [www.daltile.com](http://www.daltile.com)  
**DECORATIVE WOOD PANELS** //  
3Form, [www.3-form.com](http://www.3-form.com)  
**SIGNAGE** // Summit Sign +  
Graphics, [www.summitsignandgraphics.com](http://www.summitsignandgraphics.com)









## Collaborative Design

Multiple obstacles were encountered while renovating the old power plant into a new restaurant. With a fixed timeline, the project team of architects and designers, owners, restaurant chef, general contractor and a food-service consultant had to work together from the very beginning to ensure the project would be completed on time and under the relatively modest budget. The entire group worked collaboratively to turn the abandoned power plant into an upscale full-service restaurant, composed of a dining room, bar and lounge, multiple terraces and a small private dining room. This collaborative effort granted the opportunity for all parties to provide feedback throughout the entire design process and allowed for the creation of a space that would meet everyone's needs.

Considering the building was on the Washington, D.C.-based National Park Service's National Register of Historic Places, the design and construction team was faced with having to work within certain



parameters and limitations to maintain the building's historic distinction. This obstacle, however, seamlessly aligned with the team's overall vision for the restaurant.

Creating a well thought-out, functional design proved to be much easier with the input of the contractor and end user. Engaging the entire team from the beginning provided the opportunity to have a

comprehensive approach to the design with influence from the business side of the restaurant, as well as the chef's needs and menu selection. This input ultimately facilitated the creation of an atmosphere that preserved the original integrity of the power plant while introducing a modern feel to match the surrounding neighborhood's newfound renaissance.

**A COLLABORATIVE TEAM OF ARCHITECTS AND DESIGNERS, OWNERS, RESTAURANT CHEF, GENERAL CONTRACTOR AND A FOOD-SERVICE CONSULTANT SOUGHT TO CREATE A MODERN DINING ENVIRONMENT THAT WOULD HONOR THE BUILDING'S PAST AND RE-ENERGIZE THE ONCE ABANDONED SPACE.**





**TOP:** THE THIRD-FLOOR LOUNGE WAS DESIGNED AROUND THE DESIRE TO HAVE A LONG BAR THAT FACED ST. LOUIS' GATEWAY ARCH AND OFFERS FUN AND COMFORT.

**BOTTOM RIGHT:** THE FORMER POWER PLANT'S LIMITED SQUARE FOOTAGE POSED A CHALLENGE. AS A RESULT, THE TEAM DECIDED UPON AN OPEN-KITCHEN CONCEPT, GUARANTEEING EVERY GUEST IN THE DINING ROOM WOULD HAVE A SEAT AT THE CHEF'S TABLE.



## Chef's Table

The space's limited square footage posed a challenge. As a result, the team decided upon an open-kitchen concept, guaranteeing every guest in the dining room would have a seat at the chef's table. The three-sided, contemporary display kitchen serves as the rectangular 74-seat dining room's centerpiece and provides guests the opportunity to watch and engage with the chefs preparing their meals. This strategic concept showcases Element's approach to contemporary, farm-to-table comfort food. Parallel to the restaurant's aesthetic are the unique seasonal menus and natural ingredients used in the "contemporary comfort" dishes.

Following the chef's vision of creating a contemporary kitchen, modern subway tile surrounds the base of the kitchen and stainless-steel trim provides a sleek finish and a sense of cleanliness. To help balance out the modern look with an industrial feel, reclaimed, epoxy-finished wood tables with angled steel edges were incorporated in the design. Booths along the side of the room provide softer, more intimate seating options, and additional seating flexibility was added with a banquette along the back of the room. Although fresh, locally sourced ingredients are a notable part of Element's appeal and success, the building's rich, historical ambiance also has guests coming back for more.

## Design Juxtaposition

From the beginning, the team wanted to be transparent about the building's original structure and feel while adding a hint of contemporary ambiance. With this juxtaposition in mind, the team sought to create a modern dining environment that would honor the building's past and re-energize the once abandoned space.

Element's main dining room accomplished this vision with its polished casual, industrial-luxe vibe and authentic, historic overtones. While creating and designing the sleek, modern kitchen, the team felt it necessary to leave a lot of the original glazed brick to help celebrate and maintain the raw beauty of the old power plant.


Extreme care was taken to delicately add reclaimed wood feature walls along with contemporary artwork and lighting to offer a striking juxtaposition of the

historic and industrial to the modern and sleek. The reclaimed wood and charcoal-gray walls provide a natural backdrop for the pops of red throughout the second-floor dining room in seating and the custom art installation above the banquette. The art piece not only adds texture to the long, rectangular room, but also helps widen the space by drawing patrons' eyes to both sides of the room.

Upstairs, the third-floor lounge provides guests a more intimate vibe and postcard panoramic views of the city's iconic Gateway Arch. The exposed structural roof beams and polished concrete floors are balanced by the introduction of comfortable seating areas, strategically defined with modular carpet tiles to acoustically balance other hard surfaces. Visitors can take their pick from a variety of seating styles, including distinctive, custom high-back chairs and contemporary soft-seating clusters that offer modern design touches juxtaposed against original exposed-brick walls and ceiling ductwork. Throughout the space, unique light fixtures were strategically placed to highlight the aging, robust steel structures.

The entire space was designed around the desire to have a long bar that faced Gateway Arch and makes the lounge a fun, comfortable space that people could really enjoy. The bar itself is covered in vertically oriented glass mosaic tiles that glow as a result of under-bar lighting. Balancing out the modern finish is a warm, epoxy-finished reclaimed-wood bar top. Adding to the industrial vibe, rustic wooden stumps are placed throughout the lounge area to incorporate a bit of playfulness and double as tables or seats that can be freely moved around.

For a closer connection to revitalized Lafayette Square, two large roof terraces extend the industrial-chic ambiance outdoors. On a nice night, guests can look out at the rejuvenated community and get a true sense of the past meeting the present.

With the addition of the restaurant and lounge, the once abandoned power plant has been transformed and is now one of the newest jewels of a revitalized community. Although its days of generating power are long gone, the old power-plant building still provides an electric atmosphere with a warm ambiance in its new role as a restaurant and lounge. 



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PHOTO: ALAN KARCHMER

# ALL IS WELL(ness)

The Current Health and Wellness Trend Represents Another Tipping Point in the Building Industry


WRITTEN BY | ROBERT NIEMINEN

In his bestselling book, “The Tipping Point,” author Malcolm Gladwell observed that “in order to create one contagious movement, you often have to create many small movements first.” In the building industry, it seems we’re at a tipping point in that, since the early 2000s, a series of trends has reshaped the way buildings are designed, constructed and operated (for the better)—and it’s not over yet.

Consider this: The introduction of the Washington, D.C.-based U.S. Green Building Council’s LEED rating system in 2000 created a massive ripple effect around the globe in the way we think about environmentally responsible building practices, as evidenced by the more than 34,700 certified commercial projects on record to date. These projects represent more than 5 billion square feet of green building space. The sustainable design trend has also ushered in an age of material transparency (see *retrofit*’s

November-December 2014 issue, page 66, or [bit.ly/2jmNlId](http://bit.ly/2jmNlId)), thanks to the market’s adoption of Health Product Declarations and Environmental Product Declarations that are transforming the manufacturing of products, furnishings and finishes that fill our interiors. Further, as a result of the green-building movement’s success, there also has been a renewed interest in the social side of sustainability—the “people” component of the Triple Bottom Line that involves social outcomes for underserved communities (see *retrofit*’s November-December 2016 issue, page 68, or [bit.ly/2jaBHgm](http://bit.ly/2jaBHgm)).

These movements are converging to the point where we find ourselves today: at the forefront of the wellness trend in design and construction that promises to alter the built environment yet again. And the need has never been greater. According to the International WELL Building Institute (IWBI), Washington, corporate health and wellness are a major concern for U.S.-based compa-

 The National Oceanic and Atmospheric Administration’s Inouye Regional Center, Pearl Harbor, Oahu, Hawaii, is a renovation of two WWII hangars. The glass section in the center is a new connector piece. The skin on the hangars had to be replaced because of asbestos and other contamination, but the new construction reflects the prior building conditions.

nies. In fact, nearly 50 percent of employers say health and productivity programs are essential to their company strategy while 91 percent of employers report offering health and wellness programs beyond medical cost savings. Further, IWBI reports the physical workplace is one of the top three factors affecting job performance and satisfaction, citing a study in which 90 percent of employees surveyed admitted their attitude about work is adversely affected by the quality of their workplace environment.

Add to this the mounting evidence-based research linking buildings to human





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PHOTO: TOM ARBAN

↑ The renovation of TD Bank's office in downtown Toronto earned WELL Gold Certification through the International WELL Building Institute's WELL Building Standard.

→ NOAA Inouye Regional Center's retrofit includes the addition of a new "passive downdraft" natural ventilation system and daylighting fixtures in the central spaces, which significantly improve the health and wellbeing of building occupants.



PHOTO: ALAN KARCHNER





health and it's clear green building and wellness are interrelated.

"We have always grappled with questions around the real impacts the environment has on our health and wellbeing but haven't always had clear design direction" explains Mara Baum, AIA, LEED Fellow, WELL AP, WELL Faculty, and vice president, sustainable design leader, Health and Wellness at HOK, San Francisco. "We're now learning much more about the direct scientific basis behind the health impacts our buildings have on our bodies and minds."

Drawing a correlation between rising health-care costs and the amount of time people spend indoors (up to 90 percent on average), Baum says the time for market transformation is now.

"If you consider the significant health problems we as a society are facing and the massive health costs these health problems are incurring and then consider the research that links these problems with specific conditions inside and around buildings, then connecting these dots can become a call to action," she says.

## WELL, WELL, WELL ...

Much like USGBC did in the early 2000s,

calling for the building industry to rethink its position and impact on the natural environment, IWBI is issuing a similar challenge as it relates to human health. With the launch of its WELL Building Standard, a performance-based system for measuring, certifying, and monitoring features of the built environment that impact the health and wellbeing of occupants, IWBI developed the program as the first building standard to focus exclusively on people. It takes a holistic approach to health in the built environment by addressing behavior, operations and design.

Although its focus may be different from LEED, the WELL Building Standard is designed to work harmoniously with LEED to optimize building performance for human health and the environment.

"When we first began to develop the WELL Building Standard, many were discussing environmental sustainability but there was less of a focus on human health and wellness in the built environment," recalls Paul Scialla, IWBI's founder. "As a growing body of research continues to underscore the impact indoor spaces can have on the health and wellbeing of occupants, it is becoming increasingly clear environ-

mental sustainability and human health and wellness in the built environment go hand-in-hand. From the quality of the air in a space to the amount of daylight entering to the 'walkability' of the building location, there are many design, construction and operation decisions that can contribute to a person's wellbeing."

Simply stated, WELL is like a nutrition label for a building, providing transparency on the quality of a building's environment. Scialla says the rating system focuses on seven categories of building performance, including air, water, nourishment, light, fitness, comfort and mind. Much like LEED, WELL projects earn points on a scorecard that represents the aggregate score for each of the above categories and, like their predecessors, WELL projects can achieve Silver, Gold or Platinum certification.

While WELL can be applied to many real-estate sectors, Scialla says WELL version 1 is currently optimized for commercial and institutional office buildings and has seen particularly wide adoption among the corporate community. He notes Fortune 500 companies, like CBRE and TD Bank, have been some of the quickest to pursue WELL, recognizing the importance of design





If you consider the significant health problems we as a society are facing and the massive health costs these health problems are incurring and then consider the research that links these problems with specific conditions inside and around buildings, then connecting these dots can become a call to action.



— Mara Baum, AIA, WELL AP, vice president, HOK



PHOTO: TOM ARBAN



TD Bank's collaboration room features a wide range of work and breakout settings that promote social interaction and create a familiar, comfortable environment.



Stairs in the NOAA Inouye Regional Center help improve building occupants' physical activity, as well as support social connections between occupants. Social connectivity is a significant factor in occupant wellbeing.

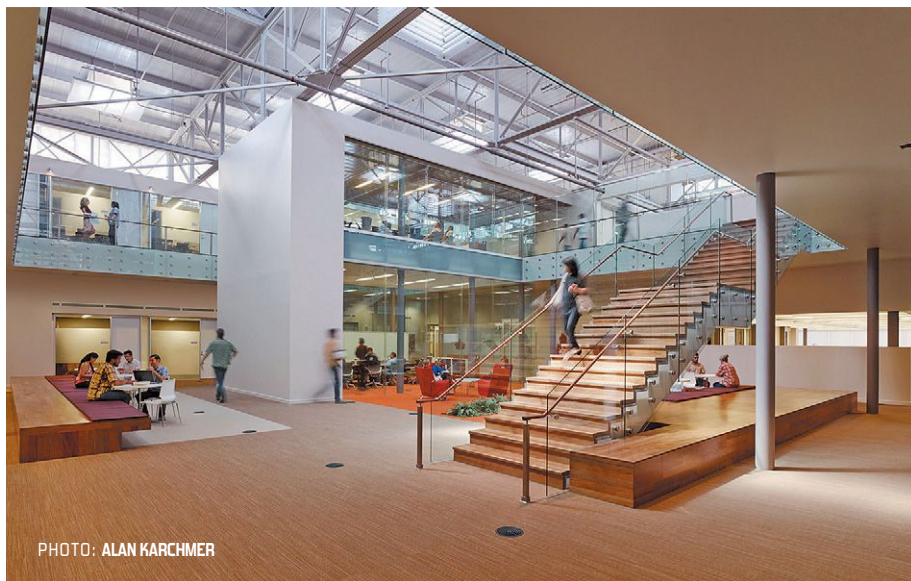


PHOTO: ALAN KARCHMER

factors that go into creating a healthy workplace, from proximity to bike parking to biophilic elements, circadian lighting, indoor air quality, healthy food access and stairwell design, for example.

"As we continue to grow the healthy-building movement, we look forward to expanding WELL among other real-estate sectors," Scialla adds.

### Challenges to Adoption

Part of the difficulty in getting the market to adopt a new standard like this—as was the case with LEED—is a matter of education and messaging.

"I think the most challenging part is the awareness about the importance of this standard," observes Markous Gad, sustainability specialist at Stantec, Calgary, Alberta, Canada. "Similar to the LEED standard when it started 20 years ago—at that time it was new and sometimes the question of 'Who cares about energy savings and carbon-dioxide emissions?' [came up], but by the time we built awareness and spread the message to our colleagues and clients, then we start to see some response to that. I think the same situation applies [to WELL]; it will take some time to spread the message and to educate building professionals and clients about the benefits."

Another perceived barrier to adopting a standard, such as WELL, is cost, and some building professionals assume the endeavor will be an expensive one. However, as Scialla points out, "WELL building decisions are not necessarily more costly decisions, but more conscientious decisions." Noting costs vary by project, Scialla points to early evidence in some cases where incremental hard costs as low as 0 to 1 percent compared to base-line construction have been realized (particularly for projects pursuing WELL Core and Shell). Additionally, he says 90 percent of the costs of a building are the people inside, so the prospects for addressing them are vast.

"Whether it's a building owner looking



to differentiate their space so they can lease out to tenants or whether it is companies looking to retain and attract employees, enhance productivity or potentially reduce health-care costs, WELL has the potential to offer a valuable return on investment," he says.

In terms of the existing building stock, there are some unique challenges with pursuing WELL certification, but none are insurmountable.


"With WELL—because there are many Preconditions—some of those Preconditions might present a barrier, particularly for the retrofit market. That will be a little bit more difficult for some types of projects," Baum explains.

For example, she says in a building where an existing air handler is not designed to meet air-quality requirements, the prerequisite in WELL might be very difficult to meet—inexpensively, anyway. Replacing an air handler might require adding square footage to a mechanical room in an existing space that may be cost-prohibitive. However, Baum points out WELL was designed with alternative adherence pathways that "are structured in such a way that allow for relatively straightforward achievement of alternative approaches as long as you're meeting the intent of the requirements," she says.

She adds larger retrofits, which include mechanical upgrades, are relatively straightforward in terms of meeting WELL's requirements. Building systems that do not meet current codes, on the other hand, will prove to be much more challenging.

### 'WELL' Worth the Effort

In spite of the difficulties with existing buildings, pursuing WELL certification is a path facility executives should consider seriously. According to IWBI, attaining certification can generate increased savings and productivity in addition to a meaningful return on investment to the tenant and building owner. Although the hard costs are difficult to quantify with so little data from existing projects available, it is not uncommon for employers to realize productivity improvements of 8 to 11 percent as a result of better indoor air quality, according to the Toronto-based World Green Building Council, for example.

Although green building alone is a noble goal, focusing on the wellness in a building is better, ultimately. As Gad observes: "Yes, you can save more energy and save more water by designing a high-performance building but by having a healthy pursuit, I think the return will be much, much higher compared to just focusing on energy savings." 



## WELL Certification: How It Works

WELL Certification is achieved when projects demonstrate all Preconditions set by the standard, according to the International WELL Building Institute, Washington, D.C. Higher certification levels above Silver can be achieved by pursuing Optimization Features. Because health and wellness objectives vary from one building to the next, WELL provides flexibility when selecting features that best suit the project owner's goals.

Silver level certification is achieved by meeting 100 percent of the WELL Preconditions applicable to the Typology in all Concepts. Gold level certification is achieved by meeting all the WELL Preconditions, as well as 40 percent or more of the Optimization Features. Platinum level certification is achieved by meeting all the WELL Preconditions, as well as 80 percent or more of the Optimization Features.

The WELL certification process involves five steps:

**1.) REGISTRATION:** WELL Certification begins with registration through WELL Online, a web-based platform designed to take projects through the WELL certification process from start to finish.

**2.) DOCUMENTATION:** Documentation is required prior to final certification review.

**3.) PERFORMANCE VERIFICATION:** A series of onsite post-occupancy performance tests known as Performance Verification occurs.

**4.) CERTIFICATION:** WELL Certification recognizes the project has successfully documented compliance with all features and passed Performance Verification.

**5.) RECERTIFICATION:** Recertification, which must be completed after three years, ensures the project maintains the same high level of design, maintenance and operations over time. For Core & Shell projects, no recertification is required.

For more information, visit [www.wellcertified.com/certification](http://www.wellcertified.com/certification).

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## [PRODUCTS]

### ILLUMINATE DISPLAYS WITH LED

The Radianz PK900 LED Slim Disk Series from JESCO Lighting Inc. features architectural, versatile, low-scale, fixed or aimable high-output white COB LEDs designed for showcase and display lighting applications. The products are available in two models, which can be recessed or surface-mounted. Each is 3 1/4 inches in diameter and 9/16-inch high. The Slim Disks are constructed from die-cast and machined aluminum that dissipates heat, reduces heat transfer and extends lamp life. A textured lens softens emitted light, virtually eliminating reflective glare. Finishes include black, silver and white.

[www.jescolighting.com](http://www.jescolighting.com) // Circle No. 41



### MINI FLOODS ARE SUITABLE FOR UNDERWATER APPLICATIONS

National Specialty Lighting has released its Low Voltage LED Mini Floods, which provide an extra degree of safety on Class 2, 24-volt power supplies and are suitable for applications up to 1 meter under water. They come in warm white and cool white, as well as blue and RGB, allowing them to be used for flood lighting or spot lighting buildings, trees or fountains. In addition to compact size, the lights feature an adjustable mounting arm with degree markings for fixture aiming and several mounting options, including ground mount, wall mount and extended wall mount. The floods are available in 10- and 30-degree beam spreads for static colors and 40 degrees for RGB.

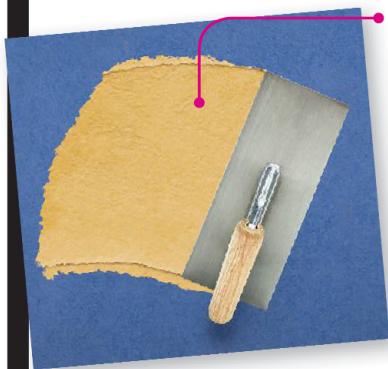
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### MEMBRANE CAN BE TROWEL-APPLIED

Sto Corp. has introduced StoGuard Gold Coat TA, a trowel-applied version of Gold Coat. The vapor-permeable air barrier membrane is used in Sto-Therm ci systems and troweled directly onto vertical above-grade wall sheathing and concrete masonry. It also functions as a waterproof air barrier when combined with StoGuard joint and rough-opening treatment. The water-based product comes in 5-gallon pails and is ready-mixed for easy application.

[www.stocorp.com](http://www.stocorp.com) // Circle No. 42



### FOIL SEALANT REDUCES DUCTWORK AIR LEAKAGE

The Hardcast Foil-Sealant Duct Sealing System from Carlisle HVAC reduces ductwork air leakage, energy loss and moisture intrusion. It is a combination of rolled mastic sealant and brush- or spray-applied mastic. This system includes Hardcast's Iron-Grip 601, Spray-Seal or Versa-Grip 181 liquid mastic sealant. Once the liquid sealant has cured completely, the mastic is overlaid with a 4-inch-wide strip of AFT-701 rolled sealant. When properly installed, the Hardcast Foil-Sealant Duct Sealing System is eligible for a 10-year material-only warranty.

[www.carlislehvac.com](http://www.carlislehvac.com) // Circle No. 44



View a video of proper installation techniques. See details on page 12.

### EXTERIOR STEEL DOORS ARE AFFORDABLE

JELD-WEN has debuted its JELD-WEN Craftsman Collection exterior steel doors, which offer the timeless look and feel of craftsman design at an affordable price. Available in two-, three- and single-panel options and a variety of widths, as well as color-matching, these doors can be painted to fit any design. Durably constructed, the doors are available in 20- and 90-minute fire ratings and come with a limited 10-year warranty.

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## [PRODUCTS]



### ZONING SYSTEM IMPROVES RADIANT FLOOR HEATING EFFICIENCY

Uponor North America has released its Climate Control Zoning System II, which features Autobalancing technology that boasts 25 percent faster reaction times and up to 20 percent greater energy savings for radiant floor heating systems. Autobalancing technology

calculates the actual energy need of single rooms and adapts the heat output of each loop by controlling the actuator's on and off cycle. This technology allows the system to react to temperature changes faster and offers greater energy savings in the process. The complete system consists of a base unit, an expansion module, and digital or dial thermostats. A single base unit in the system can support up to six thermostats and eight actuators. Adding an expansion module will increase the number of thermostats and actuators the system can handle to 12 and 14, respectively.

[www.uponor-usa.com](http://www.uponor-usa.com) // Circle No. 47

### LAMP MEETS NEW DESIGNLIGHTS SPECIFICATION

Lunera Lighting Inc. has introduced a 4-pin 26W compact fluorescent replacement lamp to meet the recently enacted DesignLights Consortium specification and qualify for DLC listing. To achieve DLC v4.1 Listing and attract utility rebates, Lunera improved lumen output, which is 50 percent greater than the previous generation, while power consumption has dropped more than 20 percent. In addition, the number of industry-standard ballasts compatible with the new lamp has been expanded. The Lunera CFL LED G24q lamp also can be used to replace 18W, 32W and 42W four-pin G24q base CFLs. The lamp delivers near-daylight illumination in 2700K, 3000K, 3500K or 4000K color temperatures and has a CRI of more than 80.

[www.lunera.com](http://www.lunera.com) // Circle No. 48

### SOFTWARE PROVIDES COMMISSIONING DOCUMENTATION

Legrand has updated the Wattstopper LMCS configuration software and Wattstopper Segment Manager Network software to extend the power of the Digital Lighting Management (DLM) control platform. The LMCS software provides industry professionals with important commissioning documentation. With active real-time monitoring of the DLM system, field technicians can configure, manage and update job information while onsite, as well as set up advanced features of DLM devices. The Network View provides a holistic view of all DLM networking components on a project, making it possible to design, document and keep track of all components that make up the entire DLM system. Wattstopper DLM is a scalable platform that provides control infrastructure at every switch, outlet and lighting load for optimal energy performance.

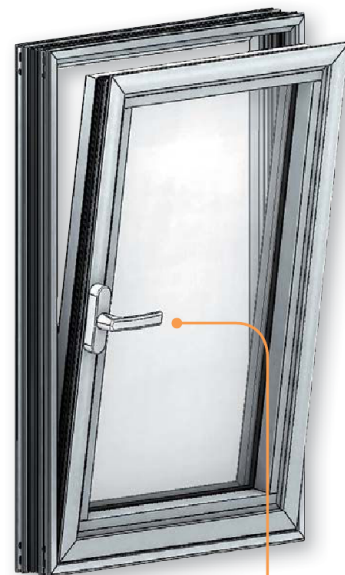
[www.legrand.us/wattstopper](http://www.legrand.us/wattstopper) // Circle No. 49



### INSULATED PRODUCT LOOKS LIKE BRICK

Dryvit's NewBrick consists of an insulating base layer (insulation value equal to R-5 or R-1.4 when including the effect of the mortar joints), a reinforced covering layer and an integrally colored finished layer. The product, which can be installed by masons and traditional EIFS installers, looks like brick but weighs 2.45 pounds per square foot. It provides peak energy efficiency when applied over an Outsulation system. This type of installation also meets IECC and Title 24 continuous insulation requirements. The product can be installed direct to nearly any substrate and eliminates the need for support elements, like shelves, pans and ties. Its engineered drainage plane removes incidental moisture. NewBrick is available in three textures, 16 standard colors and four standard blends. Special effects and custom colors can be added.

[www.dryvit.com](http://www.dryvit.com) // Circle No. 50



### ONE HANDLE TILTS, TURNS WINDOW

St. Cloud Window Inc. has made available its SCW 3530 Tilt-Turn window, which has two open positions with one handle controlling all operations. With a 90-degree turn of the handle, the tilt-turn hardware allows the window to tilt inward at the head for secure ventilation and worry-free protection from the elements. Alternatively, turning the handle 180-degrees allows the vent to swing inward like a casement window for easy cleaning or a full breeze. Turning the handle to the downward vertical position securely locks the vent with a full compression seal. The window is engineered and tested to meet standards for acoustic performance, energy efficiency, water penetration, impact resistance and security.

[www.stcloudwindow.com](http://www.stcloudwindow.com) // Circle No. 51

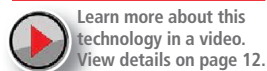




## LIGHTING CONTROL COMPLIES WITH ENERGY CODES

Hubbell Lighting has introduced SiteSync Lighting Control, which delivers energy savings, reduced maintenance costs and code compliance for many spaces and budgets. The adaptable wireless control solution has been developed to meet key energy-code compliance requirements (ASHRAE, IECC and Title 24). With its preprogrammed approach, installation only requires customers to fill out a worksheet and Hubbell Lighting does the rest: commissioning the fixtures, tagging them for identification in the field and providing a site map for field installation reference. To complete the installation, a customer will use SiteSync software to broadcast the date and time to fixtures, and the system will instantly be up and running.

[www.hubbelllighting.com/sitesync](http://www.hubbelllighting.com/sitesync) // Circle No. 52



Learn more about this technology in a video. View details on page 12.

## MINI FLOODLIGHTS INCLUDE COB TECHNOLOGY

Vista Professional Outdoor Lighting has added two models to its line of Up & Accent fixtures. The two dimmable Mini Floodlight models—5105 and 5106—include the latest COB LED technology. They feature a slim, compact design that provides a higher output and more lumens per watt than standard LEDs. A single LED chip/emitter available in 2W, 3W or 4W offers beam spread and control. Light quality is further enhanced by a high-performance anodized aluminum reflector. Color temperatures are available in 3000K, 4000K and 5000K, and light output is up to 400 delivered lumens. A bordered, high-impact tempered lens enhances durability.

[www.vistapro.com](http://www.vistapro.com) // Circle No. 53



## TILE DESIGN IS INSPIRED BY WATER

Artaic Innovative Mosaic has added two mosaic patterns—Rift and Serene—to its SPLASH! collection. Now consisting of 10 patterns, SPLASH! was inspired by the spontaneous movements of water and surrounding landscapes. The mosaic series presents stylized motifs of seaweed, rippling water and calming beaches. Rift is inspired by kelp while Serene is inspired by the sea's motion. Incorporating Artaic's Vitreous Glass, the tiles are available in an extensive color palette and several finish options. The 3/8-inch size offers higher resolution for smaller projects and 3/4 inch provides a lower price point for larger projects.

[www.artaic.com](http://www.artaic.com) // Circle No. 54



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(S-90 and S-120 available in pink)



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- Easy to clean and keep beautiful
- Environmentally friendly process using 100% organic compounds

Circle No. 55



## [PRODUCTS]

### METAL AND WOOD CEILINGS ABSORB SOUND

Armstrong Ceiling Solutions has expanded its portfolio of ceiling panels that provide Total Acoustics performance with the addition of select MetalWorks and Woodworks product lines. WoodWorks ceiling panels with Total Acoustics performance now include WoodWorks Tegular, WoodWorks Grille Tegular and WoodWorks Channeled Tegular. MetalWorks ceiling panels with Total Acoustics performance include MetalWorks Tegular, MetalWorks Tin, MetalWorks Mesh and MetalWorks 3D. Metal and wood Total Acoustics panels are rated as Good, Better, and Best based on their combination of sound absorption as denoted by their Noise Reduction Coefficient and sound blocking as denoted by their Ceiling Attenuation Class.



Learn how acoustics meet aesthetics in a short video. View details on page 12.

[armstrongceilings.com/totalacoustics](http://armstrongceilings.com/totalacoustics) // Circle No. 56



### THREE SERIES OF LED RETROFIT LIGHTING AVAILABLE

Nora Lighting has released Iolite, Cobalt and Onyx LED retrofits. Iolite is available with 1-, 2- and 4-inch apertures for a minimal architectural appearance and features an LED core module, which is compatible with dedicated patent-pending downlight housings in various dimming and voltage options. It produces 600 to 800 lumens, and the 2- and 4-inch models have various adjustable configurations. The Cobalt Series is designed for use in existing IC or non-IC housings and is available in 4-, 5- and 6-inch square and round apertures with a 750 and 1000 lumen output. A spun aluminum trim has deep-set diffused lens for visual comfort, and reflector or baffle trim styles are available. Onyx is offered in 4-, 5- and 6-inch apertures with 650 to 750 lumens. Baffle or reflector trims are available with a medium base socket adaptor for retrofitting in recessed housings by Nora and others.

[www.noralighting.com](http://www.noralighting.com) // Circle No. 57



### PIVOT DOORS ALLOW FOR MORE GLASS AND LIGHT

LaCantina Doors has released its Pivot Door System, which features a narrow stile and rail profile for more glass and light, as well as consistent-width panels for balance and symmetry.

The door system is available with direct-set or panel-glazed sidelites and transom, as well as a flush threshold for minimal floor-space interruption. LaCantina's Pivot doors feature high-performance hardware for ease of operation of larger panel weights and an exclusive handle package. The system is offered with standard low-E glass for energy efficiency and various privacy and decorative glass options. It is available in a range of materials, including aluminum, aluminum thermally controlled, aluminum wood and contemporary clad.



[www.lacantinadoors.com](http://www.lacantinadoors.com) // Circle No. 58

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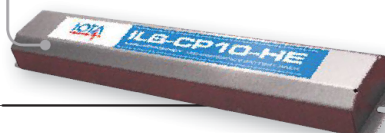
**1-800-533-6392**

**WWW.WATERALERT.COM**



### LED DRIVER MEETS CEC REQUIREMENTS

IOTA's ILB-CP10-HE Emergency LED Driver features a high-efficiency micro-processor design to achieve compliance with 2017 California Energy Commission requirements. The driver manages the charging efficiency of the battery while in the recovery and maintenance modes to minimize power consumption without affecting emergency performance. Additionally, the ILB-CP10-HE utilizes IOTA's patented Constant Power design to deliver 10W of non-diminishing emergency illumination for the entire runtime. It has auto-sensing 10-60Vdc Class 2 output for wider LED compatibility and offers enhanced surge protection. The driver is UL Classified for field and factory installation.



[www.iotaengineering.com/ilbcp10HE.htm](http://www.iotaengineering.com/ilbcp10HE.htm) // Circle No. 59

Circle No. 60





### LEVER CAN BE PUSHED OR PULLED OPEN

Yale Locks & Hardware has made available a quick, easy and comfortable way for anyone—young, old or

in between—to open a door. The Yale Pivot Collection Classic lever can be pushed open with a hip, and its two-way push/pull operation makes it suitable for high-traffic interior and exterior doors. In addition, the design makes it easy for anyone to quickly open the door in an emergency. The collection is available in three finishes: satin nickel, polished brass and oil-rubbed bronze.

[www.yalelocks.com](http://www.yalelocks.com) // Circle No. 61



### MODULAR CHILLER HEATS AND COOLS SIMULTANEOUSLY

ClimaCool has introduced a modular chiller that harnesses air and water to achieve simultaneous heating and cooling without geothermal. The Simultaneous Heating and Cooling Air Cooled Heat Pump with Integral Water to Water Heat Recovery offers the benefits of geothermal without well fields or other source/sinks. The chiller operates in three modes: cooling, heating or heat recovery allowing buildings to harness energy already being produced but not used. With separate electric feeds, individual modules within the chiller bank can be taken offline for servicing, expansion or replacement without impacting system performance. The design and off-the-shelf components also allow easier maintenance by service contractors.

[modularchillers.climacoolcorp.com](http://modularchillers.climacoolcorp.com) // Circle No. 62



That's right...a Field-Installable LED Emergency Driver!



### THE ILB-CP SERIES

Constant Power LED Emergency Drivers



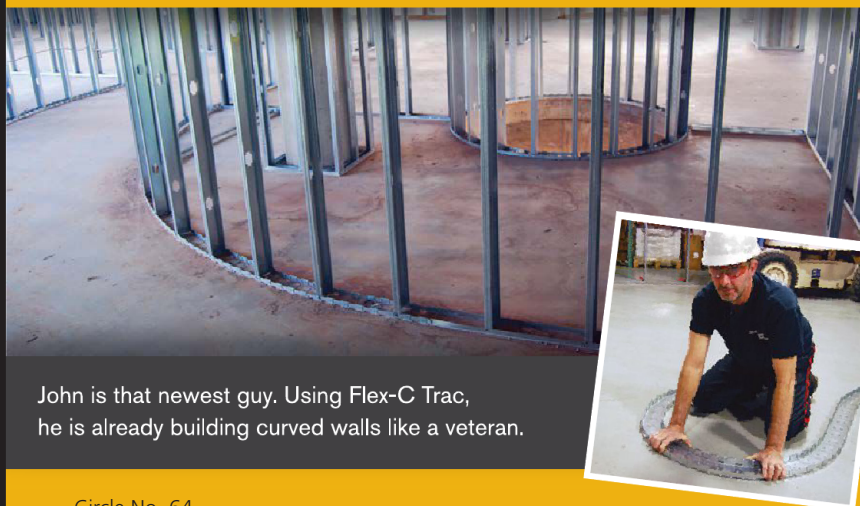
- Full range of wattage and mounting designs to meet your LED requirements
- Unrivaled constant power performance means no degradation of emergency output
- Backed by IOTA's Full Five-Year Warranty

Circle No. 63

For complete details on the ILB-CP Series LED Emergency Drivers and other IOTA emergency lighting solutions, visit us online at [www.iotaengineering.com](http://www.iotaengineering.com) or call us at 1-800-866-4682!

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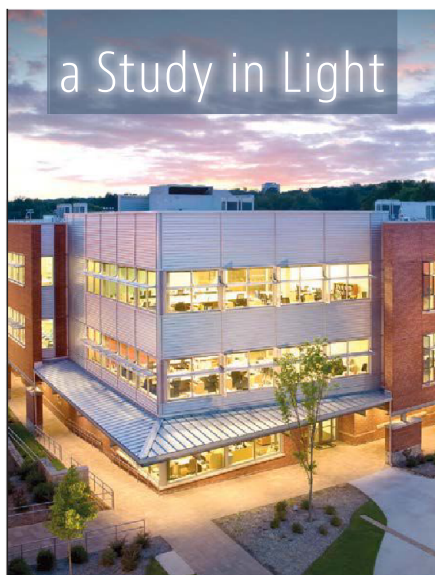
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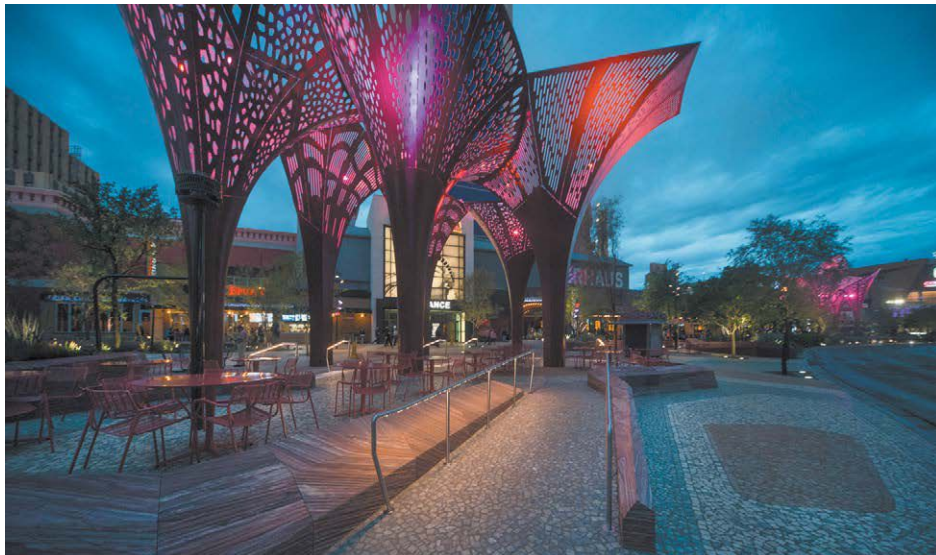


PCBC is the official annual event for the California Building Industry Association (CBIA) and the Leading Builders of America (LBA).






# THE PARK CREATES A PLAZA ON THE LAS VEGAS STRIP



There's new evidence a notorious party street can be reinvented as a pedestrian oasis. Called The Park, this project combines a transformed streetscape on the Las Vegas Strip with a new park space linking two MGM Resorts International hotel properties—New York-New York and Monte Carlo—to the new T-Mobile Arena. The creative and carefully delineated result draws visitors into a dynamic, interactive public entertainment district connected to the Strip.

The master plan arose from an invited competition held by MGM Resorts and won by the collaborative team of New York-based master planner Cooper Robertson, working with Marnell Architecture, Las Vegas, and landscape firm !melk, New York. Spanning more than 8 acres, The Park transforms the space between the two resorts with a series of indoor/outdoor venues and realigns a side street, Rue de Monte Carlo, as a gently curving, tree-lined parkway. The resulting atmosphere recalls a grand European promenade or plaza but with inimitable Vegas flair.

Framed by a lushly landscaped setting with water elements, outdoor dining terraces and informal performance spaces, the plan removes barriers between the public right-of-way and the resort buildings and regularizes elevations to more seamlessly connect to the Strip.

"The Las Vegas Strip is one of the most visited tourist destinations in the world and, as the city continues to evolve, organizations like MGM Resorts are recognizing the importance of including true urban functions and experiences," says Donald Clinton, AIA, MRAIC, LEED AP, a partner at Cooper Robertson. "The Park concept reflects an important investment in master planning and public space and establishes an unprecedented pedestrian environment in a city not widely credited for its public realm." 



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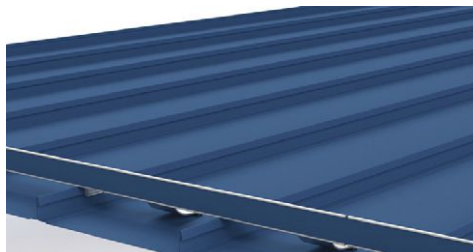
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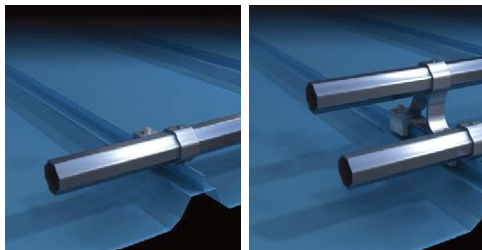
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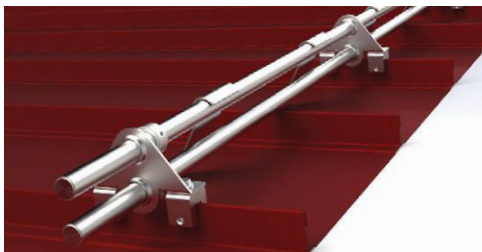
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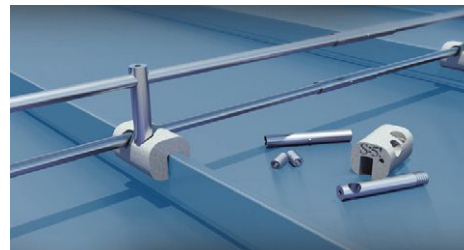
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