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MASTER OF THE HOUSE

Daryl McDonald of **NELSON TREEHOUSE AND SUPPLY** gets to build eye-popping treehouses and have his work featured on a hit TV show—not bad for a day job



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WILD WOOD

A hit TV show is great, but even without *Treehouse Masters*, Daryl McDonald of Nelson Treehouse and Supply says building treehouses for a living is the "greatest job in the world"

Cover photo and this page by Sheila Barabad

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Photos: (top) Chad Christensen, (middle) AccorHotels, (bottom) Kim Smith

Treehouse Envy

I never had a treehouse. The closest I came to experiencing such a thing was an elaborate wooden swing set that my best friend had. It included a suspension bridge, slide, and large wooden box in the vague shape of a house sitting at the top. We enjoyed it for a few weeks, but then—boys being boys—there was an escalating dare to jump from the house to the ground, which was about a five-foot drop. To a nine-year-old, it seemed like 100 feet, but what could we do? Not carry out a dare?



Photo: Sheila Barabad

It was a mixture of minor scrapes on arms and knees, melodramatic tears, and mostly his mother yelling at us that led us to conclude the bedeviled structure wasn't as much fun as his videogame collection.

Maybe it would've been different if my friend or I had an actual treehouse. Maybe we could've been more adventurous. Or maybe (heck, more than

likely) the dares would've led to broken bones instead of minor scrapes. At any rate, I still look at treehouses with a certain sense of envy at the fun I might have missed.

"Fun" is the element that struck me most when talking to the various executives featured throughout this issue and reading their stories. In an industry as regimented, regulated, and often stressful as that of construction and development, fun might seem like an out-of-place concept.

Nevertheless, look at the work in this issue. There's a one-of-a-kind water park in **Grand Prairie, Texas** (p. 15), the world's largest solar plant by **SunPower** (p. 54), and a stadium renovation project for the **Buffalo Bills** (p. 125) so enticing, it drew its manager out of retirement. Look at the executives—Tom Ruscitti of **Newmark Grubb Knight Frank** (p. 86), who revels in comparing real estate management and consultancy to a heavyweight boxing match, and Dale Burnett of **Assurant** (p. 104), who was so transformed by his career experiences that he works to make sure kids from backgrounds similar to his get the same opportunities.

This is to say nothing of our cover star, Daryl McDonald of **Nelson Treehouse and Supply** (p. 64), who not only gets to see his company's work be the subject of the TV show *Treehouse Masters*, but also gets to build breathtaking treehouses unfathomable to even the most dare-seeking of nine-year-olds.

I'm lucky to work for a company that champions a culture of fun and excellence in equal measure. Our team had a lot of fun putting this issue together, and we hope you get as much enjoyment in reading it.

Go on, I dare you.

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The Penn State Milton S. Hershey Medical Center's 550-acre campus includes 4.3 million square feet of building space.



Photos: Courtesy of Penn State Milton S. Hershey Medical Center

A FACILITY FOR INNOVATION

Technology and flexibility are two factors driving a multitude of projects at **Penn State Milton S. Hershey Medical Center**

by Julie Edwards

Twenty-seven years as an engineering officer in the US Air Force provided Marvin Smith with the ideal background for his current role at the Penn State Milton S. Hershey Medical Center.

As the facilities department director, Smith oversees all physical plant activities for the Academic Health Center and the College of Medicine. As the senior engineer and physical plant professional for the 550-acre campus's 4.3 million square feet of building space, he's responsible for in-house and contract facility maintenance, grounds maintenance, design and construction, the central heating and cooling plants, waste processing, and environmental, occupational, and fire safety programs.

Penn State Hershey has recently undertaken several large construction projects that Smith's team manages. Most notable is the new data center, the University Technology Center.

"The existing facility was not flexible or expandable enough to meet the growing needs of an academic medical center for computing capacity in research, general computing, and business continuity," Smith says. "Expansion was not an option due to the physical limitations of the site and building. The new data center will ensure that server and storage capacity will not be a barrier to the business for many years to come."

Smith points out that the building was designed so the original footprint will support future expansion in several phases.

"Within the original footprint, the initial 1 MW capacity can be increased to 2 MW by completing the buildout of planned air han-

dling units and electrical generators, transformers, and associated gear," he says. "The final buildout will support a planned expansion within the white space of increased density computing to a total of 3 MW. The phased approach of using shell space and increasing the white space rack density [number of servers] allows expansion without requiring significant construction interference to the operating facility."

Among the innovative features of the data center are indirect evaporative cooling units on the rooftop. These units provide cooling using only outside air and water sprays for 85 percent of the year. Features adopted to increase energy efficiency of the building range from high-performance building envelopes to high-efficiency, uninterrupted power supplies—so that if commercial power goes out, the computers remain online. Sustainability also remains an important feature. Among the sustainability measures incorporated into the design are rain gardens for storm water management, native landscaping with low maintenance requirements, reduced water consumption fixtures, and a reflective roof surface to reduce facility heat gain.

- ▶ The \$54 million University Technology Center will boost Penn State Hershey Medical Center's server and data storage capacity for many years to come.
- ▼ Construction of the new University Technology Center is expected to wrap in 2016, and the migration of the IT system is expected to be complete in March 2017.





UNIVERSITY TECHNOLOGY CENTER

Size: 45,000 square feet

Cost: \$54 million

Construction timeline:
Ground broken January 2015; completion scheduled for 2016

Migration info:
Completion of IT system migration expected March 2017

Team: Roughly 300 people involved

Highlights: The anticipated annualized average PUE* of approximately 1.2 improves on the energy efficiency of a typical modern data center by 50–60 percent

*Power Usage Effectiveness

“The new data center will ensure that server and storage capacity will not be a barrier to the business for many years to come.”

Marvin Smith, Facilities Director

▼ The rendering shows the new layout for planned renovations to the George T. Harrell Health Sciences Library at Penn State College of Medicine.

In addition to the data center, Smith also oversaw renovation of emergency department space for treating pediatric patients.

"We converted an existing space with eight treatment rooms and five private consultation areas into 12 identical treatment rooms," he says, and adds that the work was done in phases so that no more than three beds were out of service at any one time. On the agenda for 2016 is designing an expansion of the emergency department. The plan is to increase capacity by adding treatment spaces and realigning existing spaces for improved patient and provider flow.

If that weren't enough, there's also a \$4.1 million steam line system update among the major projects on Smith's docket.

"We rely on steam for all our heating, hot water, and sterilization needs," he says. "The current system is approaching maximum capacity. The goal is to provide redundancy in our high-pressure steam distribution system to our hospital and college by creating a system that is double-fed and results in a loop-type distribution . . . The loop configuration allows us to continue to deliver steam to all 'downstream' locations during scheduled maintenance or during an emergency event, such as a pipe leak."

The system update will equalize the distribution load and provide opportunities for future growth. As of press time, the project was scheduled to wrap in May 2016.

Renovations will also soon begin on the George T. Harrell Health Sciences Library at Penn State College of Medicine, which Smith says is designed with students and faculty in mind to encourage collaboration and innovation. Interactive technology will be incorporated throughout, such as the One Button Studio, which will allow users to create high-quality videos without any previous video production experience.

"You need to only bring your flash drive and push a single button," Smith says.

The Innovation Technology Sandbox will provide access to evolving technologies such as 3-D printing. High-end work stations will have proprietary software for training and experimentation, and an array of wall-hung screens for visualization. It is anticipated that the technology available will evolve over time.

Two other noteworthy projects underway are the Combined Heat and Power Plant and Central Plant Chilled Water Optimization.

"Notionally, this plant would be a natural gas-fired combustion turbine engine creating approximately 6 MW of electricity," Smith says. "Along with the combustion turbine, a waste heat recovery boiler will be installed to maximize the efficiency of the plant. These systems will provide the campus with approximately 25 percent of its peak electrical demand and 45 percent of its annual electrical usage at a lower cost than buying it from the utility market."





PEDIATRIC EMERGENCY DEPARTMENT

Cost: \$3 million

Stages: Six months of planning and design, and eight months of renovations, in multiple phases

Challenge: The reduction of spaces used for support required many operational changes



▲ The new pediatric emergency department provides the full resources of Penn State Hershey Children's Hospital, including access to local pediatric specialists around the clock and the region's only Level One trauma center for both children and adults.

◀ In addition to work on various facilities and utility upgrades on the Penn State Milton S. Hershey Medical Center campus, the various projects also work toward the university's goal of creating a sustainable, environmentally friendly campus.

"We are fortunate to have a strong senior leadership commitment to reinvestment in our physical plant. And I enjoy being part of the dedicated, passionate facilities team."

Marvin Smith, Facilities Director

The cogeneration system will also meet 61 percent of the campus's thermal (steam) requirements with the waste heat available from the electrical production. As a result, Smith says carbon dioxide emissions will be reduced by 21,423 tons per year. The estimated cost is approximately \$19 million and, at press time, the project was scheduled to wrap in late 2017. It is anticipated that the plant will provide \$2.9 million in annual savings.

The goal of the optimization project is to make production more energy efficient through the use of variable frequency drives on all aspects of chilled water production. The production process will be computerized using Optimum Energy's OptiCX Platform, which will analyze chilled water demands and efficiently manage the facility's 12 chillers. These chillers will provide 14,000 tons of cooling, and the system will be online for the 2016 cooling season, saving approximately \$250,000 annually.

Other projects planned for 2016 include improving wayfinding around the campus (through better use of symbols, signage, and employee training) and beautifying the grounds while creating a sustainable, environmentally friendly campus. Some lawn areas will become lower maintenance through the use of meadow grass and wildflowers. More native plants that have little environmental impact will be employed, and Smith says safety concerns also will be addressed.

"For example, greenery that does not need frequent mowing or maintenance is being planted on steep slopes to reduce staff exposure to possible injury from mowing," he says. "We are fortunate to have a strong senior leadership commitment to reinvestment in our physical plant. And I enjoy being part of the dedicated, passionate facilities team." ■

Facilities Survey partnered with the Penn State Hershey Medical Center converting two CMMS systems to a state-of-the-art application custom maintenance system (CMS). Placing user-friendly technology (iPads) in technicians' hands, work order updates are available real-time. Increased efficiency benefits nurses by addressing maintenance requests more rapidly, in turn improving patient satisfaction. Managers and administrators have immediate access to built-in regulatory requirements reports, rather than waiting weeks for front office staff to complete paper work orders.



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AN EPIC UNDERTAKING

Rick Herold—Parks, Arts, & Recreation Director for **Grand Prairie, Texas**—is at the center of an effort to bring a large recreational hub to the city *by Keith Loria*

On the TV show *Parks and Recreation*, Parks Director Leslie Knope always tried to bring the next big attraction to her town, and though her idealistic plans often seemed untenable, she never gave up until those plans came to fruition.

That shoot-for-the-moon attitude is shared by Rick Herold, a real-life director of Parks, Arts, & Recreation for Grand Prairie, Texas, which is spearheading the Epic Water Park. The monumental project will bring a 110,000-square-foot indoor water park with a retractable roof and 3.5 acres of outdoor space to the city.

The nearly \$80 million development was made possible by a 25-cent sales tax approved by Grand Prairie voters in May 2014.

“Epic is something that hasn’t been done before,” Herold says. “We are creating a world-class water park that will be something very special for the city. Our citizens are very pleased and have a lot of trust in our political leaders and the dreams we all share.”

▼ Among the many notable features at Epic Water Park is the retractable roof, which Rick Herold says will make the attraction the first water park in the United States to be able to remain open all 365 days of the year.



Design Team
HKS Inc.

Contractor
Lee Lewis
Construction

Water Park Consultant
Daryl Matzke

Targeted Opening
Summer 2017

Estimated Project
Cost
\$75–\$80 million

Photos: HKS Architects, Inc.

MAKING A SPLASH: EPIC BY THE NUMBERS

110,000 sq. ft.

size of the water park

118,000 sq. ft.

size of the recreation center

10 acres

lot size of PlayGrand Adventures area

▼ In addition to the unique retractable roof, Epic Water Park is also expected to have one of the longest lazy rivers in the country as well as slides and rides that are unique to the venue.

To get the ball rolling, the department hired Dallas-based HKS Inc. as its project designer and reached out to noted water park consultant Daryl Matzke to help with its lofty goals.

"We wanted to get a team of the best water park designers in the world because we knew we wanted to create something better than anyone's ever seen," Herold says. "We went to Toronto and found this incredible retractable roof, so now we'll be the first water park that can be open 365 days a year. We're very excited about that."

Once completed, the water park is also expected to have one of the longest lazy rivers in the United States, as well as slides and rides that are unique to the venue.

Herold has been with the Parks, Arts, & Recreation department since graduating from the University of North Texas in 1988 and it's his mission to support the city and community as best he can.

Six years ago, he led the charge on the formation of the \$23 million Summit, the country's first Baby Boomers facility that offers everything from a theater to water aerobics for adults aged 50 and older. The success of such projects encouraged the community to get behind the ideas of the department today.

MORE THAN WATER

Although the water park will be the main attraction, there are numerous spaces in the Epic project that will entice people to the area.

Components of Epic include a large indoor play area, an amphitheater, a state-of-the-art fitness center, library, café, art studios, teen rooms, and even a sound-recording studio.

"We envision Epic as a rec center on steroids," Herold says. "There are incredible health components to the facility. All the fitness equipment is there. Then we have these indoor climate-controlled trails, but we took it a step further and [created] an adventure trail, à la *American Ninja Warriors*, with an obstacle course in the middle."

The art studio will house an artist-in-residence who will teach his or her skills for three to four months to the community. Once that time is up, the artist will leave a piece of art to become a permanent part of the Epic venue.

As a way to appeal to teens, Epic is including





Zone 13-17, which is dedicated to those 13 to 17 years of age only.

The department took a unique approach to that room, letting 60 different teenagers, aged 13 to 17, design the room rather than experienced designers, Herold says. "The kids designed what they wanted."

There's also a professional kitchen that will feature a variety of healthy-eating demonstrations and hands-on opportunities for aspiring chefs.

Finally, a major component of the endeavor will be Epic's PlayGrand Adventures—a 10-acre, all-inclusive, barrier-free playground for people of all abilities. As Herold explains, the idea is to separate the playground into several adventure lands, each able to stand on its own, but ultimately functioning as one. The lands will incorporate inclusive features so all visitors can associate with each other regardless of their abilities.

"Epic takes the conventional and makes it a life center [where] people will spend lots of time," Herold says. "We look at this as a game-changer for the city. It's a legacy project in that it will be something that the people will utilize [now and in the future], and it will touch thousands upon thousands of lives."

Ultimately, Grand Prairie will add new rides and slides in future phases of the project.

WHAT'S TO COME?

Looking ahead, two hotels are already in contact about possibly building on the site, with restaurant and retail operators also ready to take advantage of all the visitors the water park is expected to bring to the area.

Epic is expected to hold a grand opening in late summer 2017.

"It's been an honor being a part of Parks and Recreation and seeing unique projects like this come about," Herold says. "When people come to Dallas or Fort Worth, they will know Epic and want to come out for all it has to offer." ■

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▲ Besides the water park, Epic also includes a large indoor play area, which features basketball and volleyball courts, in addition to a state-of-the-art fitness center and amphitheater.

YESTERDAY'S WATER PARK FANATIC, TODAY'S SSR ENGINEER.

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AMERICAN UNIVERSITY'S ENERGY SUPPLY WENT 50 PERCENT GREEN OVERNIGHT

Vincent Harkins of **American University** discusses an innovative deal that will power the campus for the next 25 years and how he will achieve new project goals *by John R. Platt*

A new dawn is rising for the energy supply at American University. On January 1, 2016, the Washington, DC-based university flipped the switch on a 20-year solar energy purchase from Duke Renewable Energy. The renewable energy commitment—in partnership with nearby George Washington University and George Washington University Hospital—will provide the school with 30,000 megawatt-hours of electricity from three newly built solar farms in North Carolina.

The solar project—the largest power purchase agreement in the United States when it was signed—is the result of three years of meetings between the partners, many of which initially focused on using wind power to meet the universities' renewable energy goals, as well as consultant Customer First Renewables.

The meetings eventually revealed something unexpected: with tax credits, solar power would be more affordable than wind. On top of that, it could even meet or beat the prices for conventional energy sources.

"The power we're buying costs the same or less than what brown power cost us," says Vincent Harkins, assistant vice president of facilities management at American University. Harkins recently celebrated his fifth anniversary with the university, which he joined after spending nearly 20 years at Aramark.

The new energy source comes at a critical time for AU. The university just finished one major construction project—a new home for the Washington College of Law—and has two more on its plate: its new East Campus, which will place five new buildings on a former parking lot; and a new Life Sciences building, to meet the school's renewed focus on science education. Combined, those three projects will add more than 1 million square feet to the university's facilities—and to its energy consumption.

A FOCUS ON SUSTAINABILITY

"Energy is a big part of facilities management," Harkins says. His team works on infrastructure—everything from chilled water lines to electric transformers to HVAC units. "I call it the non-sexy stuff," he says. Sexy or not, it's the stuff that makes the university run, even though most people never see it.

When Harkins first arrived at the university, he found a lack of focus on energy and the associated cost savings.

"The systems were all working, but everything was old and outdated," he says.

To move things forward, he created an entire energy department and a new position for a director of energy and engineering, David Osborne. He also hired several certified energy managers, as well as a new director of facilities, Tony Hollinger, who has an engineering background.

"I did what I guess any leader would do," he says. "You have to identify, hire, challenge, empower, and then retain that good talent."

Harkins also set up an in-house commissioning program, which allowed his team to have a vital role in new construction projects. "We do not accept any building or system until it's fully functional or fully tested," he says. That's a big change from previous projects where maintenance could spend up to three years after a building was completed to make sure everything inside it was truly working properly.

"The in-house commissioning has really been a program that has put us on the map," he says. "It's helped my facilities management group have some skin in the game as well as have some empowerment over what's delivered." It has also already saved the university an estimated \$1.5 million over its last three major capital projects.

"The in-house commissioning has really been a program that put us on the map. It's helped my facilities management group have some skin in the game, as well as have some empowerment over what's delivered." **Vincent Harkins, Assistant VP, Facilities Management**



▲ The new East Campus at American University will place five buildings on a former parking lot site and add about 385,000 square feet in building space.

ZERO WASTE

Harkins says he sees himself as the “zero waste guy,” something that encompasses everything from trash, to composting, to energy usage.

It also includes maximizing the use of every dollar. One program he instituted changed the way the university buys its conventional energy. Instead of five-year, fixed-rate contracts, it now uses hour-by-hour projections and analysis to buy energy at the best rates possible.

“That’s saved us \$2 million in two years,” he says.

American University has also instituted roughly 100 projects to reduce or maintain the university’s energy consumption levels. “We looked at the low-hanging fruit and everything else a high-efficiency organization looks at,” he says.

Most recently, the university installed electrical, thermal, and water meters in every single building to measure how much energy is being used, when people are in the

THE ROAD AHEAD: BREAKING DOWN RECENT AND FUTURE PROJECTS AT AMERICAN UNIVERSITY

	PROJECT SIZE	PROJECT TIMELINE	PROJECT ARCHITECT	PROJECT GENERAL CONTRACTOR	ESTIMATED COST
WASHINGTON COLLEGE OF LAW	500,000 sq. ft.	Started May 31, 2013, moved in June 2015	SmithGroupJJR	Whiting-Turner	\$130 million
EAST CAMPUS	385,000 sq. ft.	“Very aggressive,” opens fall 2016	Stantec	Skanska	\$115 million
LIFE SCIENCES BUILDING	123,000 sq. ft.	No timeline, still in design	Ballinger	Not yet named	\$80 million



building, and where energy is being wasted. "That will be a huge cost savings," he says. "You don't know what you can't measure."

The systems are already paying off. The day before Harkins spoke to us, the meters revealed that one of AU's residence halls used twice as much water as all of the others. "Now we can figure that out and solve the problem," he says.

All of this represents major progress towards AU president Neil Kerwin's 2008 pledge, under the American Colleges and Universities Presidents' Climate Commitment, to be carbon neutral by the year 2020.

"We're almost there," Harkins says. "We're striving to be as close as possible." ■

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INNOVATION DRIVES

The innovation and experience found at **Tesla Motors'** Fremont auto plant could serve as a guide to an overhaul of the manufacturer's corporate headquarters *by Jeff Link*

One place you might not expect to find valet parking is at Tesla's headquarters in the foothills of Palo Alto, California, where CEO and product architect Elon Musk's intrepid team of software engineers are busy designing the driverless cars of the future. Nevertheless, according to a January 2016 report of *Inside EVs*, an independent online publication covering electric vehicles, the rumors are true. The company has more than 14,000 employees, and plans to add 4,500 more over the next several years.

A crowded headquarters is, of course, not the worst problem for a company to have. With roughly 52,000 cars sold in 2015, Tesla's car-per-employee ratio is roughly 3.7:1, a low number compared against established luxury brands such as Jaguar Land Rover, which sold 500,000 cars in 2015, or roughly 139 cars per employee. Finding an appropriate approach might be wise for a company that already does a good job automating production, displays its cars in its own showrooms rather

than outsourcing to independent dealers, and generally strives for efficiency—in both its cars as well as its means and methods of production.

Still, according to a conversation with Jimmy Knauf, the recently hired director of the global workplace for Tesla, the Palo Alto headquarters is due for an overhaul. That could mean expansion into as much as 200,000 to 300,000 square feet of office space in Fremont's pricey lower peninsula market, as previously reported in the *Silicon Valley Business Journal*.

Until recently, Knauf explains, the company was so focused on ramping up its auto manufacturing operations that retooling its office space to meet growth needs was something of an afterthought. Although talent may be more telling than desks, computers, and office furniture as an indicator of a company's financial destiny, a workplace undoubtedly matters to recruitment and retention.

The retention factor is important. As Patty McCord, former chief talent officer at Netflix and now a consultant for the company, told the *Rochester Business Journal* after a visit to Tesla's 370-acre Fremont factory, the company "made the working environment so attractive, that workers would rather retrain themselves than go look somewhere else for the job they used to have."

At that same Fremont plant, formerly known as New United Motor Manufacturing (a joint venture between General Motors and Toyota), Tesla manufactures the lithium-ion battery pack and alternating current electric motor for its Model S sedan. Design engineers work at the factory itself, rather than a separate facility, and the manufacturing process uses 10 of the largest robots in the world, according to a report in *Wired*.

Additionally, Tesla has seen a rapid upswing in demand and production and will likely need the extra space if it is to continue to scale up operations. In August 2012, the Fremont facility was producing 15–20 cars per week, according to a company blog. In 2015, Tesla Motors announced that it had delivered a total of 21,537 vehicles in the first half of the year, a pace of nearly 1,000 cars per week, consisting mostly of pre-orders.

Overseas, the electric car manufacturer is equally hungry. *The Korean Times* reports that Tesla has entered nearly 20 countries and plans to open a Gangnam, South Korea office, although Tesla declined to confirm these plans to us, instead reiterating its intent to continuously expand in different regions and countries throughout the world. As of March 2016, according to the newspaper, Tesla intended to launch its Model III with a price tag of half that of the average EV, a move likely to open doors to a new class of customers.

If one gives credence to the words of Musk's 2015 biography—in which he is quoted saying, "I think our Tesla headquarters looks like crap"—changes to Tesla's corporate offices would appear to be in the works, and the common train of thought is that the innovation that's found in the company's Fremont plant should influence the office upgrades. Time will tell as to how this will unfold, and whether the corporate offices will be redesigned or relocated. ■

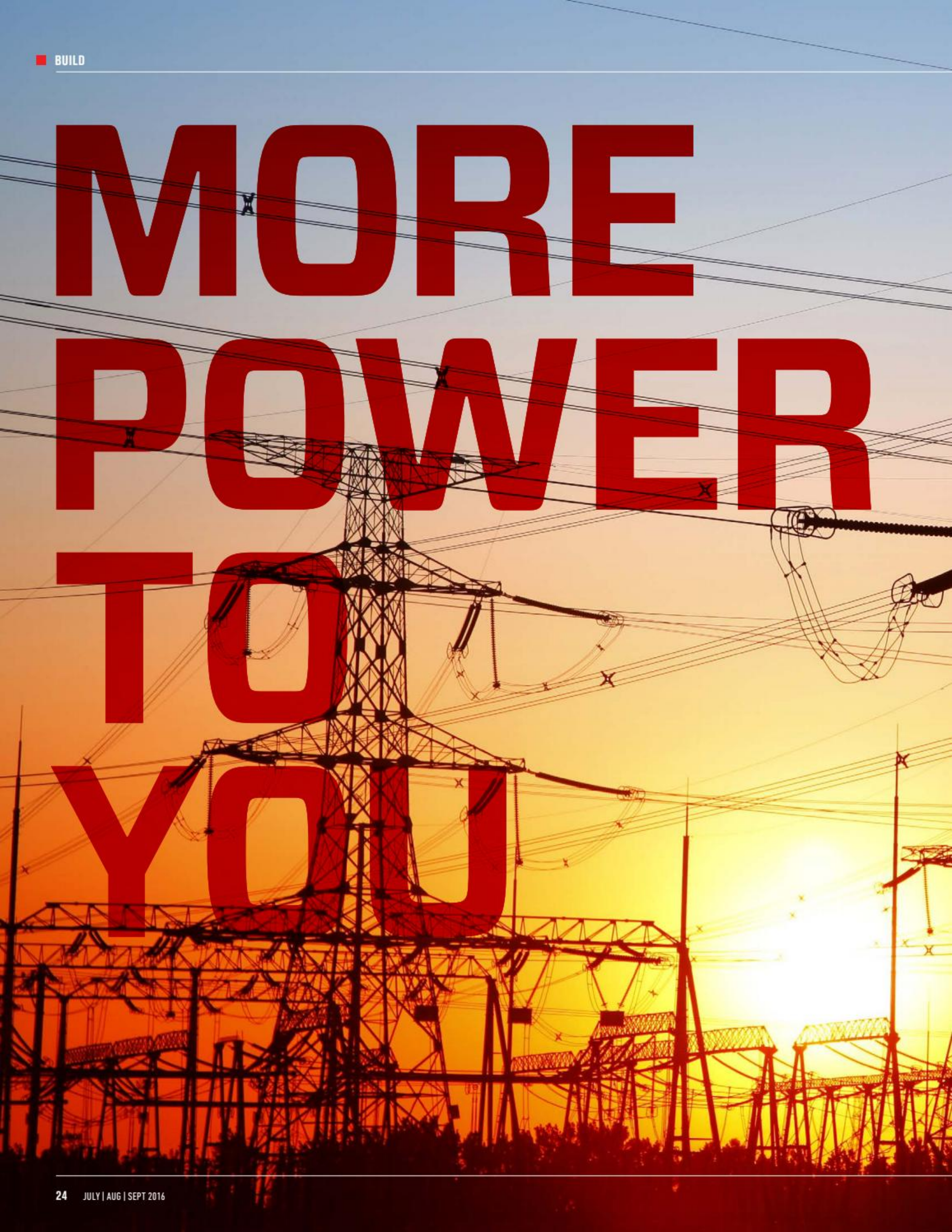


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MORE POWER TO YOU





NTE Energy's Chris Rega on providing clean, efficient, affordable electricity to niche markets and the company's bright future

BY JULIE EDWARDS

IF NOT FOR A COLLEGE CO-OP PROGRAM, Chris Rega's career might have gone in a completely different direction.

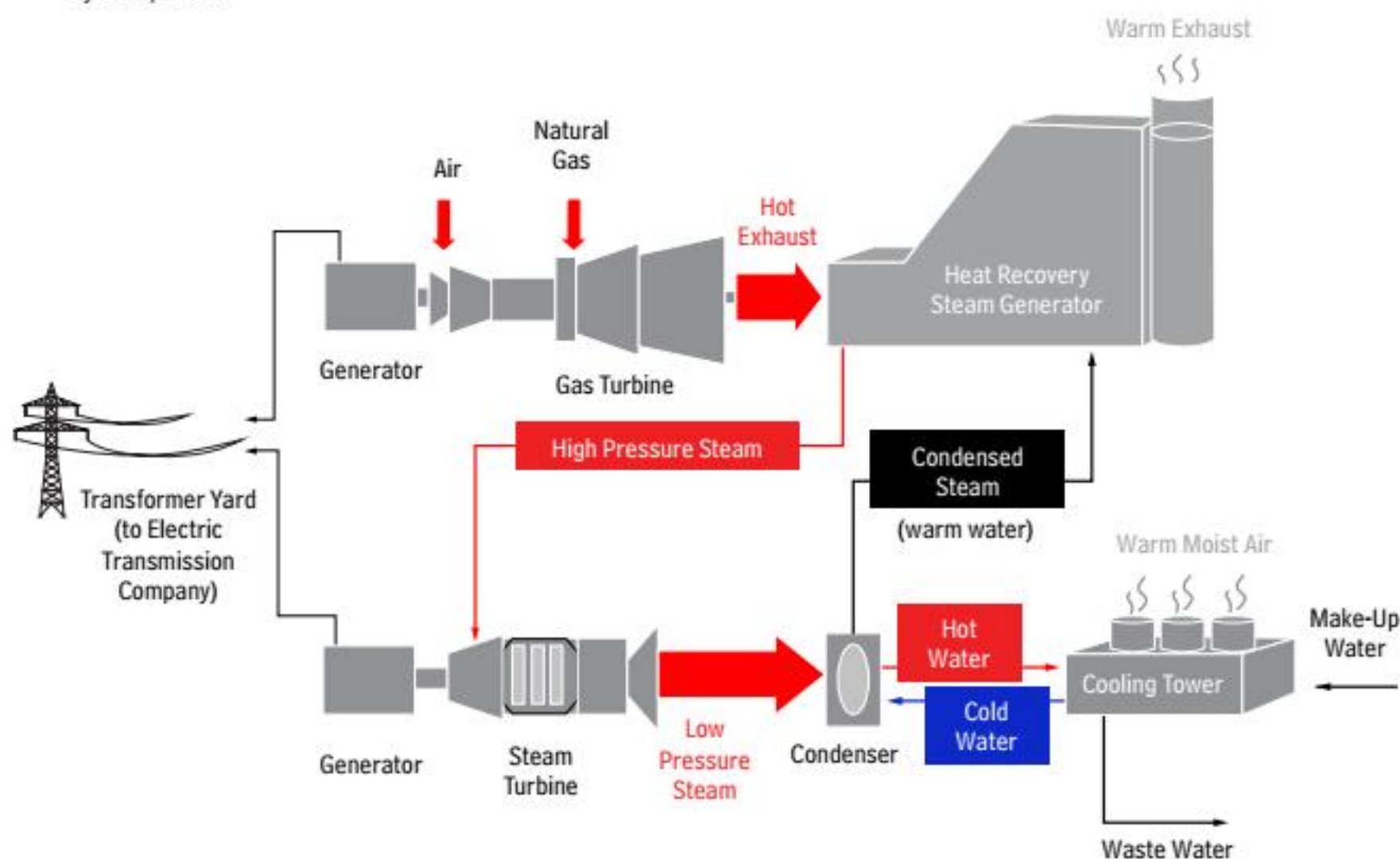
While working on his mechanical engineering degree at Northeastern University, he was assigned to the co-op program at Virginia Power (now Dominion Virginia Power), an electric utility company. Rega worked in both the utility's corporate offices and at a number of its power plants. "I remember being in awe of the size of these amazing machines that were capable of producing electricity for millions of homes," he says.

Rega returned to Virginia Power for every one of his co-op assignments and ended up with significant experience in the field when he began his job search after receiving his engineering degree. At the Charles T. Main engineering company in Boston, he amassed experience designing combined-cycle gas turbine (CCGT) power plants, working at construction sites, as well as learning how to build and commission these facilities. He then moved to Siemens-Westinghouse, a large combustion and steam turbine manufacturer, where he gained yet another perspective on the industry. At InterGen, an international independent power producer, he learned the business of developing, contracting, and operating large power plants.

In his current role, senior vice president of engineering and construction at NTE Energy, Rega draws on the knowledge he acquired at each of his previous positions. The company, which is owned and led by CEO Seth Shortlidge, focuses on the development and acquisition of strategically located electric

COMBINED-CYCLE TECHNOLOGY

A combined-cycle power plant has both a gas turbine and steam turbine that, when used together, produce as much as 50 percent more electricity from the same fuel than a simple-cycle plant.



- ▶ When complete, the \$500 million Middletown Energy Center is expected to generate 475 MW of energy, which is enough to power 400,000 homes.
- ▼ Work is underway on the Middletown Energy Center, which is expected to bring about 300 construction jobs to the Middletown, Ohio, community.

generation and transmission facilities in North America. NTE executes all aspects of project development, including initial market and site evaluations, permitting, financing, construction, and facility operation.

Rega's team supports NTE's development group with technical information required for siting, permitting, and interconnection to the infrastructure in the area where a project is located and supports the commercial group in the contracting of fuel supply and power sales. His team takes the lead in developing the conceptual design; selecting the major turbine generator equipment; and hiring the major contractors to design, build, and operate the company's power projects. During the construction phase, Rega's team will oversee the detailed design as well as the construction of these facilities.

"We ensure that our facilities are built according to contract specifications, budget, and schedule while focusing on safety, quality, and environmental compliance," he says.

Rega hires individuals who have experience and an attitude that allows them to work without much supervision.

"I expect them to tackle day-to-day issues without my involvement, but they know I am accessible and willing to jump in to help when they need it," he says. "We are all a close team working toward a common set of goals."



NEW GENERATION

NTE Energy has two large construction projects underway. The first is the Middletown Energy Center in Middletown, Ohio, a long-time steelmaking town. The city has been supportive of the project, which was helpful for siting and permitting.

"This is a proud, working-class city and they welcomed the jobs that would be created during the construction and operation of the facility," he says. "During construction, there will be about 300 construction jobs, and afterward, about 20 people will be needed to operate the facility. In addition, the tax base is important to this community—plus the water needs of the facility will be sourced from the city, which generates considerable local revenue."

The facility is a CCGT project, but Rega says the plant provides additional options for generating energy.

"We will also capture hot exhaust energy from the back of the [combustion turbine

generator] in a heat recovery steam generator that boils water into steam—subsequently driving a steam turbine generator, and thereby producing additional electricity," he says. "By doing this, we are able to extract more energy out of the cycle, making it extremely clean and efficient." He adds that a leading-edge combustion process helps keep emissions "extraordinarily low," and that it will provide significant power for the region.

"This facility is expected to generate nominally 475 megawatts of energy, enough to power 400,000 homes," Rega says. The electric grid the facility will be connected to is part of a regional transmission system managed by PJM, which coordinates the movement of electricity in all or parts of 13 states, including Ohio.

The other construction project NTE Energy is working on is the Kings Mountain Energy Center in Kings Mountain, North Carolina. The plant features a design similar to the Middletown facility, and Rega says that's not an accident.

A closer look at two cutting-edge facilities

Location: Middletown, Ohio, and Kings Mountain, North Carolina

Cost: \$500 million per facility

Construction jobs: 300 per facility

Operations and maintenance jobs: 20 per facility

Energy each facility will add to the grid: 475 MW

Outstanding features: High efficiency and low emissions

Design: Combined cycle gas turbine project

Conceptual design for both facilities: Fourth quarter 2013

Expected commercial operations for Middletown facility: April 2018

Expected commercial operations for Kings Mountain facility: September 2018

EPC (Engineering, Procurement, & Construction) contractor: Gemma Power Systems

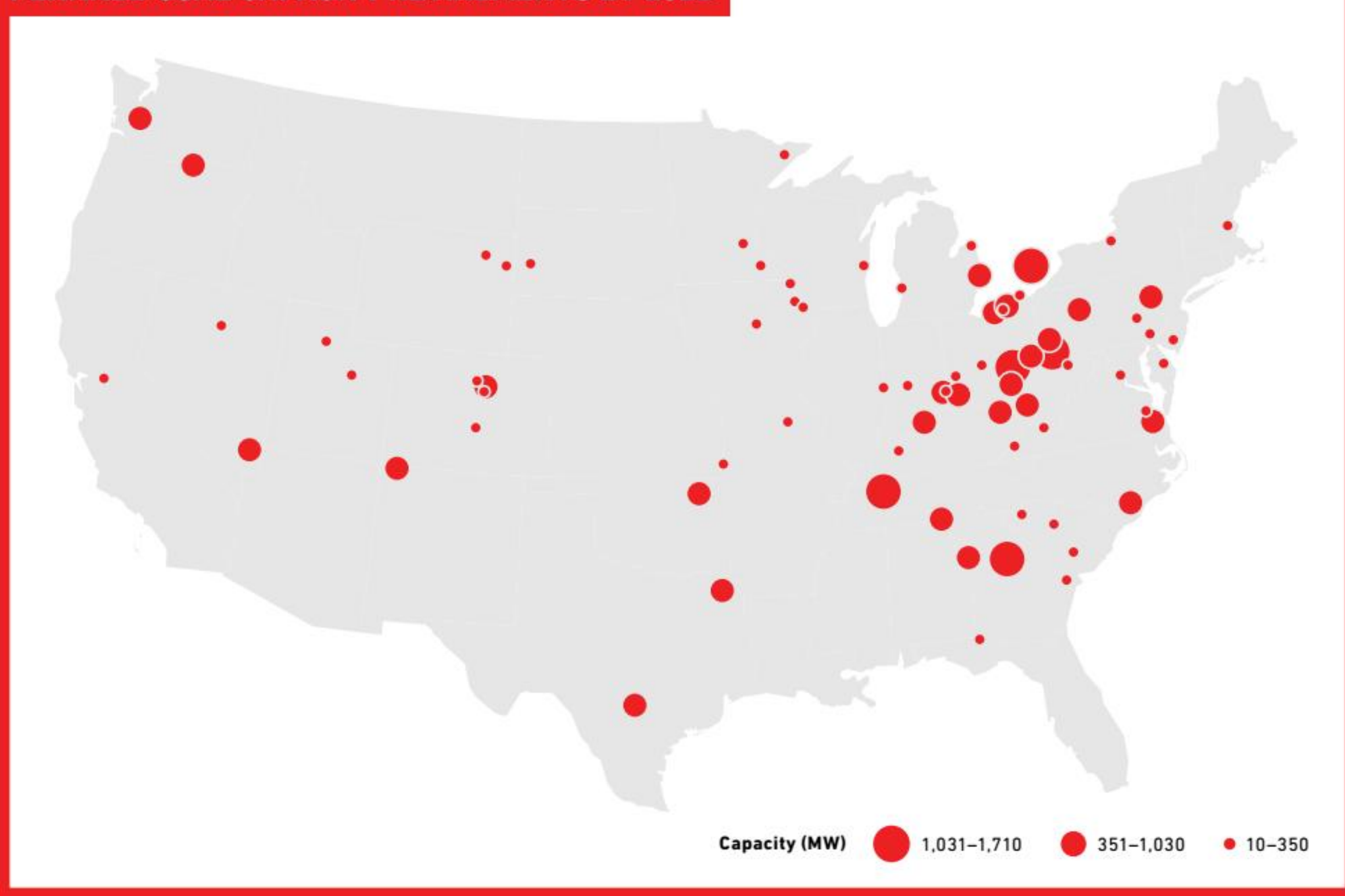
Engineering subcontractor: Sargent & Lundy

Combustion turbine generator: Mitsubishi Hitachi Power Systems Americas

Steam turbine generator: Toshiba America Energy Systems

Heat recovery steam generator: Vogt Power International, Inc.

PLANNED COAL CAPACITY RETIREMENTS BY 2022



“New environmental regulations will lead to coal-fired plants being replaced. We’re ready to step in with clean and efficient power generation facilities to ensure the adequacy of power supply in these areas.”

Chris Rega

Senior VP, Engineering & Construction

“The thinking was that using an almost identical design—along with the same contractors to design and build these projects—would provide a lot of synergies and reduced costs,” he says.

Kings Mountain is using the same type of electricity-generating equipment and the same contractor as at Middletown. Just as NTE has seen in Ohio, Rega says the community proved to be supportive of the project. “While this is a more rural area, the community is equally welcoming of the jobs, taxes, and utility revenues being generated by the project.”

In addition to another late-stage development project in Texas, NTE Energy has several early-stage development projects underway in the Midwest, Southeast, and New England.

“We’re currently working on conceptual designs, permitting, siting, and investigating area infrastructure,” Rega says, adding that the future for the company looks bright. “New environmental regulations will lead to coal-fired plants being replaced. We’re ready to step in with clean and efficient power generation facilities to ensure the adequacy of power supply in these areas.”

As NTE Energy continues to identify niche markets that favor new development, Rega says the most rewarding part of his job is the sense of accomplishment from meeting goals—negotiating contracts; building relationships with contractors, manufacturers, and consultants; getting facilities up and operating; and providing clean, cost-effective electricity.

“Equally rewarding is working with the team I’ve built, and the company we’re building together,” he says. “We’ve come so far in such a short time.” ■



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Photos: Courtesy of Rockefeller Group

Preserving the Past While

Building the Future

Executives from the **Rockefeller Group** detail the company's diverse projects, ranging from renovation of historic properties to new luxury residential developments

BY MELISSA ANDERS

IT WASN'T TOO LONG AGO THAT several Rockefeller Group executives were in New Jersey discussing logistics and electrical service for a warehouse construction project. The next morning, they were back in Manhattan, considering ways to educate prospective tenants on the renovations planned for 1271 Avenue of the Americas, the former Time & Life Building at Rockefeller Center.

The executives, members of the company's development business as well as the design and construction team, thrive on the variety of responsibilities they have for the Rockefeller Group. The 87-year-old company is best known for developing the Rockefeller Center in New York, but has since diversified into a wide array of commercial, industrial, and residential developments.

The design and construction team's work starts once the company identifies an opportunity and continues until the completed project is handed over to the new tenant.

Team members in New York and New Jersey, such as Daniel Bower and Michael Leondi, help analyze risks relative to the site, put together budgets, and make schedules. Nationally, the nine-member team oversees the entire design and construction process from pre-development to closeout.

In November 2015, the company finished renovating the lobby, elevators, and side-street plazas at 1221 Avenue of the Americas. The 2.5 million-square-foot office building reaches 50 stories and opened in 1972. The renovation work is designed to improve the tenant and visitor experience, modernizing the 18,000-square-foot space.

Working with architect Moed de Armas & Shannon, renovations open the lobby to handle higher inflow, add a new entrance on Sixth Avenue, and create greater visibility for the expansive lobby from the outdoor plazas, says Dan Rashin, the Rockefeller Group's co-president and CEO. The latter was accom-

◀ The Rockefeller Group is performing an estimated \$300 million renovation at 1271 Avenue of the Americas, the former Time & Life Building, in New York City.

THE ROCKEFELLER GROUP IN NEW YORK: A TIMELINE



▼ By removing non-structural steel from the street-level façade, the Rockefeller Group opened the entrance at 1221 Avenue of the Americas to more open views from outside and within the 18,000-square-foot lobby.

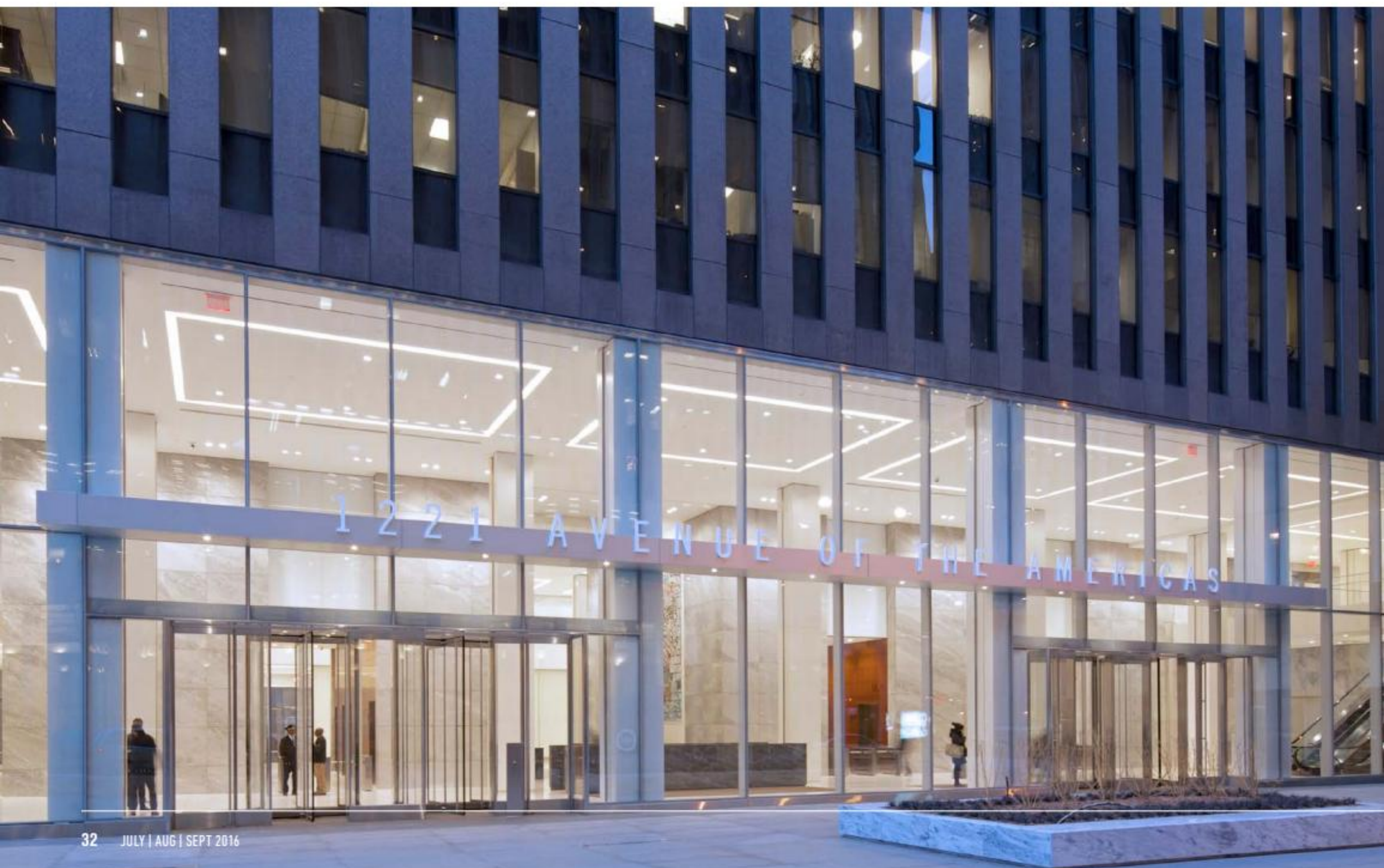
plished by removing non-structural steel from the building's façade at street level, which allows more natural light to flood the double-height space.

The company went the extra mile to bring dramatic features to the lobby, including artwork and special, hard-to-obtain stone imported from Italy.

"We commissioned art for the building," Rashin says. "Given our connection to the Rockefeller Center and the center's focus on artwork as part of its original vision, we wanted that element in the new lobby."

Two large pieces of art depicting upper and lower Manhattan were created in artist Mark Bradford's Los Angeles studio and trucked across the country. Each piece is roughly 22 feet by 22 feet.

Up the street, Bower has been leading a team working on a major renovation of 1271 Avenue of the Americas. Time Inc. left the nearly 2 million-square-foot building in fall 2015, and leases for subtenants expire by 2017. Rockefeller Group is capitalizing on the opportunity to invest more than \$300 million to upgrade the lobby, façade, and other build-



ing features to reposition it for new tenants well into the future.

“We have an iconic building that we get to reintroduce to the city,” Bower says. “We are restoring the greatest elements of the building and enhancing its functionality for a class-A workplace experience.”

For example, the company plans to update the façade with windows that have a higher ratio of clear glass to opaque glass so more natural light floods into the building. The Rockefeller Group also relocated uninsulated exterior HVAC ducts to achieve higher energy efficiency as required by the city. Several features in the building—including finishes and artwork in the landmark-designated lobby, as well as the distinctive Copacabana-patterned sidewalk outside the building—are also being restored. There’s already a lot of interest in the building, which should be available to prospective tenants for occupancy in 2018.

The renovations in the two New York buildings represent the company’s commitment to its core assets, and signal its expertise in executing complex, large-scale projects nationally, Rashin says.



“We dedicate our own resources to our projects, and I think that sends a strong message about what these assets mean to our company and our commitment to the highest quality,” he says.

The projects also illustrate a growing trend in New York of repositioning older buildings instead of undertaking the expensive and time-consuming task of knocking

▲ The restored lobby at 1271 Avenue of the Americas removes two retail stores and sets turnstiles back to open the lobby to natural light and create a more dynamic space.



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Away from its New York roots, the Rockefeller Group recently completed the 30-story Amaray Las Olas, a luxury residential tower in Fort Lauderdale, FL.



“We dedicate our own resources to our projects, and I think that sends a strong message about what these assets mean to our company and our commitment to the highest quality.”

Dan Rashin
Co-President and CEO

them down to make way for new construction, Rashin says.

Outside New York, the broader team is involved in projects spanning eight states. In New Jersey and Pennsylvania, Leondi is part of multiple office, hospitality, and industrial projects. One of the largest is The Green at Florham Park in New Jersey, which is a five-building suburban campus that’s home to the New York Jets’ training center, BASF’s North American headquarters, and the new Summit Medical building. Leoni says that in addition to corporate suites already in development, there also are plans to add a hotel and office space to the site.

Other national projects include Liv Northgate, a 402-unit luxury apartment community in Gilbert, Arizona, and Amaray Las Olas, a 30-story, 254-unit luxury apartment high-rise in Fort Lauderdale, Florida. Liv Northgate is a joint venture with Investment Property Associates, and Amaray is a partnership with Stiles.

“We’re growing our development pipeline,” Rashin says. “We have always been focused and selective—which won’t change—but that focus is starting to get bigger.” ■





Originally formed to produce unique neckties, vineyard vines has grown into a major clothing retailer with 53 US locations.

IN FULL BLOOM

With **vineyard vines** in growth mode, Kirsten Oswald's streamlined real estate processes are helping the clothing retailer reach its lofty goals

Photos: Courtesy of vineyard vines

BY ZACH BALIVA

IN 1998, brothers Shep and Ian Murray quit their Manhattan desk jobs on the same day to start a lifestyle apparel brand. With everything on the line, the adventurous siblings maxed out their credit cards to fund the production of 800 neckties.

The gamble paid off—they sold out in just a few days. The brothers moved into their first office weeks later, and their company, vineyard vines, has been growing ever since. As of press time, the brand counted 53 retail and 14 outlet locations across the country. As the company expands, Kirsten Oswald, vice

president of real estate, has created a streamlined, in-house process to facilitate aggressive growth and elevate store design as the company continues its expansion.

Oswald, who started out of college working for a development company and later got into specialty leasing, has deep experience with companies such as Gap and Coldwater Creek. That experience, combined with her professional relationships, is proving invaluable as vineyard vines adds new brick-and-mortar locations to complement its catalog and Internet offerings.



- ▲ Inspired by Martha's Vineyard, vineyard vines locations, such as the one in Oak Brook Center in Oak Brook, IL, are built on a strong nautical theme and feature unique props and wood floors.
- ◀ To create a warm and inviting space for customers, vineyard vines locations feature high-end millwork, and teak and holly fixtures—all cues taken from the company's owners, Shep and Ian Murray.

Before moving forward with a new location, Oswald examines many factors closely, poring over data about average household income, area density, and tenant mix issues. She also scrutinizes internal vineyard vines customer data to determine where Internet customers live and where the company has an existing wholesale business. Her streamlined, standardized process starts at site selection, as she and her team complete an on-site gut check with all major players to test fit, layout, and other essential details.

Next, she moves to sign a letter of intent and negotiate deals before scheduling a real estate committee meeting. Once the company approves the deal, Oswald is off to the races, working closely with the architect on a design as she finalizes the lease. The entire process typically spans about 32 weeks from lease negotiation to store opening. Even with this streamlining, some challenges will present themselves.

"I've always approached retail development as if I were an investor in the deals, and that drives my strategy."

Kirsten Oswald
VP, Real Estate

"Major developers often want package deals, and sometimes it makes sense for us to be in one of their locations and not the others," she says. "It's a challenge, and we've had to walk away from deals for this reason."

Oswald knows that for vineyard vines to succeed, her team has to execute to build each new store in the right location. She also has to work with design teams to create the right atmosphere for the brand.

"We want our customers to feel at home in a warm and inviting space where they can relax, have fun, and shop," she says. The company accomplishes that through high-end millwork, teak and holly fixtures, unique props, wood floors, sea grass chairs, as well as TVs and water coolers in each location. These design cues were taken from the vineyard vines' fun-loving and laid-back owners.

Oswald, who came to vineyard vines in 2014, is also strengthening her team. She's hired a director of construction and other leaders who have implemented her changes.

"It's an ongoing process that requires a huge amount of communication, but we're getting stronger every day and we're becoming a well-oiled machine," she says.

In late 2015, vineyard vines opened a new store in Walnut Creek, California, ahead of an early 2016 opening in Naples, Florida. Oswald expects the company to continue opening new locations over the next few years. She's passionate about retail real estate and lease negotiations.

"I've always approached retail development as if I were an investor in the deals, and that drives my strategy," she says. "It's rewarding to negotiate smart, lucrative deals."

Nearly two decades after Shep and Ian left their desk jobs, the Murray brothers still own their business—and vineyard vines is still on its way up. ■

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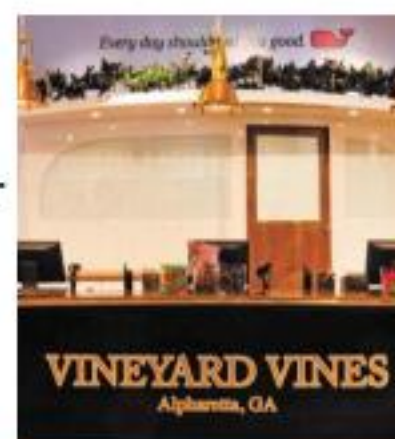
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Changing the Game

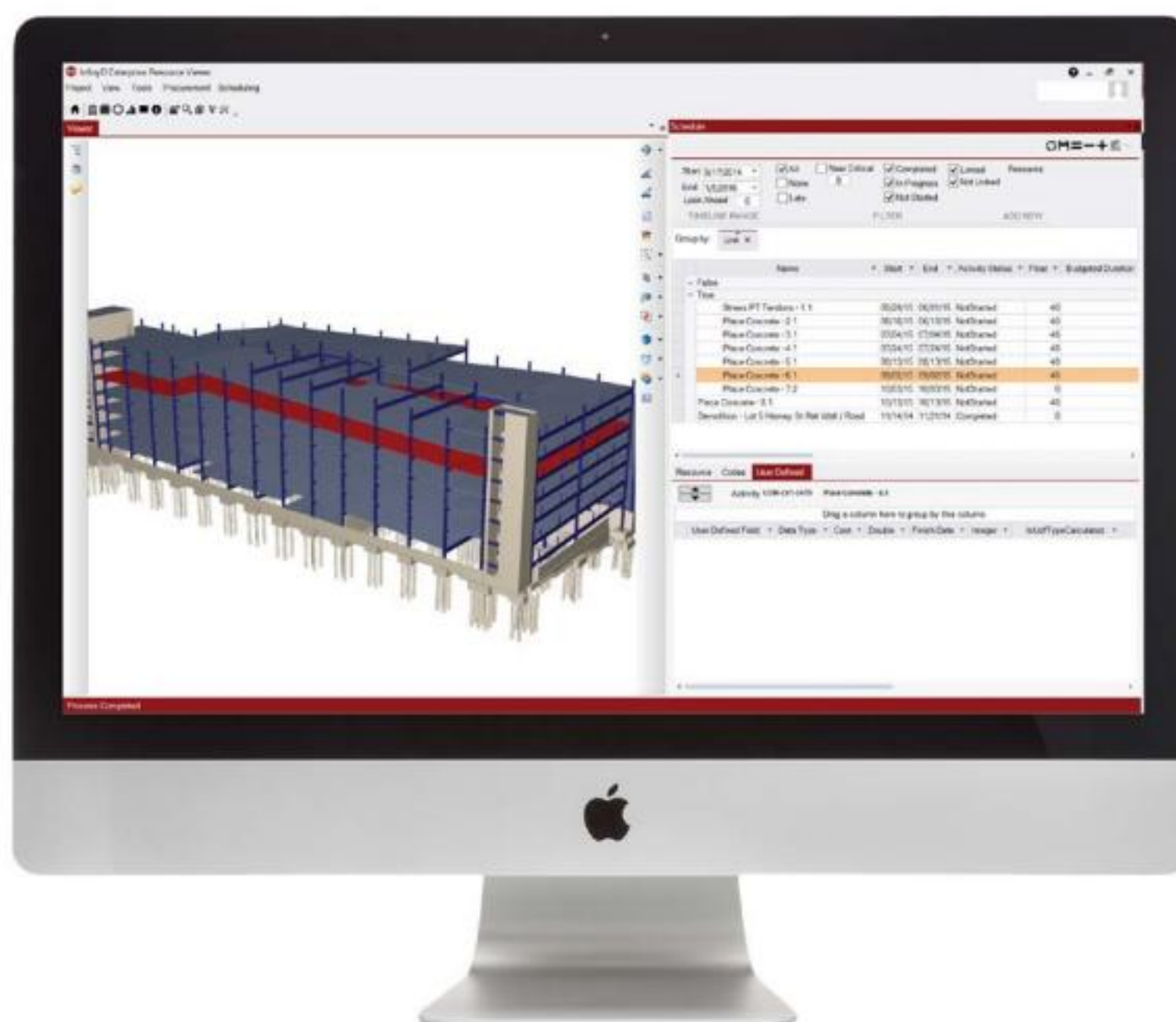
InEight is on a quest to develop the first fully integrated suite of tech solutions for construction and engineering

BY ZACH BALIVA

THE CLANKING SOUND OF METAL on metal rang through the air. A team from InEight was visiting a Fortune 500 customer's job site. At less than 20 percent complete, the project's forecast looked darker by the minute, causing the company to lose money with each passing day.

For the InEight team, this was nothing new. In fact, this type of situation is why the technology company officially started in 2013—to provide solutions for managing intricate projects with a full portfolio of responsive, near real-time tools that cover all aspects and phases of construction and engineering. After InEight's initial site survey, the customer implemented InEight's tools over a period of about eight weeks. Just four months later, the job was nearly 40 percent

- ◀ InEight's HD Field Solution program provides communication between the office and field, allowing foremen to plan daily assignments at the job site that are synchronized with the overall project plan.
- ▼ InEight's InfinyD is an integration tool that consolidates 3-D BIM models from different design systems and links them with disparate data sources across a project life cycle.



complete. Managers had erased out-of-pocket spending and were actually gaining margin for the first time. For Rick Deans, InEight's executive vice president of professional services, that kind of story illustrates the company's mission.

"Our customers' successes are our biggest successes," he says. "Over the past two years, we've worked with our customers to increase their operational efficiency in innovative ways, helping them retire 'one-off,' internally developed databases and spreadsheet programs."

The early win with this Fortune 500 company was important feedback for InEight, because it helped the technology company track not just performance, but also the use of its tools. Customers were using InEight's tools to

make changes that moved the needle on key projects. This included using InEight's benchmarking capabilities to find job activities with the highest productivity and best costs. Customers were then checking those figures against metrics on other projects—down to such specifics as which projects used concrete or drainage pipes, and which of those projects performed well or not. Armed with that information, InEight's customers could then ask key questions and collaborate with partners, vendors, and others to find and realize gains.

InEight started with a vision to unite back-office and job-site activities in one easy-to-manage platform. Using InEight's solutions, managers can access near real-time data about a company's people, materials, projects, and performance to find efficiencies, reduce costs, avoid surprises, and drive profits across the portfolio. According to Deans, the process is always evolving.

"The biggest change is that we're really able to respond to the market more readily by making better decisions, based on all of the data we receive," he says.

The key to InEight lies in what the company refers to as "interoperability," or the way these solutions work together without special effort from the user. InEight has solved that problem with a platform that combines various tools and enables data sharing, which gives everyone on a project a better view and a platform from which to make informed decisions. Deans says a product completed with InEight is also easier for the owner to operate and maintain since it eliminates the manual effort to gather and digitize data from countless sources. The main product of interoperability is consistency across the board.

When InEight started just three years ago, the company primarily focused on estimating and project cost management, using successful tools rolled out by a company named Hard Dollar, a niche estimating technology firm that opened its doors in 1989. Hard Dollar was one of the core companies acquired, and it ultimately combined with others to form InEight. Deans actually joined InEight after performing for several years in leadership roles with Hard Dollar.

Integrated Project Portfolio: Project Lifecycle

InEight's products are designed to help guide teams through all stages of a project life cycle, improving accuracy, visibility, and operational control throughout each stage of a project.

The company's technology also measures quantities, engineered assets, and impacts.



In 2014 and 2015, InEight launched additional components. One such component, HD Field, lets foremen use tablets to access and alter plans and track equipment and hours, while superintendents assign workers, equipment, and tasks. The company also introduced advanced work-planning solutions that go downstream and upstream to take information from the architect and engineer to create a unified visual model for estimating, scheduling, and other functions. Key partners, such as B4 Consulting, Inc., a global solution and services provider for the construction industry, provide unique help to InEight when implementing the technology. Deans says the partnership enables InEight to leverage B4 Consulting's domain expertise in meeting customer demands and advancing marketplace innovations.

InEight believes it's growing at just the right time. Worldwide construction stands around \$6 trillion GDP and is increasing. Historically, companies spend about 1 percent of



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“We’re really able to respond to the market more readily by making better decisions, based on all of the data we receive.”

Rick Deans

Executive VP, Professional Services

revenue on technology solutions. Although many might not know that a suite of solutions that address the entire project life cycle exists, most clients know that regulatory and capital constraints are forcing them to align project outcomes closer to bids. The industry is moving to a project-by-project model. Companies need more project certainty as more risks are taken—and that’s exactly what InEight aims to provide.

“We were recently working with a customer in the oil and gas industry,” Deans says. “They were managing their plant turnaround budget with our tools and were looking at making changes to the duration and scope of some work they were considering. We instantly saw the net impact of this change on the budget, resource requirements, and scheduled outage for the plant. Crucial information that would normally have taken days to chase down was available within seconds.”

That’s just one example of success, according to Deans. Recently, InEight leaders also met with a customer who had experienced zero growth in productivity for more than 25 years. A year after implementing InEight tools, that company has seen a 10 percent improvement.

As leaders of the company say, “If you do that over millions or billions of dollars, you’re changing the game.” By supplying the confidence that everyone in the construction industry wants, InEight supplies results in weeks instead of months or years. ■

B4 Consulting provides innovative end-to-end business solutions—both on premise and in the cloud—to general contractor, specialty trade, and self-perform firms. Our team of solution architects integrates these solutions with leading systems, such as InEight and SAP, to enable business performance excellence and improved profitability. Founded in 1996, B4 Consulting partners with customers throughout the US and Canada, and has the largest practice in North America dedicated to the construction industry. www.b4-consulting.com



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STAYING POWER



Construction is underway on a 700-MW combined-cycle facility in Carroll County, Ohio. The project is scheduled for completion in late 2017.

Photo: Pipeline Connections



At **Advanced Power Services NA Inc.**, Andrew Degon shepherds power plant projects from concept to construction. Here, he explains how he stays focused despite the long wait for payoff

BY CHRIS GIGLEY

AS FRIENDS DISCUSS PROJECTS they're working on that last a few months, Andrew Degon can only laugh to himself.

Degon, vice president of engineering and construction at Boston-based Advanced Power Services NA Inc., can go years before he and the project development team finally see a construction project through to fruition. He's pretty close to completing one right now. A 700-MW combined-cycle facility in Ohio's Carroll County is in its construction phase and due to be completed in the fourth quarter of 2017. Planning for the project started in 2012, and it became one of Degon's first responsibilities when he joined Advanced Power in 2013.

"I have ultimate responsibility for all engineering and technical aspects of developing, financing, and constructing power projects in North America," Degon says of his role with the company. "The beginning entails site selection and making sure we're picking a spot that won't give us any technical difficulties. Then, I have to figure out what the plant configuration will be. What type of technology will it use to satisfy the needs of the market?"

At that point, Degon must sharpen his focus for the permitting process. He ensures that all of the technical details and commitments made to permit agencies for construction limitations or operational limitations are in line with the capabilities of the technology chosen for the plant. Further detail work awaits him in the next stage, financing.

"That requires a pretty robust financial model with a number of key technical parameters in it, all of which fall under my purview to make sure they're correct," Degon says, and adds that these projects can take more than three years to develop and finance, and another three years to construct—which is where the Carroll County project now stands. Considering the complexity of the projects, Degon says the extended development timelines are understandable.



When completed, Carroll County Energy will use demineralized trailers to deal with wastewater—a result of figuring out how to deal with the plant's landlocked location.

Q&A with Andrew Degon

Did you study to be an engineer?

I started as a biology major at Rutgers. After three semesters, I got tired of the memorization and regurgitation the curriculum required. I had friends who were in engineering who were always coming home with interesting problems they had to work through. They were using what they knew of math and science to reason out a solution to a problem. I made the switch [to engineering] during my sophomore year.

How did you get interested in the energy industry?

In my senior year, the elective course I wanted to take was filled. I saw a course on power plants. It sounded like a clunker, but it was the only thing available. When I started looking for a job, I got a call from a small consulting firm in New Jersey, Joseph Technology Corporation. They worked in the energy industry and saw I'd put that course on my résumé. It was my entrance into the power industry and I never looked back.

What do you think you would be doing now if things hadn't happened the way they did?

I'm not sure what I'd be doing, but I think it would have to be a similar type of role. I'm not designing widgets, or machinery, or other things that most people associate engineers with. I'm providing a level of technical and scientific knowledge to the world of business that only an engineer can provide. This role requires you to be every bit as good of a businessman as an engineer, and that's ultimately what I'm wired for.

"These are extremely complex projects that cost hundreds of millions—if not billions—of dollars to construct and require a number of federal, state, and local permits," he says. "The real challenge of a developer is to focus on making sure we're approaching development to minimize costs until the project can generate money, which may not happen for more than five years after we start a project."

To manage it mentally, Degon looks at every project like a four-year stint at college.

"If you focus on nothing but graduating while you're in school, it will seem like a long four years," he says. "Really, it's about focusing on the tasks at hand. Whether it's site selection or permitting, you just have to focus on that task. If you do that and do each task well, you will look up from your desk after three years and see [that] you've developed a successful project."

Managing projects on a task-by-task basis also helps him ensure that every detail is considered thoroughly, which is crucial in that every project has its own special challenges. In Carroll County, for example, the plant's landlocked location made dealing with wastewater tricky. At first glance, there was no place to put it.

As a result, Degon had to figure out a way to recycle the wastewater instead. One option he considered was called a zero-liquid wastewater system, but there were two problems as a result. First, the systems are costly, and second, it can be a challenge for users to operate smoothly.

"We came up with an alternate scheme to use demineralized trailers, which look like regular tractor trailers, only [the] water treatment equipment [is inside]," Degon says. "This equipment can remove any of the dissolved solids and clean it well enough [so] we're able to recycle our water."

Finding those types of solutions represents his biggest challenge on the job.

"Combined-cycle power plant configurations haven't changed much," he says. "It's easy to fall into a rut and do things the way they've always been done. You have to challenge yourself when you come up against roadblocks."

For the Carroll County project, Degon could have easily discounted the idea of using demineralized trailers. He's employed them in past projects, but only for treating incoming water, not wastewater.

"But the Carroll County plant is an air-cooled facility that uses very little water to begin with," he says. "Because we're using a relatively small amount of good-quality water, we won't have to change the trailers too often. It's about applying experience and figuring out how to use existing technology in new and innovative ways."

In a couple years, Degon will be able to see those trailers in action—not that he's thinking about that. After all, in this line of work, he knows better than to think too far ahead. ■

Bechtel, one of the most respected global engineering, procurement, and construction companies has delivered more than 40,000 MW of installed combined-cycle capacity worldwide. We are proud to partner with Advanced Power, a company that shares our commitment to safety, quality and environmental sustainability and congratulate them on the successful implementation of the Carroll County Energy project. We look forward to further collaboration on both the Cricket Valley Energy and South Field Energy projects.

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► In 2014, sweetgreen opened its Tribeca location. Although most of its stores currently are located in the Northeast, the company has its sights set on the West Coast for further expansion in the next few years.

Healthy Appetites for Change

Shared values and trust are the underlying ingredients to the success of **sweetgreen**'s rapid expansion into new markets hungry for nutritious, seasonal food. As Randall Arnold explains, he isn't just building restaurants—he's building healthy communities

RANDALL ARNOLD KNOWS a thing or two about building a restaurant. As the former director of construction at Starbucks and lead construction manager at Chipotle, he oversaw the buildouts of dozens of restaurants across the country. In 2014, he joined sweetgreen as the director of construction as the healthy fast-food chain found itself in the midst of rapid growth.

The opportunity to make an impact with a company that puts an emphasis on both nutritious, seasonal food, as well as health education and sustainable building practices was exciting. Arnold says he knew he wanted to jump aboard and help the company proliferate in new markets.

His first step to ease the growing pains of the expanding company was to create a reliable network of architects, developers, and contractors in every region in which the stores operate.

"There will always be construction and development challenges that arise with every project," Arnold says. "However, having the right team in place and empowering them and setting real expectations has allowed sweetgreen to be successful."

In the final quarter of 2015, his team

opened more sweetgreen stores than in any other quarter, and the company found itself in five different markets—a significant milestone. The decision of which new markets to build in was driven largely by customer demand.

"We pay attention to e-mails, tweets, and Instagram comments when people ask us to come to their town," Arnold says, and adds that the company also seeks communities that share its values of education, sustainability, support of small business, and a strong sense of culture.

Most sweetgreen stores are located in the Northeast, where the company started, but the company recently set its sights on the West Coast for further expansion.

"California represents a huge opportunity for growth—there's abundant access to seasonal, local ingredients year-round, so we're looking forward to opening more locations there," Arnold says.

As sweetgreen expands its reach, Arnold points to the importance of growing communities and strengthening a team that's committed to the company's culture and values.

"We can apply theories and principles anywhere, but hiring the right partners to execute the vision is key," he says.

BY KAT SILVERSTEIN

Photos: Courtesy of sweetgreen





A Closer Look at Design

Randall Arnold says the same core values of community and culture that drive sweetgreen's business also influence store designs.

"We're an authentic brand, and we don't cover anything up, which is why we have open kitchens, which allows guests to see produce prepped throughout the day and highlights the scratch cooking that differentiates sweetgreen from other fast-casual concepts," he says.

Although every sweetgreen location is unique, Arnold says there are similar elements that bind all locations together.

"All stores also have some representation of the seasons, whether it's a neon installation or a collage or screen printing, and the colors and textures are natural and simple—lots of whites and woods," he says.

Arnold's team makes an effort to preserve the unique character of each location. Finishes such as reclaimed wood, bowling alley tables, and sustainable materials enforce the brand's commitment to reducing environmental impact.

"We build beautiful spaces," Arnold says.

▲ Colors and textures in sweetgreen stores are kept simple to emphasize the company's authenticity and that it doesn't "cover anything up."

That philosophy doesn't solely pertain to just sweetgreen employees, but extends to the teams that Arnold brings on for new construction projects. He says that in order to sustain the company's momentum, a reliable team is critical in the construction process, where so many variables can lead to delay or setbacks.

"A team you can trust exhibits an elevated commitment to the details and a willingness to problem-solve in real time," Arnold says. "From training the team and understanding the company's aesthetic and larger purpose, to meeting the superintendents and getting to know them by name, we want our partners to understand that the job they are doing is bigger than building a salad shop; it's supporting a mission to bridge the gap between health and convenience."

In order to bridge that gap, Arnold says sweetgreen has to change some preconceptions about fast food and healthiness.

“We want our partners to understand that the job they are doing is bigger than building a salad shop; it’s supporting a mission to bridge the gap between health and convenience.”

Randall Arnold, Director of Construction

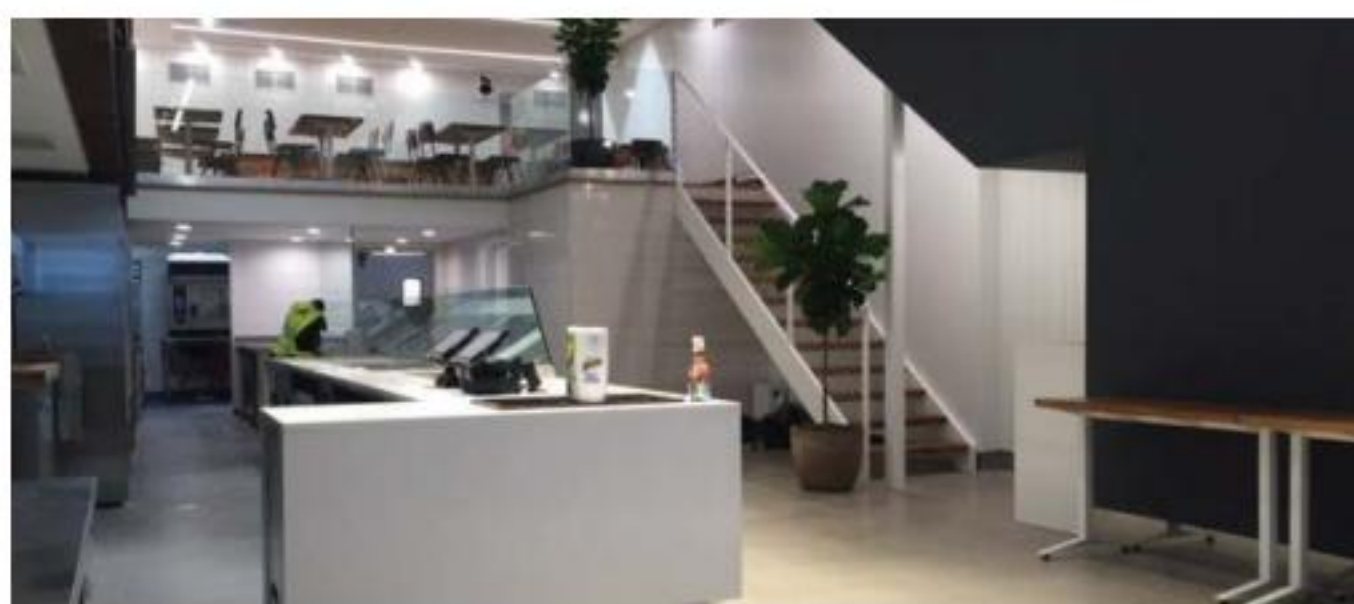


◀ Reclaimed items, including wood from bowling alleys for tables, and other sustainable materials are used throughout sweetgreen stores.

“I don’t think people know just how invested the company is in changing the way customers and communities think about food,” he says. To that end, sweetgreen took him to farms and schools to understand the American food system and how the company is making an impact through healthy eating.

The end result, he says, goes beyond bricks and mortar or the food sold within.

“You build a great team, you expect great work, you celebrate wins, and you make the team feel that they’re part of something bigger than the job itself,” Arnold says. “That’s the favorite part of my job.” ■



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The Porsche Design Tower, currently under construction in Sunny Isles Beach, Florida, will stand 641 feet tall when complete and feature a one-of-a-kind elevator that whisks tenants and their vehicles—at 800 feet per minute—up to their floor.





BUILD

Andrew Richards brings his expertise to **Dezer Development** and to the construction of some of the most unique coastal structures in Florida

BY PETER FABRIS

PORSCHE DESIGN TOWER, a 59-story luxury condominium development, recently rose from the ground on Sunny Isles Beach, Florida, near Miami. When completed, owners will drive into an introductory room where a mechanical shuttle will transfer their car into an elevator that will whisk them and their vehicle, as fast as 800 feet per minute, up to their floor. From there, the mechanical system will transfer the passenger and car into their suite in the sky. This combination of vehicle elevator and automated conveyance system is a first for the residential market.

Porsche Design Tower owners will display vintage and modern roadsters and ultra luxury vehicles behind a glass wall separating the garage area from the living room. Thus, the vehicle is displayed as a work of art—which is fitting, given the affiliation of the designers with the Porsche luxury sports car brand. Other amenities include a restaurant with full-height wine storage, a lounge with a bar (carved from a single tree from the Philippines) that has a glass-and-stone fireplace, a movie theater, billiards room, a spa and fitness center, a golf simulator, and a professional-grade auto racing simulator. These are helping to make the building a magnet for the ultra-wealthy from around the world.

The project is the latest creation from visionary developer Gil Dezer, who called upon the expertise of Andrew Richards, a construction management and all-around real estate development professional, to execute. The \$560 million development required Richards to bring all his skills and abilities to the forefront. As vice president of development and construction, Richards is responsible for just about every aspect of the project.

Beginning when he was 16 years old, Richards' career has been a series of logical steps that prepared him for the many tasks needed to realize such a formidable challenge. "I was fortunate to know what I wanted to do at a very young age," he says. As far back as sixth grade, he had a strong interest in ar-

chitecture and design, devouring design and construction magazines and drawing up his own plans for houses.

He started his career working part-time for an architecture firm. A couple of years later, he enrolled in the University of Maryland's architecture program, where he subsequently switched to a land planning and real estate development track, followed by an MBA. After graduation, he began learning the real estate development business from the ground up—literally. His first duties as a professional included property site assessments, contamination assessments, remedial action plans, demolition, and rebuilds for the petroleum industry.

One high-end home development project, Ocean Harbour Estates, required blasting and digging out a basin in south Florida's intra-coastal zone to create a yacht basin for 15 exclusive residences in the premier Ocean Ridge communities. To realize this plan, Richards was involved in a complex permitting and approval process that included wetland creation and approvals by the Army Corps of Engineers, Florida Inland Navigational Trust, and multiple other entities. As most of his career has been focused on development on south Florida's low-lying, limestone geology, this project yielded valuable geotechnical and environmental knowledge.

The Porsche Design Tower required a deep elevator pit, a four-foot thick concrete plug 25 feet below grade, sheet piling some 60 feet below grade, and a mat foundation that sits on 145 piles about 150 feet deep. Richards' previous experience on below-ground engineering and construction was invaluable in shepherding this key stage of the development. When Richards stands on the ground and looks up to the top of the 641-foot tower, he can cite past projects that featured elements similar to those of the Porsche building—cylindrical shape, hurricane-resistant glass walls, and balcony railings to name a few. Among the notable projects he references are construc-





“On large real estate development projects, it’s all about steering consultants while having a comprehensive understanding of what it is you want. To lead effectively, you need to create clear and concise objectives to achieve your goals.”

Andrew Richards
VP, Development & Construction

tion of Miami’s iconic Fountainebleu II, the exclusive Bath Club resort and historic renovation, and the 55-story Jade Ocean condominium tower design by world renowned architect Carlos Ott.

Richards’s career choices have been guided by a strong desire for new challenges and the chance to continually bolster his skill set. “I’ve always thought it was a good idea to put as many tools in my toolbox as possible, understand all components of a project, and differentiate myself from my peers,” Richards says. On a project like the Porsche Design Tower, he doesn’t have to be an expert on all aspects, but he needs to know enough to ask the right questions and push the right buttons to ensure that the schedule stays on track and the quality remains top-notch.

“On large real estate development projects, it’s all about steering consultants while having a comprehensive understanding of what it is you want,” he says. “To lead effectively, you need to create clear and concise objectives to achieve your goals.”

On the Porsche Design Tower, for instance, Richards engaged Underwriters Laboratories (UL) to help obtain Accredited Elevator/Escalator Certification Organization (AECO) certification for the vehicle elevator, which deviates from code. “I worked hand-in-hand with numerous UL engineers for two years,” he says. Although elevators themselves are commonly used, combining it with the horizontal transfer device was a unique application, which is now patented as the “Dezervator.”

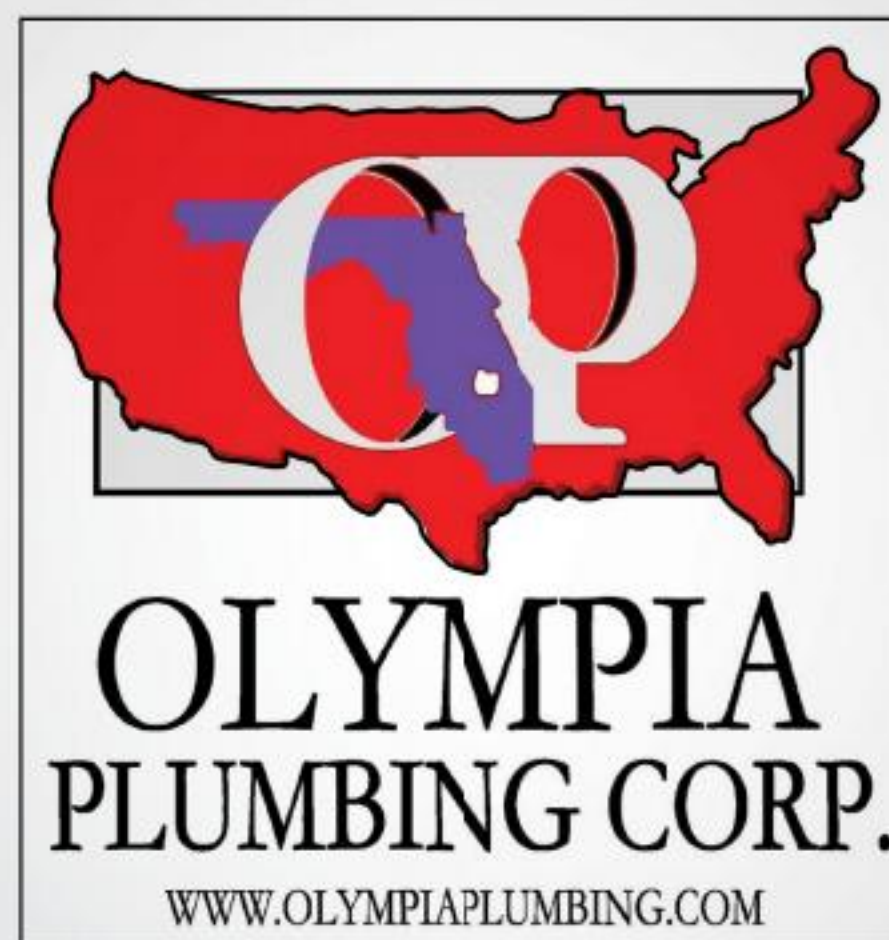
The complexity of a project like the Porsche Design Tower requires skillful orchestration and consistent scheduling vigilance, particularly in the early stages.

“On a project like this, you’re dealing with a vast cross-section of people and functions,” Richards says. “It’s critical to keep the early focus on devising the most concise, comprehensive construction documents that you can.”

Richards’s skills toolbox contains an MBA in finance—an unusual accreditation for someone of his background. It has helped make him a valuable contributor beyond the nuts and bolts of construction including the development of the Porsche Design Tower’s financial pro forma and budgets, while enabling him to work successfully with banks and investors.

Indeed, his imprint is everywhere on Miami’s latest architectural icon. Richards is always seeking new challenges to stretch his abilities, and that is just the way he wants it. ■

◀ Andrew Richards also worked on the 55-story Jade Ocean condominium tower in Sunny Isles Beach, designed by world-renowned architect Carlos Ott.



We extend our congratulations to The Dezer Development Corporation, Andrew Richards and The Porsche Design team. Olympia values our continued professional partnership and mutual success.

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SunPower's 135-MW Quinto project, located in Merced County, California, created approximately 295 jobs for its construction, and approximately \$80 million in local economic impact.





A POWERFUL STRATEGY

As renewable energy goes mainstream, **SunPower** serves customers across the spectrum

BY KRISTEN BAHLER

Photo : Steve Proehl

Last year, SunPower, the San Jose, California-based solar technology and services company, turned 30 years old. Even apart from its resiliency, the company has reason to celebrate. In the past three decades, SunPower has carved out a name for itself in the renewable energy space, and has emerged as a top global provider of innovative solar power technology for homes, businesses, government agencies, schools, and utility companies.

"We're changing the way our world is powered," says Robert Vinje, SunPower's vice president of engineering, procurement, and construction.

Today, SunPower has more than five GW of residential, commercial, and utility solar assets deployed around the world. As customers look for ways to further leverage their solar investments, SunPower is honing its fo-

cus on energy management, battery storage solutions, and other initiatives in order for solar power users to better control electricity costs and store energy for use when the sun doesn't shine.

"Thirty years ago, SunPower stood out as an innovator by bringing to market the world's most efficient solar cell," Vinje says. "Today, we still offer the most efficient solar technology commercially available, and we are continuing to innovate to ensure that we're helping customers maximize the energy and savings their solar power systems generate."

Stateside, the company has been making headlines with a series of solar power plants it has completed or has under construction. In addition to a positive environmental impact, Vinje says solar plants also provide an economic boost to their surrounding areas.

SOLAR STAR PROJECT KERN AND LOS ANGELES COUNTIES, CALIFORNIA

WITH MORE THAN 1.7 MILLION HIGH-EFFICIENCY SUNPOWER PANELS, Solar Star is the largest operating solar photovoltaic power plant in the world. It spans a six-by-four-mile area in the Mojave Desert, colocated in both Kern and Los Angeles counties.

Robert Vinje oversaw the team that executed every detail of Solar Star's construction.

"For all of SunPower's experience building solar power plants around the globe, it was fun to have a hand in building the 'world's largest' something," he says. "Seeing it go from an empty field to a massive, Discovery Channel-worthy project was incredibly rewarding."

Power plants using solar photovoltaic technology are faster to install than plants that generate other kinds of power, but the rate of construction at Solar Star was even faster than most solar power plants. The first solar module was installed in March 2013, and the last was installed in 2015, about six months ahead of schedule, Vinje says. During those 18 months, the project employed about 650 workers, and generated an estimated \$500 million in regional economic impact. Additionally, according to estimates from the Environmental Protection Agency, electricity generated from the projects will displace about 570,000 tons of carbon dioxide per year—the equivalent of removing more than 2 million cars from highways over 20 years.

Today, Solar Star delivers 579 MW of energy to California's electricity grid. Southern California Edison purchases the electricity from these projects under long-term power purchase agreements.

Solar Star spans a six-by-four-mile area in the Mojave Desert in California and generated an estimated \$500 million in economic impact to the region.



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QUINTO SOLAR PLANT
MERCED COUNTY, CALIFORNIA

MEGA PROJECTS SUCH AS SOLAR STAR ARE EXCITING, but medium size plants such as the 135-MW Quinto Solar Plant in Merced County, which generates electricity for about 40,000 homes, are far more plentiful.

"As the solar industry matures, solar plants of the scale of Quinto, or smaller, are the norm," Vinje says.

The size of a power plant is often limited by the amount of capacity available on nearby transmission lines. Vinje uses car parking as an analogy—if you drive an SUV, city parking is hard to come by, but a compact car will fit "pretty much wherever you want."

The Quinto project was also one that required additional attention to the environmental impact of the project.

Since the company started building solar power plants in 2004, SunPower has been mindful of sustainable building practices. In fact, the company developed an innovative approach to solar power plant development that it calls "Light on Land." It's an approach that minimizes the environmental impact of large-scale solar power systems by reducing disturbances to land and natural resources while maximizing the renewable energy they generate. Some examples of its impact include selecting sites previously disturbed by human activities such as agriculture or ranching, and improving sites when possible by restoring land and soil during construction and operation of the plant.

"Solar can easily coexist with the wonders of nature," Vinje says.

▲ The 135-MW Quinto Solar Plant in Merced County, California, generates electricity for about 40,000 homes in the region.

"For all of SunPower's experience building solar power plants around the globe, it was fun to have a hand in building the 'world's largest' something. Seeing it go from an empty field to a massive, Discovery Channel-worthy project was incredibly rewarding."

Robert Vinje
VP, Engineering, Procurement, & Construction

Photos: (this page) Steve Proehl, (opposite page) Barry Halkin

COMING SOON: HENRIETTA SOLAR PROJECT

CONSTRUCTION IS CURRENTLY UNDERWAY on the 102-MW Henrietta Solar Project in Kings County, California. Construction is scheduled to be finished by the end of 2016, Robert Vinje says.

This 670-acre project will generate power for Pacific Gas and Electric customers. Like most of the company's utility projects, SunPower is installing its Oasis Power Plant technology at the site. Oasis is a proprietary, modular solar power block that enables speedy construction and long-term high performance.

Once completed, the Henrietta project will generate electricity for more than 22,000 homes. The EPA estimates that the plant will offset the annual production of about 128,000 tons of carbon dioxide emissions; the equivalent of removing more than 614,000 cars from California's roads.

"SunPower offers turnkey solar power plant services, from manufacturing our own world-record efficiency solar panels and Oasis sun tracking systems, to designing and constructing the plants, to long term operations and maintenance," Vinje says. "For SunPower, this is our wheelhouse, this is what we do day in and day out, around the globe."

▼ SunPower's Oasis Power Plant technology minimizes land disturbances such as grading, and utilizes less land, allowing grazing (and shade) for nearby wildlife.



Founded in 1945, **A-C Electric Company** is one of the largest electrical contractors in California and has become one of the largest commercial solar companies in North America. We employ the best and brightest individuals and utilize the latest construction methods to ensure our customers receive the level of quality and value that they deserve. From light commercial to heavy industrial facilities, our mission is to deliver the highest quality electrical construction services and consistent project execution. We offer state-of-the-art engineering, pre-construction services, industrial automation and systems integration, and large-scale commercial solar development.

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1547's Orangeburg, New York, data center opened in spring 2015 and the company had already rented 40 percent of the center's space by early 2016.

Photo: Raymond Adams



PROSPECTING IN THE INFORMATION AGE

Jerry Martin discusses how **1547 Critical Systems Realty** seized a golden opportunity in the data-center market

BY PETER FABRIS

During the aftermath of the **2008 recession**, construction activity slowed to a crawl in most sectors. One exception, however, was the data-center market, which grew by about 150 percent per year through 2010.

Jerry Martin, and his partner Patrick Hynes, cofounders of a construction management firm, the Martin Group, spotted a rare opportunity to jump into a fast-growing market as the economy began its slow recovery. While other construction firms were downsizing or perhaps taking on low-profit work just to stay in business, Martin and his partners set their sights higher and formed a new company to build and develop data centers.

The roots of the venture go back to when the Martin Group was hired as an owner's representative by Digital Realty Trust, a data-center developer, to work on a particular data center in New Jersey for a global financial firm. It was the Martin Group's first full-blown data-center engagement. The company's previous experience included IT rooms and small trading-floor support rooms, but this project gave it a true foothold in the data-center market.

▼ 1547's Orangeburg, New York, data center measures 232,000 square feet, and has a power capacity of 24 MW (not to mention a sleek lobby).



GROWING INTO A NEW IDENTITY

THE MARTIN GROUP'S FIRST DATA-CENTER EXPERIENCE led to others in which the firm worked with major data-center developers on procurement of sites and evaluated the suitability of buildings for conversion to data centers. In 2010, Martin and Hynes decided that they had earned enough experience and market knowledge to build their own data center on spec.

The pair recruited Todd Raymond, a former Telx executive, and Corey Welp, a veteran in financial management, to market the project. They knew Raymond from their work for Telx in the New York metro area data-center market. Both Raymond and Welp were recruited as managing director and partner to line up funding from both private and institutional investors. Welp's background in both equity and debt structuring was key to the financial growth of the company.

The new venture, called 1547 Critical Systems Realty, closed on its first project in 2012 in Orangeburg, New York. Nevertheless, the firm didn't set

out to be in the data-center management business.

"At first, we felt that we would flip it, but it turned out that it would be more advantageous for us to hold onto it," Martin says.

Market trends indicated that demand for data-center capacity would continue to be robust. Orangeburg is 25 miles from downtown Manhattan's Carrier Hotels at 111 8th Avenue and 60 Hudson Street. Perhaps more importantly, it's far enough away from the coast to avoid the kind of flooding and outages that plagued other data centers when Hurricane Sandy struck in 2013. The Orangeburg facility never lost power. As a matter of fact, Hurricane Sandy turned out to be a boost for business.

"I hate to say it, but that was a great sales tool," Martin says.

Opened in spring 2015, the Orangeburg site had rented 40 percent of the facility's capacity by early 2016. The company has also expanded its reach to three other facilities in Chicago, Cheyenne, Wyoming, and Hawaii.

KEYS TO SUCCESS

A few key elements have been critical to 1547's successful formula: it takes advantage of financial incentives, in-house expertise, and customization

1 CAPITALIZING ON INCENTIVE OPPORTUNITIES

The company seeks out locations where government and/or utilities offer incentives to attract data centers. For example, the local utility in Orangeburg provides the site with power at 9.5 cents per kWh, compared to 18 to 21 cents per kWh in other parts of the New York metro region. Additionally, the utility recently upgraded its infrastructure, giving the facility robust, reliable power. Along with Orangeburg, both the Chicago and Cheyenne sites benefit from state tax incentives.

2 TAKING ADVANTAGE OF IN-HOUSE KNOW-HOW

1547 has a built-in advantage from its experience with the Martin Group, which has more than 30 years in the construction industry serving major commercial clients. The development firm includes architects, mechanical engineers, civil engineers, electrical engineers, and construction management personnel on staff, while competitors typically outsource those functions. Having these skills in-house allows the company to manage projects more efficiently, as it can translate clients' needs directly to engineering plans without turning to outside consultants. Having long-established relationships with vendors is also a plus, as the firm can rely on contractors and suppliers with proven track records.

3 TAILORING DESIGNS TO CLIENTS' NEEDS

1547's customized designs provide competitive advantage. The developer tailors spaces that serve clients' current capacity needs, while providing room for later growth. A modular approach means that clients don't have to pay for more power than they need. The company's facilities employ DX cooling systems that can be deployed to scale up appropriately. The modular cooling technology saves about 38 percent on power as compared with older data-center cooling systems that use chilled water, which must be constructed up front to support full capacity—even if it isn't reached until years later. In addition, DX cooling's waterless technology saves millions of gallons of water per year—a real plus when city officials review data-center permit applications.



PROJECTS IN FOCUS

Information on three of 1547 Critical Systems Realty's facilities

LOCATION: Orangeburg, New York

SIZE: 232,000 square foot building

POWER: 24 MW provisioned

◀ **LOCATION:** Cheyenne, Wyoming

SIZE: 35,000 square feet of data-center space available

POWER: 5 MW on-site

LOCATION: Chicago, Illinois

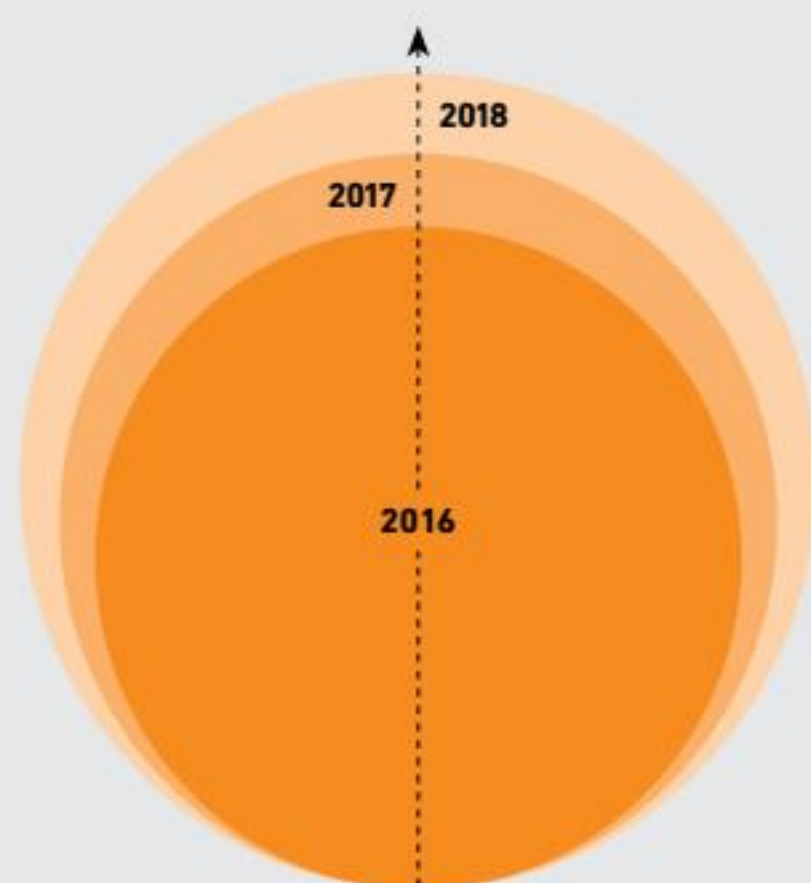
SIZE: 230,000-square-foot building

POWER: Total of 26 MW available for future expansion

GROWTH PROJECTED: COLOCATED DATA CENTERS

Martin and his partners appear to have found the right blend of construction industry and data-center management expertise to build a thriving new business. According to 451 Research, the market for colocated data centers will grow by 11 percent per year through 2018, so 1547 seems to have found its niche for the next few years.

11% INCREASE
per year through 2018



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LEAD BUILDER DARYL
MCDONALD ON HOW NELSON
TREEHOUSE AND SUPPLY
LEADS THE INDUSTRY AND
WHY HE HAS "THE GREATEST
JOB IN THE WORLD"

BY JOHN R. PLATT, PHOTOS BY SHEILA BARABAD

► In addition to lodging quarters, Nelson Treehouse and Supply projects have also turned treehouses into end products as diverse as restaurant dining rooms and yoga studios.

The staff at Nelson Treehouse and Supply always knows when a marathon of their three-year-old TV show *Treehouse Masters* has aired on Animal Planet. “The next Monday there will be 200 emails in our inbox,” says Daryl McDonald, the company’s lead builder, who has been working with founder Pete Nelson since 2000. Together they have built more than 200 of their complex, innovative structures in six different countries.

The structures the company builds are a far sight from the simple playhouses kids used to have in their backyard a generation ago. Now these structures are luxury developments, often with multiple rooms, more than one floor, and electricity and running water. Nelson’s design work alone for one of these treehouses can cost \$15,000.

McDonald didn’t set out to make treehouses, although he grew up on his father’s building sites. He met the Nelson family while he was attending the University of Washington.

“I started working on Pete’s personal house,” he says, adding that the house was in fact a ground-based structure. “While going to school, I ended up getting looped into a couple treehouse jobs early on and I was hooked.”

Now, like everyone else at the company, McDonald lives and breathes treehouses. “It’s the greatest job in the world,” he says. “Every treehouse is different, and every day is different. That allows us to be creative.”

The business has expanded dramatically since the TV show premiered three years ago. Back then, the company had one crew. Today, it has three crews working full-time—two on the road, and a third at its shop in Fall City,

Washington, as well as additional people for design and administration. The team is truly a family affair—it includes Pete’s wife, Judy, and their three children (not to mention eight dogs and a cat). The company now builds between 20 and 24 projects a year, about half of which are for *Treehouse Masters*. In addition to full treehouses, the team also constructs platforms for six to eight clients a year who want to build their own structures.

McDonald’s role has evolved over the years, too. Although he started as a builder more than a dozen years ago, he now helps with design, visits sites, talks to clients, develops budgets, and helps bring Nelson’s designs to fruition. He also appears on camera on the TV show and met his wife, Nicola, through a treehouse workshop.

Treehouse Masters does more than sell the Nelson business. It also helps to expand the industry.

“The idea with the TV show and all of this knowledge sharing that we’re doing is to make treehouses more accessible to everybody, whether it’s a DIY-er or a builder,” McDonald says. “We want to make sure people know you can build in a tree safely—both for people and for the trees.”

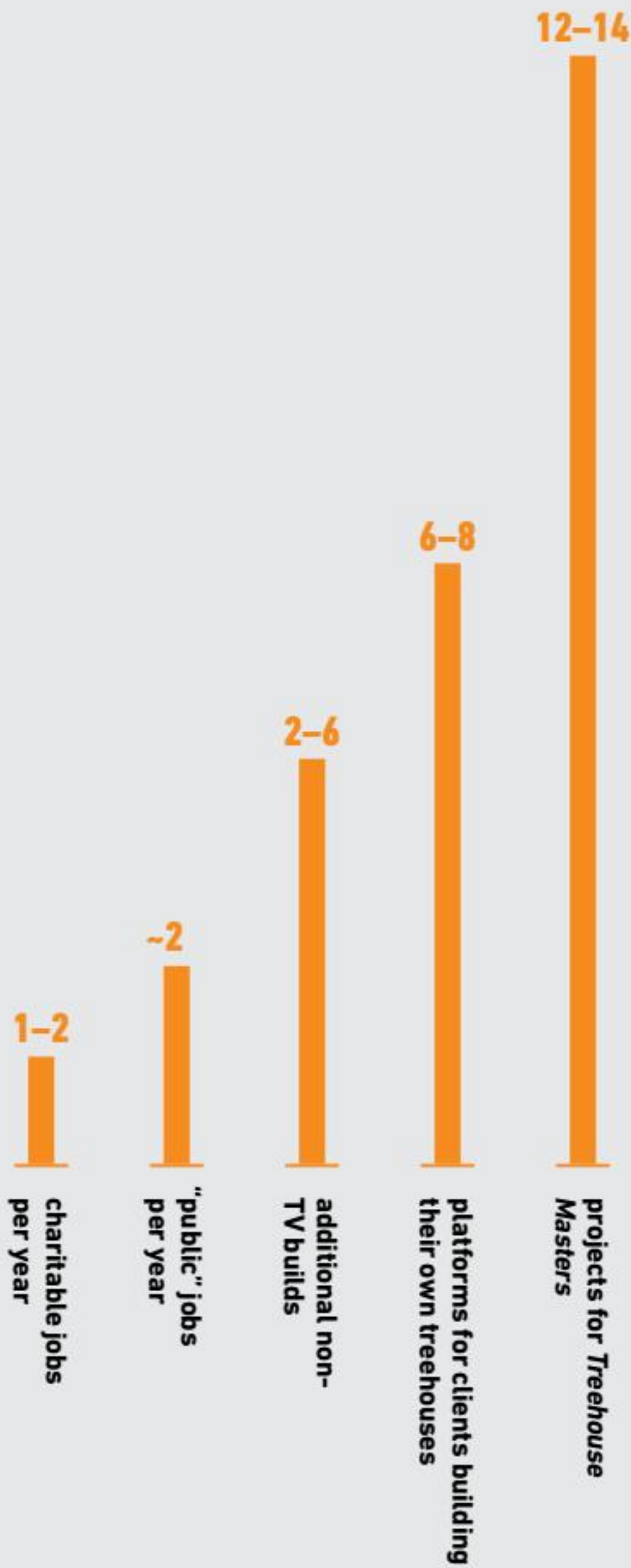


A low-angle shot of a dense forest. Tall, slender trees with thick, moss-covered trunks rise vertically, their branches and needles forming a thick canopy. The forest floor is covered in lush green ferns. In the middle ground, a small, rustic wooden cabin with a gabled roof and a window is nestled among the trees. The lighting is soft and diffused, typical of a forest interior.

"DEALING WITH TREES THAT ARE
DIFFERENT EVERY TIME, AND UNIQUE, AND
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BE ABLE TO DEAL WITH WHEN YOU'RE A
BUILDER. IT'S LIKE A MERGING OF BOTANY
AND CARPENTRY AND ENGINEERING."

Daryl McDonald, Lead Builder

THE BREAKDOWN OF NELSON TREEHOUSE AND SUPPLY PROJECTS:



 Consultation jobs, blueprints, workshops, and related side projects



- ▲ Nelson Treehouse and Supply designed the unique treehouses in Treehouse Point, which is located about 30 minutes from Seattle and provides lodging opportunities as well as guided tours.
- ▲ Nelson Treehouse and Supply founder Pete Nelson and his wife, Judy, share a vision of connecting people with trees and nature, and their unique treehouse designs help to achieve that.

- Longwood Gardens in Kennett Square, Pennsylvania, commissioned the construction of the Canopy Cathedral, which was designed in the style of a Norwegian stave church.
- ▼ The Nelson Treehouse and Supply team spent an entire season building the two-story structure, which is in a stand of mature tulip poplars and provides sweeping views of nearby Large Lake.



CREATIVE PROJECTS DON'T MEAN GOING OUT ON A LIMB

ONE OF MCDONALD'S FAVORITE PROJECTS was a treehouse built at Longwood Gardens, a botanical garden in Pennsylvania. The team spent an entire season building the two-story structure, which was inspired by a Norwegian church.

"The day it opened we acted as docents for the tour," McDonald says. "It was really fun to see that many people enjoying the treehouse." Today, he says the treehouse and gardens get about a million visitors a year.

"It's great to build something so many people get to enjoy," McDonald says.

Nelson's current projects keep everyone on the team both busy and creative. At press time, the company was working on several treehouses, including a private restaurant dining room in an oak tree, a backyard art studio, a fully livable home with a kitchen and laundry, and a set of gazebos linked by bridges for a children's camp.

All of the projects bring their own challenges, but McDonald says the industry itself provides unusual opportunities that he might not have encountered in a "regular" building career.

"Dealing with trees that are different every time, and unique, and living things, is a rare thing to ever be able to deal with when you're a builder," he says. "It's like a merging of botany and carpentry and engineering."

Thanks to the variety of trees the company gets to build on, and the different types of people he gets to work with, inspiration is never a tall order.

- When the Longwood Gardens project opened its doors to the public, the Nelson Treehouse and Supply team provided tours. Since then, the treehouse attracts nearly 1 million visitors each year.





NOTABLE RECENT PROJECTS

CAMP FOR KIDS

NOTABLE FEATURES:

Gazebos linked by bridges and cargo nets, with fire poles and swings

SIZE IN SQ FT:

600

COMPLETION DATE:

Spring 2016

RESTAURANT DINING ROOM

NOTABLE FEATURES:

Seating for 8 people with windows facing the sunset

SIZE IN SQ FT:

200

COMPLETION DATE:

Spring 2016

LIVABLE TREEHOUSE

NOTABLE FEATURES:

Kitchen, bathroom, laundry, solar power

SIZE IN SQ FT:

800

COMPLETION DATE:

In conceptual design phase, completion expected by 2018

AN INNOVATIVE ENVIRONMENT

FOUNDER PETE NELSON IS KNOWN FOR HIS INNOVATIVE DESIGNS, but the company also constantly innovates with its technology.

Some of that innovation revolves around hardware. In conjunction with the broader treehouse industry, the company has developed a wide range of treehouse attachment bolts—not just for the industry's own use, but for the general public to help construct their treehouses, and are available online.

"Trees are dynamic beings that you're supporting a structure with, so you have to be respectful of that," McDonald says.



The bolts are adapted to a wide variety of trees. Redwoods, for example, have soft wood but as much as six inches of bark, presenting more of a challenge to support the weight of a treehouse than an oak, which may have just half an inch of bark and a harder wood.

More recently Nelson's Treehouse and Supply has moved into the digital realm, using a process known as "photogrammetry" to customize its designs for

each set of trees. The process combines 40 to 50 photos from around a tree into a 3D model.

"You can then drop it into a CAD-style modeling software and build your treehouse up in the virtual world," McDonald says. "You can see all the different spaces that are less obvious from the ground or see if there are any conflicts with limbs, things like that."

Using the software is a relatively new skill set for Nelson, but McDonald says it's a rising technology that they're trying to figure out how to use efficiently.

"The idea with the TV show and all of this knowledge sharing that we're doing is to make treehouses more accessible to everybody, whether it's a DIY-er or a builder. We want to make sure people know you can build in a tree safely—both for people and for the trees."

Daryl McDonald, Lead Builder

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◀ Loews Chicago in the Streeterville neighborhood features two ballrooms with expansive pre-function space for guests.

Hotels by

DESIGN

A background in architecture has helped Jeff Lam, **Loews Hotels**' vice president of facilities, bring noteworthy hotel projects to fruition

by Keith Loria

Photos: Courtesy of Loews Hotels and Resort



▲ The lobby of Loews Minneapolis was completely reconfigured to help highlight a bright, airy feel for guests.

They say that home is where the heart is, and that was certainly the case for architect Jeff Lam, who was in the midst of a highly successful career with international firm Tony Chi & Associates (TCA), when he made the decision to leave in order to spend more time at home with his family.

"I had two kids, and a month and a half after my second child's birth, I was in Geneva and I realized I'd only seen him seven days out of those first 45," Lam says. "The travel was really, really hectic. I realized I had enough. I needed to kind of shift gears a little bit and resigned without having a position in my hand. I was a stay-at-home dad for about three months."

Getting the Hospitality Bug

After graduating college with a bachelor of arts degree in architecture from Rensselaer Polytechnic Institute, Lam worked for two

architecture firms outside of the hospitality industry that included projects designing correctional and transportation facilities in New York.

During his tenure at another firm, he met an interior designer who connected him with TCA, where his interest in the hospitality industry developed.

"This was way back in 1997, and it was a firm of five or six people," he says. "TCA was awarded a large project for a Hyatt Hotel in Osaka, Japan, and he grabbed me and one of my other colleagues to help them produce a working set of documents on CAD, because at the time [those] were still drawn by hand, and they needed CAD production. I moonlighted with them for several years doing some really, really interesting international projects."

Lam eventually went to work for TCA full time and traveled the world. The projects his office had done afforded him numerous opportunities to see things that he would



NOTEWORTHY PROJECTS

LOEWS MINNEAPOLIS

(250 rooms)
 Cost: \$10 million
 Size: 22 stories
 Timeline: 6 months
 Unique aspect: The addition of the Apothecary Bar, complete with a library area for people to sit, plug in, and connect while enjoying waiter service from the bar. The design inspirations were two key aspects of Minneapolis' identity: the flour mills and water power.

LOEWS CHICAGO, STREETERVILLE

(400 rooms)
 Cost: \$185 million
 Size: 15 floors of hotel (34 floors of residential units above that are not part of the hotel)
 Timeline: 2.5 years
 Unique aspect: One of the largest design components was to not build the podium where a ballroom area was. "We had a height limit so that you can still see a view corridor down to the river," Lam says. "It came out fantastic."

ROYAL PACIFIC RESORT, ORLANDO

(1,000 rooms)
 Cost: \$32 million
 Size: 1,000 rooms
 Timeline: Approximately 14 months worth of phases
 Unique aspect: A ballroom expansion that offers a connecting bridge to a new facility being constructed called Sapphire Falls.

"It was a 10-year-old property that was not a big hotel but the bones were really good, and we knew we needed to 'Loews-ify' it. We always create a storyline for every hotel, because without the storyline, there's no heart to the property because it can be anywhere."

Jeff Lam, VP, Facilities

have never otherwise seen, and offered him the ability to work with a great group of people internationally.

Eventually, however, his desire to be with his family became too strong to resist. He put together his résumé and Loews came calling, offering him a position as a project manager. That was 12 years ago.

"The hospitality bug really got to me when I was working with Tony because the projects that we built were just amazing," Lam says. "We were so tight with tolerances and everything had to be meticulously documented and executed. Then you add on the passion that TCA had for what he did, and that really kind of bled into what our staff did and what we did."

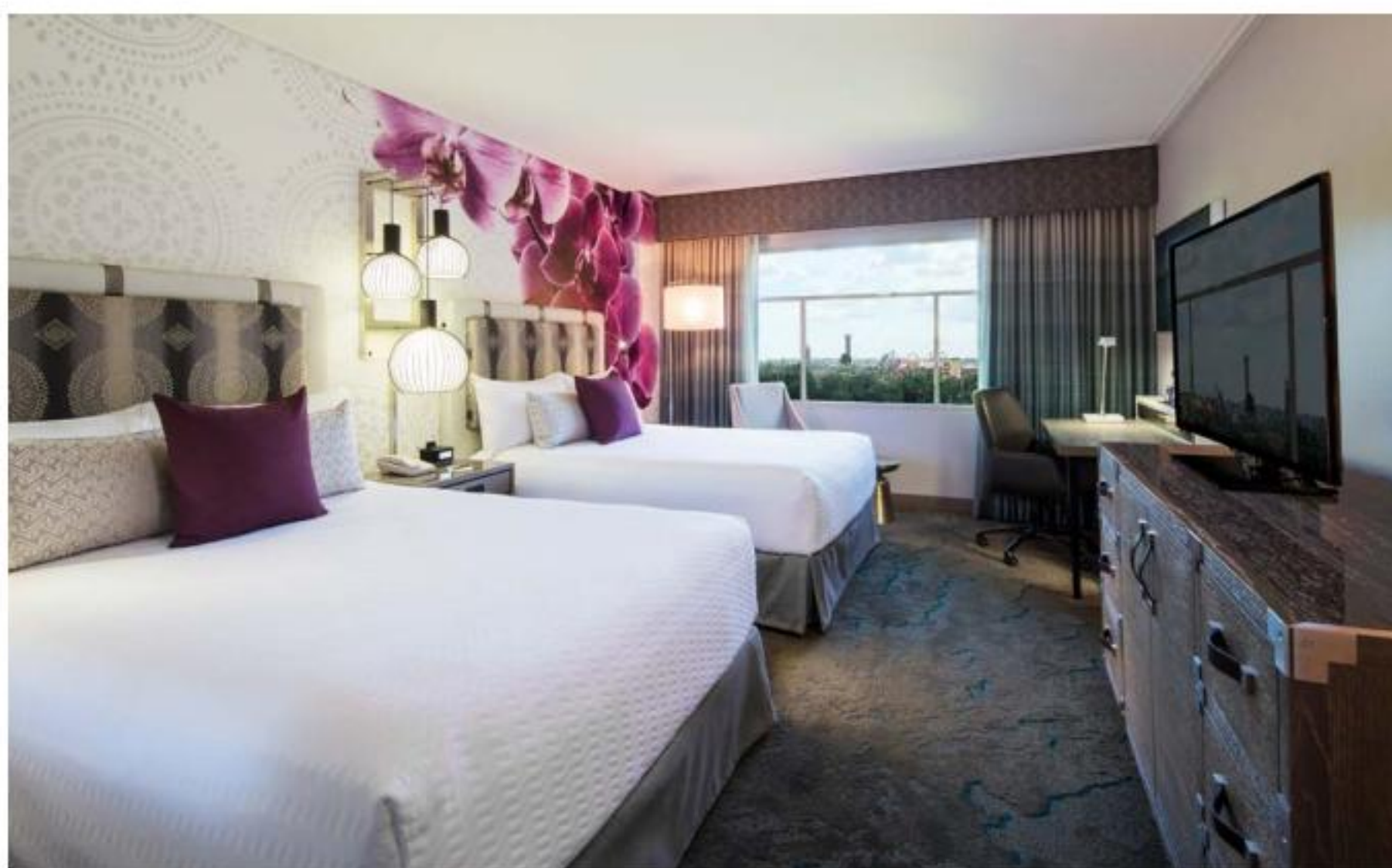
Working first with Loews as a designer, before advancing to become a project man-

ager, then a senior project manager, then a director of capital, and now vice president of facilities, Lam has seen from multiple levels how the brand has evolved over time.

Today, he is responsible for managing capital plan expenditures, and working with designers and architects on the development, planning, and execution of each of Loews' properties. He and his team liaise and drive the design throughout design teams.

"I manage the capital spending on an annual basis for our chain, so we currently have 23 properties; half of them are fully owned, a good chunk of it [is a] joint venture, and two [are] managed properties," he says. "The execution of a CAP X plan takes up three quarters of our time because

▼ The Royal Pacific Resort in Orlando adds tropical design touches to enhance the experience for its guests.





▲ Guest rooms in Loews Chicago feature wide-ranging views of the city and surrounding areas.

it's designing and developing the individual projects that we do. They range between front-of-house guest-room renovations, lobby renovations, ballroom spaces, meeting spaces, restaurants, pool areas, and public areas."

An Evolving Company

Back in 2005, Loews made a conscious decision that, because of the number of properties it had, it couldn't design in-house anymore. So it began sourcing designs to a rotating group of designers.

"Between setting the design direction, making sure our owners, our design teams, and operating teams are all on the same page, and then getting to contractors, I think our team, myself included . . . want to make sure everyone goes in the same direction," Lam says. "Otherwise, the likelihood of it going off track is huge. That pretty much encompasses three quarters of my day."

The remaining quarter of his day is spent managing at a higher level with the entire team. This involves numerous discussions with the operating team on minimizing revenue loss due to renovation, or figuring out creative ways on how to execute projects and not flood the hotel with noise.

"It's always a challenge," he says. "There's never one solution to it, but there are ways around it. It just means that there's a lot of teamwork involved between the operating side, the contractor side, and the managing side."

Loews has since made a conscious effort to grow the brand, and Loews Minneapolis was one of the company's first targets.

"We were trying to get into markets that we were not in at the time, and this opportunity came up," Lam says. "It was a 10-year-old property that was not a big hotel but the bones were really good, and we knew we needed to 'Loews-ify' it. We always create a storyline for every hotel, because without the storyline, there's no heart to the property because it can be anywhere."

The first step involved guest-room renovations through updates to all the soft goods and case goods in the hotel for the guest-room pieces—including corridors.

"We changed it from a very heavy wood feel to a very light and airy feel," Lam says. "Part of the concept was—you know Minneapolis—it's so cold half the time, everyone's trapped indoors so much of the winter, so why wouldn't we give that a really airy, brighter feel? That was part of the briefing to our design team. Then we allow our designers to kind of take that and interpret it a bit, and then go through the design process."

This was followed by a reconfiguration of the lobby area, a renovation of the bar area to energize the space, and an update to the meeting spaces.

For any new project, Lam helps determine the scope, budget, and schedule—usually the hardest part for hotels because they don't typically shut down.

"The challenge here is having good communication and rapport with the operating team," he says. "The operators just want as minimal displacement or minimal noise to their guests as they can, but at the same time they want a new product. That communication up front is incredibly key, and for the

most part, I think our teams work really well with our operators.”

Another big project for the company is the 1,000-room hotel at Royal Pacific in Orlando, where a new ballroom was added, while room renovations and bathrooms renovations will feature new furniture, new floors, wall finishes, and new fixtures.

“It’s a complete change,” Lam says. “That project will really push and elevate the Royal Pacific property to a whole other level. The scope was just incredible. The change from what it was before to what it is now once we renovate it is night and day. It still has that Pacific feel, but with a modern twist.” ■

For Gensler, design is the means. The starting points are goals, strategies, and expectations, but it transcends them to create a better reality. Gensler is demonstrating how design delivers value for communities. The results are projects that belong not only to their place, but also to the user.



CONGRATULATIONS TO JEFF LAM

Gensler congratulates Jeff Lam, our phenomenal client, Vice President of Facilities, Loews Hotels on his tremendous leadership and being recognized by the *American Builders Quarterly*. Jeff is committed to attracting world-class guests by creating unique and welcoming environments for Loews Hotels. Congratulations on your achievements, Jeff.

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It's All in the DETAILS

Fogo de Chão CEO Larry Johnson discusses the exacting standards—both big and small—that drive the company's aesthetic, business model, and growth

Interview by Paul Snyder

Two days before the opening of the new Fogo de Chão location in Naperville, Illinois, the restaurant is abuzz with activity. As workers move tables into place and hang pictures that reflect the culture of southern Brazil on the walls of the dining area, a small crowd has congregated around the bar to determine the most aesthetically pleasing configuration of champagne flutes on the display wall behind the bar. Should the flutes bookend the champagne bottles or should the bottles surround the flutes?

These kinds of details might seem trivial, but they speak to the level of focus and examination on which Fogo de Chão prides itself. As CEO Larry Johnson explains to *American Builders Quarterly*, the company is built on the details.

I understand that from a design standpoint, there are common elements that can be found in all Fogo de Chão locations, but that the company still wants each location to have its own distinct characteristics. Why is it important to maintain that balance and be unique in every restaurant you build?

The concept of Fogo de Chão is based on the centuries-old traditions of the gaucho way of life in southern Brazil, and our restaurant design pays homage to this vibrant culture and its unique hospitality experience. Whether you are in Brazil, Mexico City, or the United States, you will always know you are in a Fogo because there are core elements like our market table and wine displays that are distinguished mainstays within each restaurant. It is important to us, however, that each space is unique. We consider the local com-





Photos: Courtesy of Fogo de Chão

A typical Fogo dining room, like this one in Portland, features pillars that recall Araucaria pine trees and a market table with fresh food.

munity and history of an area to help inform and enhance our design choices.

What are some of the notable innovations in Fogo de Chão locations?

We have developed a Bar Fogo platform, which creates a more expansive bar experience within our full-service restaurant. The new format allows us to capitalize on occasions like happy hour and lunch, where a selection of small plates and Brazilian-inspired cocktails offer a new type of Fogo dining experience. Another design innovation is O Laçador, a bas-relief sculpture of a famous statue in Porto Alegre, Brazil, that represents gaucho culture. Finally, we have incorporated open kitchens that have viewing windows displaying where our gaucho chefs prepare and grill the various cuts of meat. Our guests really enjoy this, and it helps showcase the unique skill of our gaucho chefs.

When considering Fogo de Chão architecture and design, what are the crucial aspects that must be found in every location?

We focus on creating a warm, contemporary, and timeless environment. As mentioned, the important elements like the market table, wine casks and, in our new restaurants, open kitchens and O Laçador sculptures are mainstays for the brand. Textures are just as important—we integrate stone and wood

elements to create warmth and visual interest. Another critical element is creating our designs with the guest in mind at every stage, from lighting to line-of-sight and table layouts. We are very thoughtful about creating a strong sense of entry in the front area and an ambiance in the dining room that ensures that every guest can enjoy their experience to the fullest.

In terms of selecting which contractors and subcontractors you work with for new locations, I know that there's an important element of building trust and, hopefully, long-standing relationships with your partners. Why is it important to you to build those relationships and how do you believe that benefits Fogo de Chão moving forward?

Our commitment to differentiation starts long before ground is broken on a new location. Instead of taking a linear approach to development (i.e. working phase by phase, chronologically, from site acquisition to finish of punch-list), our team instead works closely with the planned general contractor, architects, landlord, general counsel, and commercial broker to commence design during the site-selection process. We value relationships with general contractors that have experience in building high-end restaurants, and are known for true craftsmanship and integrity. Overall, our aspiration in design and construction aligns with Fogo de Chão's brand standards, which includes creat-

ing a "transcendent guest experience" within the walls of each restaurant.

Having seen a restaurant a day before opening, I had the opportunity to see in person how much attention is paid to even the smallest details, such as how champagne flutes are placed on the display behind the bar. Most patrons might think that those kinds of details are rather haphazard or even just based on a bartender's personal preference. Why is it so important to you that this attention to detail pervades so many aspects of Fogo de Chão's business model?

We believe this attention to detail preserves our authenticity—the distinctly Brazilian attributes of our brand. We offer our guests an upscale, approachable, and friendly atmosphere in elegant dining rooms that is complemented by the personalized, interactive experience with our gaucho chefs and team members. Fogo de Chão is all about sharing southern Brazilian hospitality and cultivating memorable experiences through an incredible restaurant space, and excellent service focused on anticipating guests' needs and helping them navigate our unique dining experience.

I understand that the company selects certain furnishings based on how it affects sound within the restaurant. Can you expand on that?

Beyond ambiance, there are also practical considerations to how the restaurants are designed and furnished. In addition to comfort

▼ Dining rooms feature defined aisles for gauchos to move down and easily serve guests.





◀ Design teams consider everything from furniture material to bottle and glass placement in the restaurant's bar.

and style, chairs and tables are often selected based on acoustic qualities and how it will affect guests' ability to hear conversations with people at their table. This is achieved by using design to suppress the impact of sound vectors. The design team creates an array of means by which sound is suppressed to a conversation-friendly level through an array of choices that don't detract from the restaurant's high-end aesthetic. Such choices include multi-tiered soffit designs, specific materials, and carpet choices.

What's the most important piece of advice you can give to other leaders trying to grow their own businesses?

When you know you are part of something special, work hard to keep that way. For Fogo, each new restaurant reminds us of how important it is to stay connected to our rich history and roots in Brazil. It is worth all the hard work to protect and nurture a brand and keep a strategic focus on its long-term success. ■

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Photo: Tiago de Paula Carvalho

▲ Paulo Mancio says the goal of Caesar Park Rio de Janeiro is to "fill guests with wonder during their stay."



Expansion MODE

The Summer Olympics are renewing interest in Rio de Janeiro, and hospitality giant [AccorHotels](#) is ready to make the most of the opportunity in 2016 and beyond

by Zach Baliva

All across Brazil, people waved flags, sang, and chanted in celebration. It was October 2, 2009, and the International Olympic Committee had just made its announcement: Rio de Janeiro would host the 2016 Summer Olympics. In beating its fellow nominees of Chicago, Madrid, and Tokyo, Rio would welcome the summer games to its continent for the first time.

Not only did the announcement unleash a massive celebration—it set the hospitality industry into overdrive. According to *The Wall Street Journal*, local officials projected 75 new hotels and 19,500 new rooms (representing a 60 percent increase) by August 2016. Major brands clamored to capitalize on the opportunity in a global hot spot known for top beach destinations, such as Ipanema and Copacabana.

Soon after the news was released, AccorHotels—Europe's biggest hotel company—announced plans to move forward with a \$1.5 billion surge in the Brazilian market. In 2012, the company bought Grupo Posadas' 15-hotel regional portfolio for a reported \$275 million, adding more than 2,600 rooms to its base of 164 existing hotels in South America.

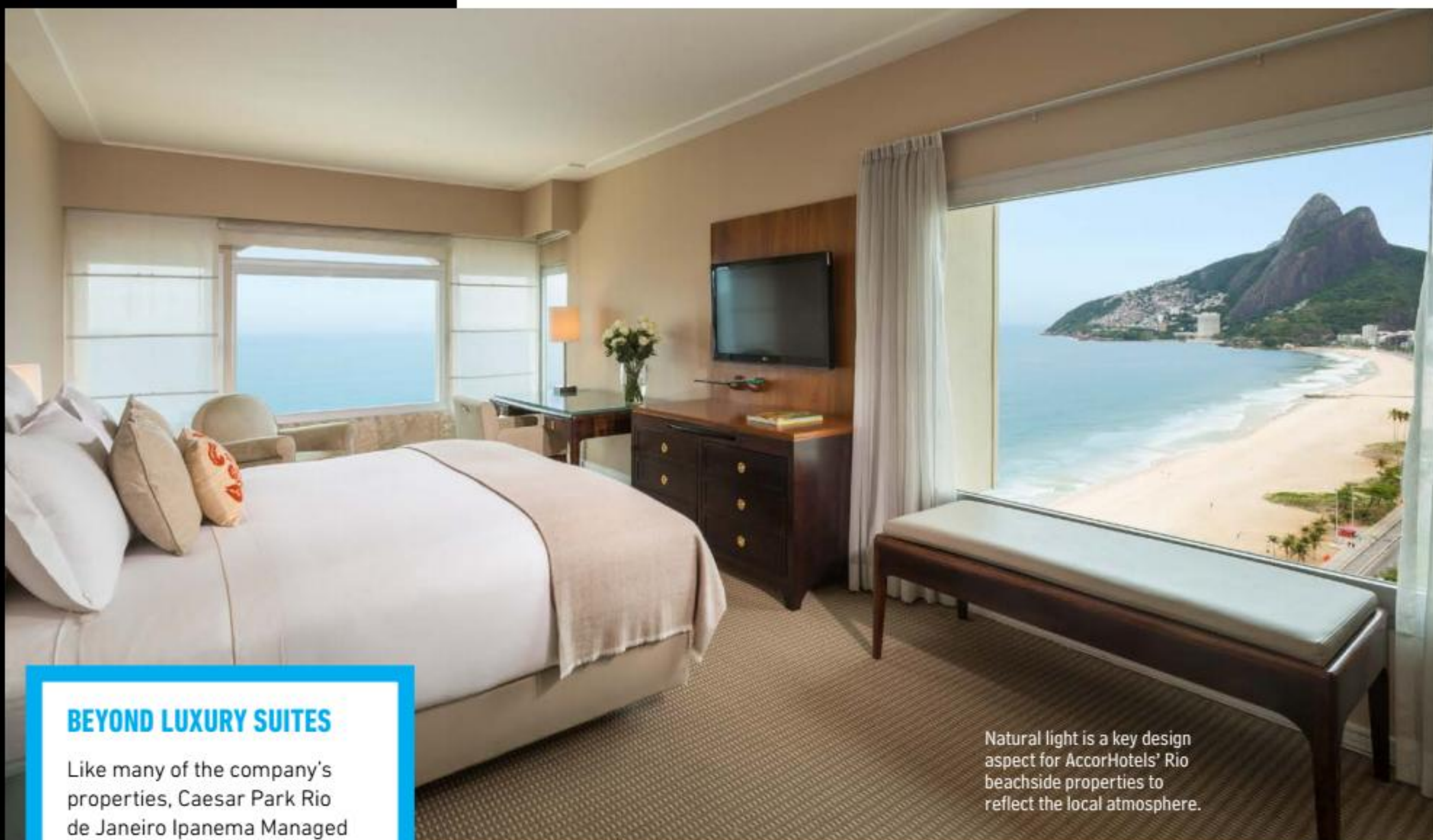
The move fit nicely into AccorHotels' growth plan in leading and emerging markets worldwide.

In South America, the Grupo Posadas properties complemented AccorHotels' brands of Sofitel, Pullman, Novotel, and Mercure to solidify the hospitality behemoth as Brazil's leading hotel chain. This reflects what AccorHotels is doing worldwide as it increases production with 230 ongoing projects across all brands. The company is also working hard to increase the number of its upscale hotels in the region.

Paulo Mancio is AccorHotels' senior vice president of technical construction and design for the South American region. He leads all regional projects in Brazil and South America, and says the area is one of growing importance for his team.

"We expect to reach 500 hotels in South America by 2020," he says. "Taking into account the maturity of the hotel market and the investment for tourism in the region, South America is big for us."

Although all of South America is big for AccorHotels, Brazil is key. The company has 263 hotels in operation in South America;



BEYOND LUXURY SUITES

Like many of the company's properties, Caesar Park Rio de Janeiro Ipanema Managed by Sofitel and Sofitel Rio de Janeiro Copacabana participate in AccorHotels' Planet 21 program. The comprehensive sustainability plan includes seven pillars and 21 commitments that guide AccorHotels' growth with eco-friendly principles. The company has sustainable policies and offers the opportunity for guests to make simple choices to conserve resources during their stay.

To date, AccorHotels has provided funding to plant more than 500,000 trees. Additionally, AccorHotels participates in ECPAT (End Child Prostitution, Pornography, and Trafficking of Children for Sexual Purposes) in partnership with the Brazilian government. Moreover, 30,000 company employees are trained in prevention practices and reporting methods.

Natural light is a key design aspect for AccorHotels' Rio beachside properties to reflect the local atmosphere.

230 of which are in Brazil. As the 2016 Summer Olympics approach, Mancio's attention is increasingly turned towards Rio de Janeiro, where the company operates 27 hotels and 5,180 rooms. Mancio and his colleagues will open 19 more in the next four years with an investment of \$700 million that he says will generate about 800 jobs.

Two of Mancio's most important projects in Rio are Sofitel Rio de Janeiro Copacabana and Caesar Park Rio de Janeiro Ipanema Managed by Sofitel. At the Copacabana property, AccorHotels is performing a full, major renovation along the chic and world-famous

beach. The luxury hotel boasts four restaurants, two pools, gyms, saunas, and a hammam, or Turkish bath.

"Everyone that comes to Rio wants to come to this beach, and we're transforming the property into something special," Mancio says. In the first phase, AccorHotels will focus on a flawless technical installation to prepare the hotel for the Olympic Games. Then, in the second phase, the entire structure and all facilities will receive a top-to-bottom refresh.

AccorHotels landed the other site—Caesar Park Rio de Janeiro Ipanema—through the 2012 Grupo Posadas deal. There, Mancio's



Photo: (top) Chris Kewish, (bottom) Tiago de Paula Carvalho

► Rooms and common areas at Caesar Park Rio de Janeiro Ipanema feature expansive views of the hotel's namesake beach.

“Technology and comfort are our differentiators. Our guests should feel welcomed, expected, unique, and privileged.”

Paulo Mancio

SVP, Technical Construction & Design, South America

teams are preparing for another two-phase upgrade of the 222-room, 29-suite property. He says AccorHotels’ design team is working out the details, but will focus on bringing together “classic and contemporary hotel architecture,” to provide “vast, inspirational spaces and French touches that will fill guests with wonder during their stay.”

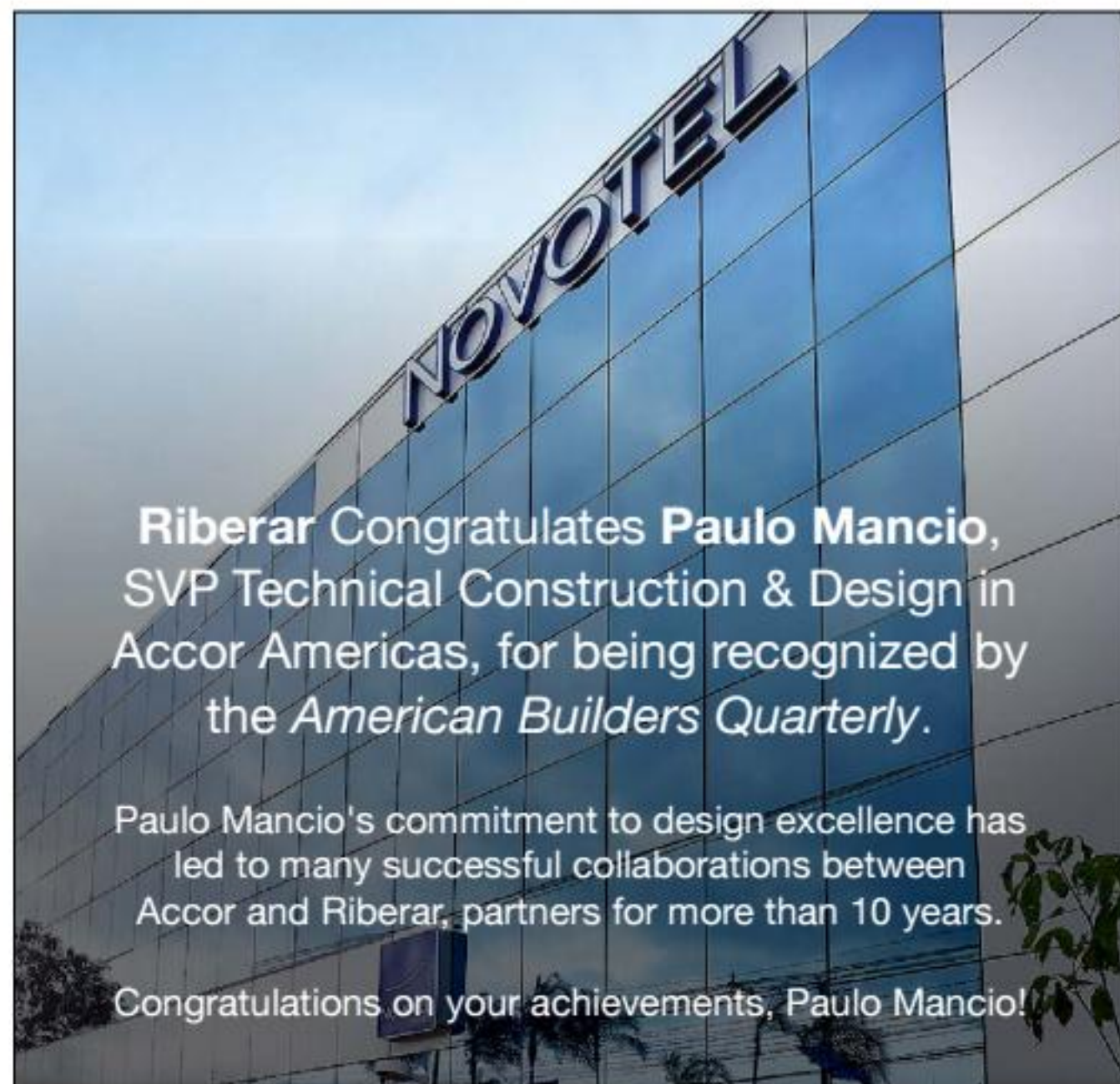
Clean concepts and natural light, combined with hardwood floors, weave in the tones of the world famous beach to reflect the unique Rio atmosphere. The hotels will also leverage technology to enhance the guest experience.

“Technology and comfort are our differentiators,” Mancio says. “Our guests should feel welcomed, expected, unique, and privileged.”

The upgrades will allow AccorHotels customers to expedite online check-in and check-out with a single application that also provides digital content from magazines. Guests can also use the app to track their booking and contact housekeeping.

As the Olympics draw to a close, AccorHotels will use its experience in Rio to prove what else is possible. With \$6 billion in annual revenue and properties in 92 countries, the company is poised to replicate its success in South America in other parts of the world by expanding into other emerging markets, experimenting with China and Iran, and also setting its sights on the United States.

Back in Rio, the company’s bet is already paying off thanks to exposure from the 2014 World Cup and the hype from the upcoming Olympic Games. In December 2015, more than 850,000 tourists flocked to Rio for a New Year’s Eve celebration, injecting about \$686 million into the local economy as hotels neared total occupancy. Now, as Rio prepares to take center stage and TV crews beam images of the Marvelous City around the world, its stock is set to climb even higher. ■



Riberar Congratulates Paulo Mancio,
SVP Technical Construction & Design in
Accor Americas, for being recognized by
the *American Builders Quarterly*.

Paulo Mancio's commitment to design excellence has led to many successful collaborations between Accor and Riberar, partners for more than 10 years.

Congratulations on your achievements, Paulo Mancio!



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PAGES FROM THE PLAYBOOK

Tom Ruscitti, senior managing director of [Newmark Grubb Knight Frank](#)'s project management division, and his team are in the turret, covering their clients' flanks, clearing paths, and—most harrowing of all—navigating Chicago rush-hour traffic to ensure successful project delivery

Text by Paul Snyder / Photo by Sheila Barabad

For all intents and purposes, the Newmark Grubb Knight Frank (NGKF) project management team's formal engagement with Kenall Manufacturing ended in early 2015, when the company completed its new, 350,000-square-foot, state-of-the-art light fixture manufacturing facility in Kenosha, Wisconsin.

Tom Ruscitti, senior managing director, and Paul Wojdyla, director of NGKF, an international commercial real estate firm, had helped shepherd Kenall through various stages of its relocation from Gurnee, Illinois, to

Kenosha. Once the doors opened for business, the men could've simply patted themselves on the back and moved on to the next project.

Yet, there Ruscitti was one early December morning in 2015, navigating Chicago's rush-hour traffic, which turned what should have been an hour-and-a-half commute to Kenosha into a more than three-hour trek.

"While on my way to Milwaukee, I stopped by for a season's greetings visit with the EVP of operations and to check on the facility," Ruscitti says. "The close relationship we cultivated is not necessarily atypical, but for Kenall, because this was their only facility,



we wanted to make sure that business operations were not impaired by building issues.

"It also allows us to assess the project on a full-spectrum basis, and to finalize our usual and customary project post-mortem, as well as maintain a connection for a company that has been a holistic case study as well as a continual referral for us—it shows that we're still there for them and that we are true to our philosophy of providing superior client service."

That kind of extended investment in clients is just one of the ways Newmark Grubb Knight Frank sets itself apart from other commercial real estate companies. Ruscitti says that although competitors might be larger, their hierarchical structures might remove leadership from the business end of a project. NGKF doesn't have those layers, which allows its team a broader understanding of the marketplace. It also requires leadership to keep a finger on the project's pulse and an eye on the client's investment.

"When you're in presentations, clients pick up on your ability—and long term interest—to deliver," he says. "We will always be straight-up with our clients. We won't sugar-coat unpleasant information, nor oversell our ability to deliver a successful project. We strive to make sure that they understand how their project will be delivered, no matter how difficult the message. One thing of which we are confident, with our panoply of processes, procedures, and controls—as well as our years of experience and expertise—we can deploy the properly designed project delivery plan that is scaled to address most project needs."

In the case of Kenall, that might mean making sure that the air conditioning system is properly operating a year after opening and, if need be, getting the contractor onsite to repair the system. In the case of the new MC Machinery facility in suburban Chicago, it's helping resolve unexpected site access issues that threatened to delay development. With those issues resolved, the Mitsubishi subsidiary can move forward with its 175,000-square-foot facility, 50,000 of which will be used as a showroom to display precision industrial cutting and 3-D printing equipment.

DEFINING ORGANIZATION

The organization and attention to detail in NGKF's work is a product of the company's project management office, which Ruscitti helped develop "to bring control to clients' large-scale design/construction programs."

Ruscitti, whose career includes stints with international companies such as Jones Lang LaSalle and Deloitte & Touche LLP, says that as NGKF continues to expand its global scale,

"Project management is not unlike boxing. One is always jabbing, weaving, and blocking to set up for the perfect cross or uppercut—you're always engaged in something. There's always a fight going on, and I especially like doing that on behalf of a client."

Tom Ruscitti, Senior Managing Director

the company is having great success with its Program Management Office (PMO), thanks to the work of key colleagues such as Molly Laurain, director of the Chicago office.

The PMO is set up to help enterprise capital project programs and ensure the optimal deployment and investment of capital around project controls, standardization, processes improvement, and cost-reduction strategies. With the PMO in place, the company has a solid base to help manage projects, whether in the Midwest, or even as far away as Douala, Cameroon, Africa. NGKF's goal is always to increase savings to its clients—a goal that it backs up with select performance guarantees to provide a certain amount of program savings.

"We have put our fee at risk if we don't achieve certain key performance indicators," Ruscitti says. "It's aggressive. Sometimes we win, and sometimes we'll do better next time."

Despite putting its own fee on the line, Ruscitti says NGKF doesn't constantly pursue the latest and greatest technology or the best available practices and standards to stay on top of the game.

"Everyone in our industry channels best practices," he says. "Quite frankly, we consider best practices to be the Yeti of program management—much talked about but never seen in practice. We like to say 'best-suited practices,' because the former may not be required. Most are an unnecessary expenditure. It may be universally acclaimed to be a best practice, but for a particular client, it may not be suited for their needs."

"I know full well many of these big ERP implementations can go south pretty quick-

ly, consuming vast quantities of the client's resources in the process. That's just something that's unconscionable for us."

With the savings its clients realize, NGKF can then make recommendations on where the money can be redeployed. After many years in the industry, Ruscitti still seems amazed that major corporations often don't have their own real estate management officers or teams—a particularly astonishing concept considering that real estate is typically the second-largest expenditure for a company, behind payroll. Once the real estate portfolio is optimized, Ruscitti says, it unlocks capital that can be used "for further reinvestment, acquisitions, or even pay down debt, dividends, and stock buyback. It's not wasted. There's just something rewarding about that."

NGKF also has an array of experience at its disposal. The company's team includes individuals with backgrounds in fields such as architecture, engineering, contracting, accounting, law, and MBAs coming together to serve a commercial real estate focus. Ruscitti himself studied architecture and business, and is a licensed architect. Even with all that experience and background comprising the office, Ruscitti says he sometimes feels more like famed boxer Jake LaMotta than a businessman.

"Project management is not unlike boxing," he says of the commercial real estate industry. "One is always jabbing, weaving, and blocking to set up for the perfect cross or uppercut—you're always engaged in something. There's always a fight going on, and I especially like doing that on behalf of a client." ■

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WHEN THE HQ DEFINES THE COMPANY

Photos: Warren Patterson Photography

◀ Boston Scientific's new headquarters in Marlborough, Massachusetts, is a major step toward achieving the company's sustainability goals.

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Boston Scientific relocated its headquarters to a modern, productivity-enhancing space as part of an enterprise-wide effort to improve the workplace, limit emissions, and reduce energy expenses. It also happens to coincide with a sharp rise in stock value

by Russ Klettke

The former headquarters of **Boston Scientific**, the global medical device company, in Natick, Massachusetts, was described by the Boston Globe as “dark and dated, with most managers tucked away in private offices.” That’s the harsh perspective of a third-party observer, but don’t we all eventually grow comfortable in our surroundings, not noticing how they might be affecting our work?

Paul Donhauser managed to take that outsider’s view when he decided to shake things up. As the company’s director of global real estate, facilities, and environmental health and safety, Donhauser had been with Boston Scientific since 2004, and knew that change was exactly what the company needed. So with more than a little effort—and the backing of Boston Scientific’s new CEO—he convinced the company to ditch its old digs for something brighter, more modern, and conducive to productivity.

“My goal was to help build a new company,” Donhauser says. Indeed the developer, manufacturer, and marketer of such products as stents, defibrillators, and pacemakers had been lagging over the past decade. Nevertheless, the newly appointed president and CEO, Michael F. Mahoney, was credited for tripling company stock value in his first three years. Boston Scientific’s move to a gleaming, bright, and resolutely open-plan office campus in Marlborough, Massachusetts, is considered a key ingredient to this success.

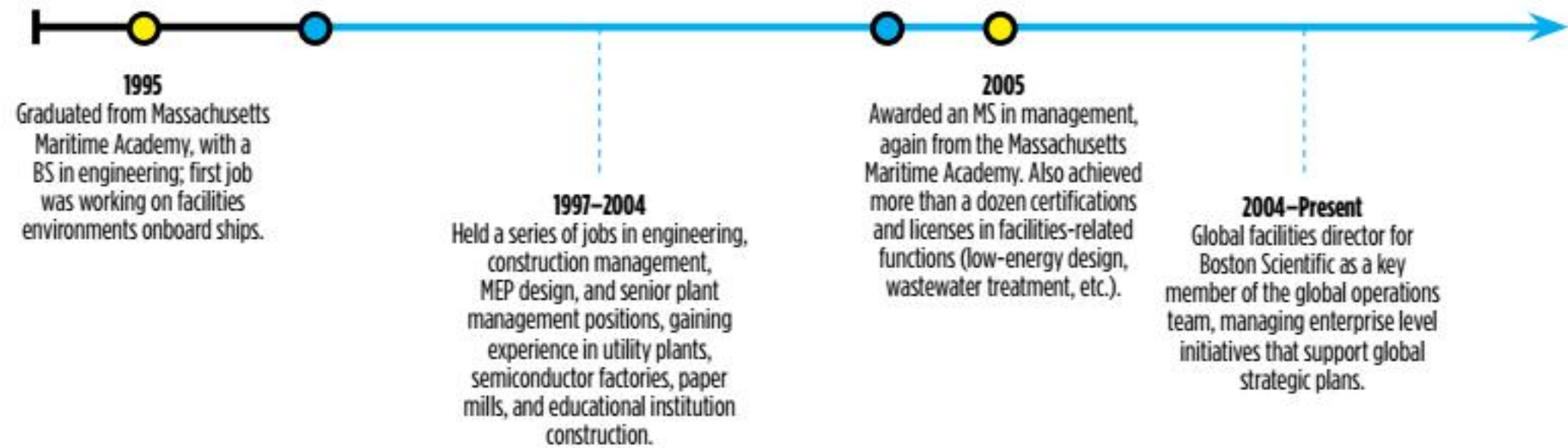
“This move was a workplace strategy,” Donhauser says. “The idea was to build a facility that represents who we will be over the next 10 years.”

Undoubtedly, companies know that attractive workplaces attract talent. Modern and sustainable office interiors designed to improve employee health do that through good ergonomics, access to natural daylight, physical health amenities, managed acoustics, and a sense of immersion in nature with indoor plants and exterior views of vegetated places.

The Marlborough headquarters provides all of these amenities. It combines both retrofit and new construction, set on a 120-acre campus and designed by Margulies Perruzzi Architects of Bos-



PAUL DONHAUSER'S CAREER AND NOTABLE ACHIEVEMENTS



ton. The LEED Gold-certified building allows for natural daylight, low-emitting interior finish materials, water and energy efficiency (including rooftop solar), and includes an on-site fitness center, daycare, dry cleaning, hair salon, and cafeteria.

The Natick offices were about 80 percent private offices and 20 percent open spaces, but the open-plan Marlborough facility essentially reversed those numbers. To avert noise issues in that open working space, “white noise”-generation devices have been installed in ceilings to achieve optimal acoustics.

All of these initiatives contribute to morale. As Wendy Carruthers, senior vice president of HR, told the *Boston Business Journal*, the fitness and daycare facilities are among features that make the company

▼ The new headquarters are designed to be more informal and accessible, geared toward a dynamic employee base and culture.

“informal and accessible . . . the overall culture is one that’s a lot more dynamic.”

Donhauser says the move to Marlborough generated some resistance from employees and could even be thought of as counter-intuitive, given how the facility is another 12 miles away from the Boston city center. Wouldn’t the commute kill the green benefits and possibly hurt the recruitment of talented personnel? “We had to create an ecosystem on campus,” he says, citing the aforementioned features. The company also provides a luxury bus shuttle for employees from multiple city and suburban sites.

Construction of the 110,000-square-foot headquarters went smoothly in 2013 and 2014, “hitting every milestone,” Donhauser says. He credits construction manager Columbia Construction of North Reading, Massachusetts, with this success, citing how the company “assigned their A-team to the project.”

Prior to moving to the Marlborough campus, Donhauser created an enterprise-wide program that reduced the firm’s carbon footprint and controlled energy costs globally. His solution was the Global Facilities Utility Management Council (GFUM), a cross-site communications forum that reduced energy spending over five years by \$10 million, cut greenhouse gas emissions by 24 percent, and increased renewable energy use by 200 percent. The initiative coincided with establishing nine LEED-certified buildings (2.4 million square feet) around the globe.

Perhaps one of the more stunning results of this global approach is its Coyol, Costa Rica, manufacturing site. Built with the stringent, antiseptic “clean rooms” required in medical device manufacturing, plus offices and a data center, it achieved LEED Silver certification—making it the first LEED building in Costa Rica. The area already enjoys clean



Portrait: Emily O'Brien

hydroelectric energy, but a heat recovery system saves a further 4.26 million kWh in energy use per year, worth \$425,000 annually. Remarkably, construction costs for the entire project came in \$1 million under budget.

To be clear, Donhauser's work with GFUM was an effort in silo busting. Still, the successes—net annual energy savings of \$9.7 million for the 25,000-employee, seven-division, 144-building, 8.4 million-square-foot company—indicate that previous resistance has been overcome. A collaborative effort called the "global energy management system," or GEMS, is now underway to further reduce energy consumption by 10 percent.

That's a bright vision—far better than something dark and dated. ■

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FROM TRADING STOCKS TO TRADING SPACES

Steve Elias of **Citizens Bank** uses the skills he honed in his financial background in his current role as vice president of real estate planning and design

by Melissa Anders

Steve Elias' résumé looks quite different than most other senior corporate real estate leaders. He spent the first 12 years of his career in finance, serving as finance director for both Fidelity Investments and Citizens Bank.

Elias got his start in finance during a pivotal time—his last day of training to become a licensed trader was September 11, 2001. The markets tanked just as he was stepping onto the trading floor for the first time.

"It was a very interesting time, but a great experience," he says. "Really learning how to interact with people, how to empathize with them, and talk them off a ledge was a good experience and I think it helped me in my career as I went along."

The skills honed during his time working in finance at Fidelity Investments have served Elias well in his role as vice president for real estate planning and design for Citizens Bank.

"My personal style plays well into dealing with real estate since space is a highly emotional topic," he says. "So I think [that by] having that calm demeanor, and [remaining] a bit humble in my approach, people tend to trust a little more and are willing to work with us a little more."

Elias spent roughly a decade with Fidelity in a range of financial and business support roles. He liked to help drive the business forward, a function he has continued since his move to Citizens Bank in 2011. While working in finance and corporate services, he devel-

oped a good working relationship with the person who later became head of corporate services and had reached out to Elias about a role in property.

"By having that finance background and an analytical mindset, I was able to gain some credibility with the head of that group, which ultimately made him feel comfortable offering an opportunity," he says.

The real estate role offered a chance to turn around an underperforming team, bring in top talent, and work on initiatives to consolidate space and reduce the vacancy rate from 28 percent to 10 percent.

"It was a really good opportunity to step outside my comfort zone and be in a more visible role," he says.

On a daily basis, Elias manages the company's space planning and occupancy teams. The planning team ensures the company adheres to its office standards in new build-outs and renovations, works directly with the business to understand its space-related needs, and works closely with the project management team to deliver on property projects. The occupancy team, meanwhile, ensures data is accurate and produces analysis for the planning team and business lines.

► New Citizens Bank facilities feature offices along the interior core to give everyone access to natural light.





“Moving forward, our goal is to deliver a workspace that improves colleague productivity and engagement, and I believe a few of the projects we are working on will accomplish that goal.”

Steve Elias, VP, Real Estate Planning & Design

His financial experience comes in handy as it allows Elias to analyze and present data in a way that helps business line leaders understand what his team is trying to accomplish and how it benefits the company.

Effective storytelling is crucial in getting key stakeholders on board with a project rather than resisting it, he says. It's also critical to network with business line leaders and provide value to the relationship by bringing them helpful information and facilitating discussion.

“I think one of my strong suits is bringing people together to solve problems, and not letting the ego get in the way or trying to talk over someone,” he says. “Empathizing with their issues, coming up with solutions that will work, and really understanding that they have a perspective too . . . if you do have to take on a difficult project or ask something that's going to be challenging of them, they're more willing to help you.”

That played out in 2015 when the company consolidated a significant amount of real estate in Rhode Island, resulting in about 6,000 moves in a four-month period. It meant a lot of changes for employees who went from cubicles or offices to open-plan workstations, and it also signaled changes for their commutes, daycare needs, and other issues.

Citizens Bank has changed the way it looks at space. It's moved away from traditional office layouts to a more open concept with a mix of collaborative spaces to support the way people work and interact on a daily basis. Newer facilities feature prefabricated wall systems with a lot of glass and offices on the interior core so everyone has access to natural light.

“We have done a good job working with the business through a challenging portfolio consolidation, and managing through all of the change that comes with it,” he says. “Moving forward, our goal is to deliver a workspace that improves colleague productivity

and engagement, and I believe a few of the projects we are working on will accomplish that goal.” ■

Trimble congratulates Steve Elias with Citizens Bank on his well-deserved recognition by *American Builders Quarterly* and his continued leadership in corporate real estate. Trimble is proud that Citizens Bank selected Trimble's enterprise-wide Integrated Workplace Management Solutions (IWMS) to execute against their ongoing real estate portfolio optimization strategy. Learn more at realestate.trimble.com.

NEW OFFICE SPACE FOR CITIZENS BANK

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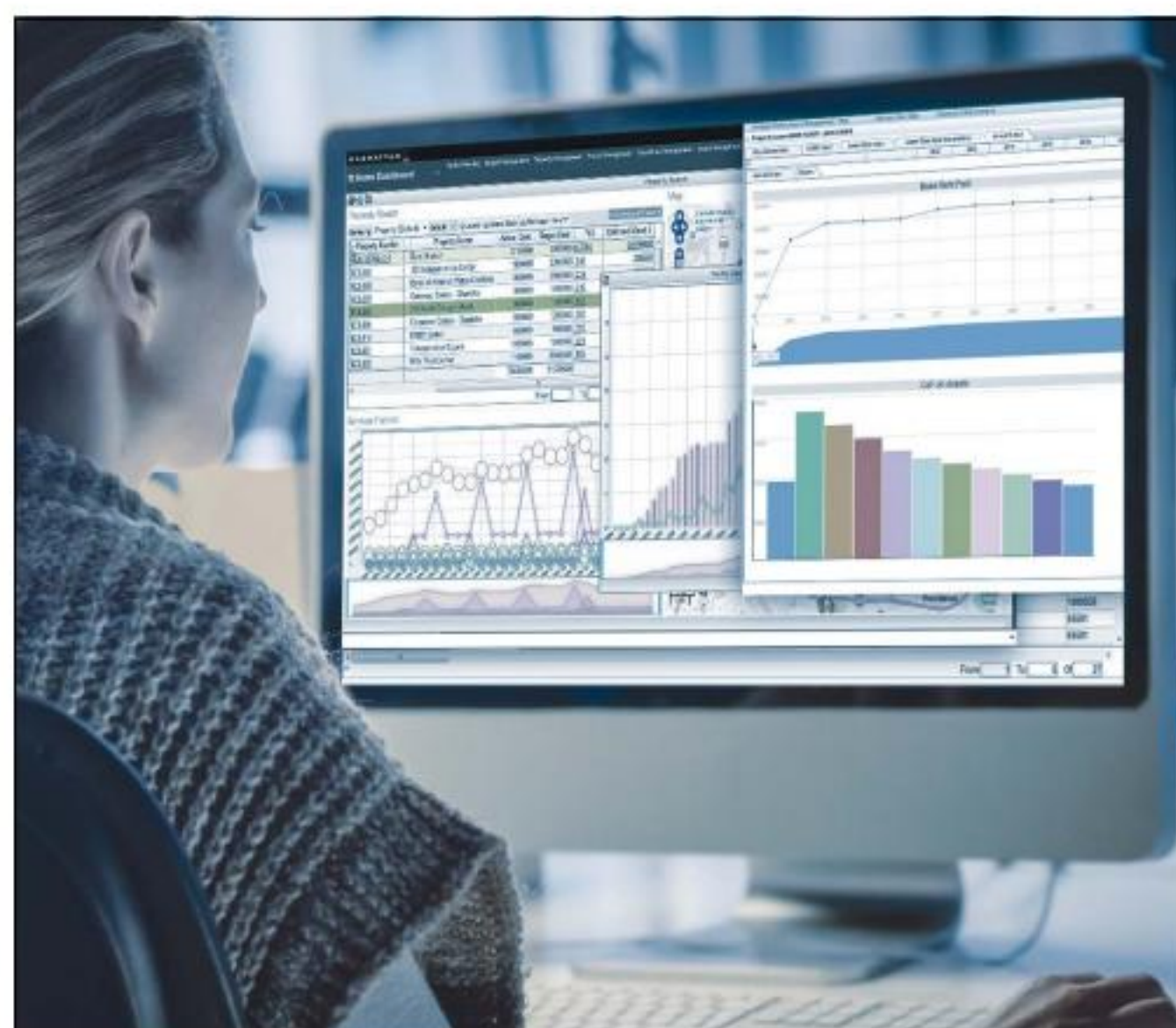
- 20,000-square-foot open-concept office opened in mid-2015
- Plans to add 7,000-8,000 square feet in 2016

Medford, MA:

- Repurpose unused processing operations space into 15,000 square feet of open-concept office space
- Expected to open in February 2016 as of press time

Satellite locations:

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- Class A offices range from 2,500-10,000 square feet



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BETTER TOGETHER

How a new partnership with Royal Bank of Canada is expected to drive growth at **City National Bank**

by Zach Baliva

Banking executives around the world awoke to major news on January 22, 2015. Royal Bank of Canada announced its plans to acquire City National Bank (CNB) in a deal that was worth \$5.4 billion. Although the merger may seem routine, it gave Canada's largest bank a significant opening into private and commercial banking in the United States.

Harry F. Topping, Jr. joined CNB in 1996 and today serves as the organization's senior vice president and manager of corporate real estate. After helping the bank expand from southern California into strategic hubs such as northern California, Nashville, Atlanta, and New York (where Topping helped plan two major Manhattan offices), he says the organization was in the right position to accept Royal Bank's offer.

"CNB avoided mistakes associated with the recession and has been profitable in every quarter for the past 22 years," he says. "This union is an opportunity for Royal Bank to bring basic products like checking accounts and mortgages to their extensive network of wealth management clients in the United States, and it's a good opportunity for us to grow." He adds that City National Bank will continue to operate under its current name.

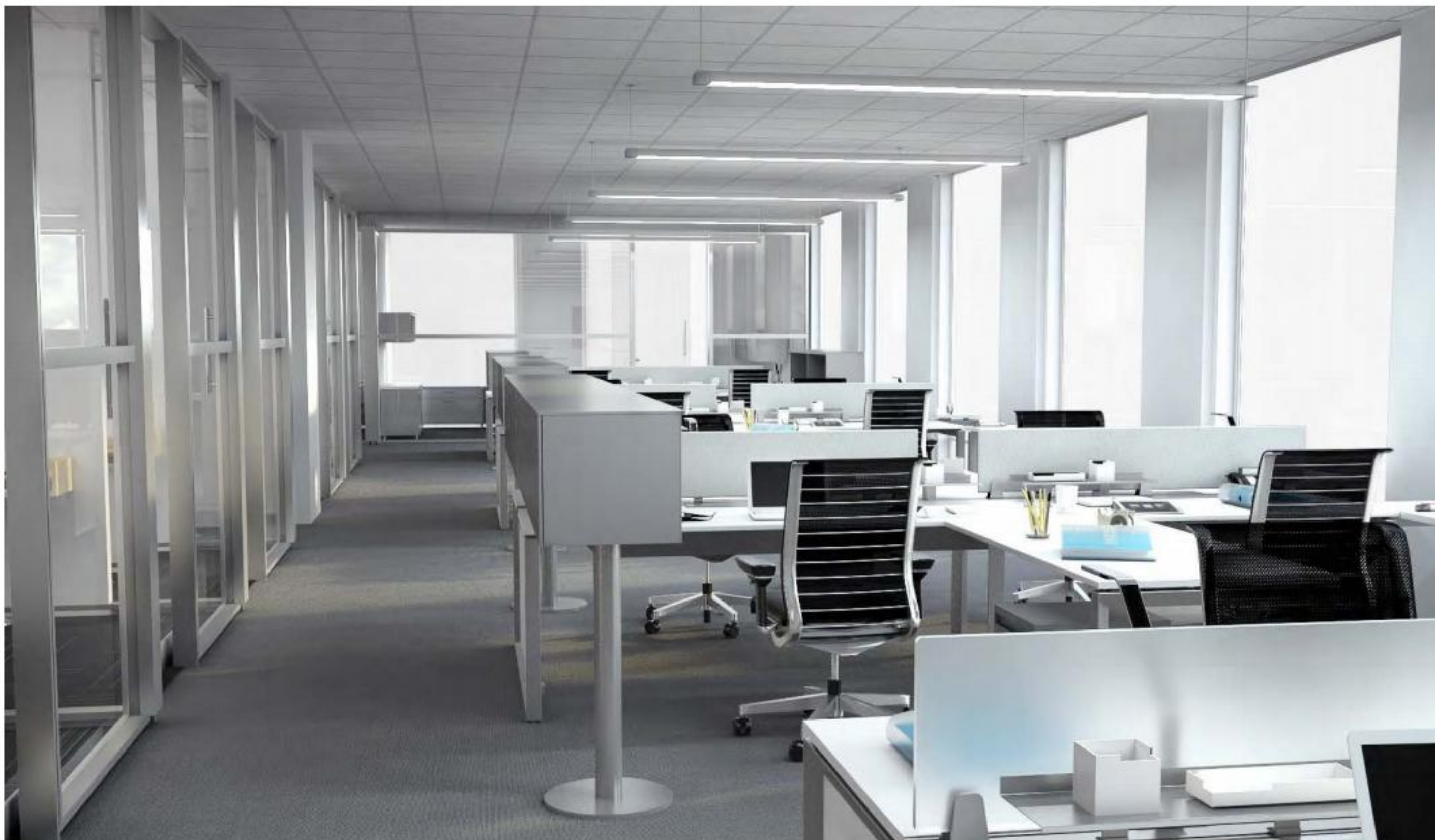
Backed by the bigger balance sheet of one of the world's largest banks, City National expects its growth to accelerate. Royal Bank has more than 60 real estate professionals compared to Topping's original team of four. Before

► Harry F. Topping, Jr. says CNB avoided recession-based mistakes to put it in a better position for growth.



"The workforce is changing, and we recognize the need to change in step with it."

Harry F. Topping, Jr., Senior VP & Manager, Corporate Real Estate



▲ New CNB spaces are designed to bring employees out of offices and work in a more collaborative atmosphere.

the merger, both banks outsourced significant corporate real estate work to major corporate real estate service providers such as JLL and CBRE.

The merger enables Topping and his team to play at a new, bigger level. In 2013, company executives took the bank bicoastal. CNB took a page from Steve Jobs' playbook and made investments based on the belief that good design drives good business. The bank hired AIA Gold Medal award-winning architects Bohlin, Cywinski, and Jackson to design a bank on Manhattan's Sixth Avenue that features a limestone cantilevered staircase with no visible support, among many other forward-thinking contemporary features. More than half of Broadway's theaters and shows bank there. Next, CNB overhauled the client experience by filling branches and

banking offices with high-end amenities and loads of technology. Bankers work in open-lit spaces, clutching iPads that display a suite of products and services for customers to review. Based on the success of the New York locations, CNB took its updated design standards to new and existing locations throughout the country.

More recently, CNB kicked off a major alternative workplace initiative that Topping says will help attract and retain bankers in an increasingly competitive and selective talent pool. Designs bring more workers out of private offices and into collaborative spaces that encourage interactions across various departments. In these new zones, tech teams and marketers will work together to take more transactions online using open workspaces and modern tools, such as videoconferencing. After completing a successful pilot program, Topping and his team plan to roll

BEYOND BANKING

In 2015, Topping—a longtime advocate of sustainable design and construction principles—helped create City National's first Corporate Social Responsibility report. While the bank was already active in LEED projects and emissions monitoring, the new initiative includes the following:

- Company and colleague giving
- Volunteerism
- Reduction in electricity, water, and natural gas consumption
- Financial literacy education
- Waste recycling
- Making buildings greener
- LEED certifications

► CNB's branch at 1140 6th Avenue in New York hosts both sit-down client service and entertainment banking.

out the design to other locations.

Forecasting changes in the industry, in consumer behavior, and in employee expectations is difficult, but Topping stays on top of it all by focusing on communication.

"We have to get out there and talk to our business unit executives," he says. "We have to ask the right questions to get the information we need to build creative and innovative solutions for whatever business need they have."

Today, drop-in centers, hoteling stations, and free addressing—a technique used by CBRE and JLL in multiple offices worldwide—are all paying dividends as CNB's free addressing eliminates regular, reserved workstations. Instead, colleagues log on daily to reserve a workspace before leaving home. Topping acknowledges that the company hasn't yet fully embraced the idea, but says CBRE is a major influence. He predicts CNB will move to amenity-heavy spaces carrying around 1.25 people per seat in some locations in the "not too distant future." The move will allow the bank to build collaborative space and replace outdated break rooms with more appealing, open workspaces.

"The workforce is changing, and we recognize the need to change in step with it," Topping says.

One of the keys to CNB's success lies in its ability to adapt. Topping and his team work with consultants to enhance occupancy, drive efficiencies, increase productivity, and accommodate growth.

"We highlight the connection between the space and the people, and we provide energizing experiences for all of our colleagues through great design," he says.

For several years, Topping's team has been working to understand where the business is going and then provides the necessary space to enable that vision. Now, after the Royal Bank merger, they'll be doing more of the same on a much larger scale. ■



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EYA's new development project, Westside at Shady Grove Metro, will feature a pool and a clubhouse outfitted with workout equipment for its residents.



THE PERFECT BUILD

John Fahey has a lofty standard to meet every day he goes to work at EYA, an urban infill developer of townhomes, condominiums, and multifamily communities throughout the Washington, DC area.

"In 2014, our mantra was defined as 'a defect-free home,'" says Fahey, who is senior vice president of construction and warranty service. "Over the past decade, we have reduced our warranty costs by 30 percent and over the past 15 months, we have enjoyed 100 percent customer satisfaction ratings by our purchasers. The mantra seems to be paying off."

EYA isn't short on practice, either. The company, which launched in 1992, averages 150 to 200 homes per year. Fahey says that in 2015, EYA built about 150 units and expects to be within range of that number again in 2016.

John Fahey says the key to EYA's high rate of customer satisfaction in the Washington, DC area is the people it employs

by Chris Gigley



NEW DIRECTION = NEW PROJECT

John Fahey and EYA are currently engaged in a major mixed-use project that reflects the company's recent evolution.

The 90-acre Westside at Shady Grove Metro project near Gaithersburg, Maryland, is further from Washington, DC's urban center than most EYA projects. By the time the project is completed in about 10 years, the development will have 350 townhomes and about 1,200 apartments.

Usually, EYA works in tight, urban spaces, creating new housing that is within walking distance to restaurants and retail along with transportation hubs and metro stations.

"This is the one case that the community is a little bit of a greenfield, because it's at the end of a metro line," Fahey says. "But because it's adjacent to a metro stop, we elected to go ahead and develop it."

As a solution, EYA will also develop retail and dining spots within walking distance to create the neighborhood and develop a strong sense of community.

Apartments are also a relatively new concept for EYA. About four years ago, the company gained a new equity partner that allowed it to expand into condominium and multifamily housing construction.

By the time the build-out phases are complete, Fahey says, this kind of large, complex mixed-use project will likely be old hat for EYA.

In his role, Fahey oversees the construction, warranty, procurement, and architecture departments. As he has vice presidents atop the procurement and architectural departments reporting to him, he says he puts more of his focus on his construction and warranty responsibilities.

"But where we feel I bring value is in the overall organization of all the operational departments to make sure we have the right organizational systems, the right people in place, and [the] repetitive processes to do their jobs," Fahey says.

With 11 years at EYA under his belt, he says the company's consistency in retaining personnel has helped improve customer satisfaction on a year-by-year basis.

"Our expertise does not reside with one person," he says. "It's about organizational teamwork, effective processes, integrated technology, and making sure people are trained on how to build homes and deliver the customer experience."

▲ EYA's Westside at Shady Grove Metro development will include 350 townhomes and about 1,200 apartments, as well as retail and restaurants.

► Westside at Shady Grove Metro also will provide terrace lounging options for its tenants.



“Our expertise does not reside with one person. It’s about organizational teamwork, effective processes, integrated technology, and making sure people are trained on how to build homes and deliver the customer experience.”

John Fahey, Senior VP, Construction & Warranty Service

Training is a big reason EYA employees stay put. The company is also constantly soliciting feedback from its employees, and then uses that feedback to improve customer service and foster innovation. Fahey says EYA needs out-of-the-box thinking from everyone at the company to handle its unique challenges within the beltway.

“The process of getting our projects approved here requires a lot of interaction between EYA and the local neighborhoods, community groups, local government authorities, and certainly the planning and zoning departments of each area,” he says.

As its business is focused in the DC metropolitan area, EYA has managed to develop a strong local reputation. When EYA wins a project, Fahey says the communities, local governments, and business partners understand they will get a high-quality development that balances both community input and social responsibility.

“It’s all about making sure we strike the right balance between what we envision as a really beautiful, livable, walkable neighborhood and what the neighborhood groups and municipalities want,” Fahey says. “We also still have to get something done that makes economic sense.”

Nevertheless, the urban locations in which EYA builds can present complications.

“You don’t have a lot of room to spread out your construction activity,” Fahey says. “Typically—around the perimeter of the site—we are surrounded by houses, shops, restaurants, and occasionally a small parcel of open space, but you may not have access to it. So there are the logistics of bringing in materials to a very confined space in a just-in-time fashion.”

In its time in the area, however, EYA has proven adept at navigating these and other challenges.

“It starts with the people with the right attitude, and having the right process and organization around them,” he says. “We feel we’ve perfected that. We devote a significant amount of time to training. Our construction and warranty groups attend targeted training on areas of quality, which impact the customer experience, warranty costs, and customer referral ratings.”

EYA’s training, which Fahey says is also provided to trade partners and other operational groups, is extensive. Employees in the construction group, for example, learn and review the finer points of concrete foundations, air sealing and insulation, and building envelope. They’re also taught how to make each home the company builds LEED-certified. Fahey says these efforts are important in striving to achieve that longstanding goal of building a defect-free home.

“I think our attitude is, while we are happy today with what we have achieved, there are always improvements we can [make] to improve our customer experience,” he says. “The recession really caused us to rethink ourselves. We started to look at our technology, for instance, and now we believe it really distinguishes us from other builders.”

Every EYA employee in the field is armed with tablets or laptops, all of which are linked together via a cloud-based project management system that allows for project updates in real time. The system keeps everyone from upper management to subcontractors on the same page.

That synchronicity is important when a company is striving for perfection. In fact, it’s not that different from the metro-area lots on which EYA builds—there’s not much room for error. ■



QUESTIONS ANSWERED

As global head of real estate for [The Brink's Company](#), Marcie Kapaldo is changing the way the company's done business for more than a century and opening a new world of possibilities as a result

by Paul Snyder



It isn't easy to change the way a company has done business for more than 150 years, but The Brink's Company is doing it, and Marcie Kapaldo was brought in to help make it happen.

The Brink's Company, which provides security-related services for a multitude of commercial and governmental customers—including banks, jewelry industries, pharmaceutical companies, and retailers—hired Kapaldo in 2014 to serve as its global head of real estate.

A major reason for that hire was the company's effort to move from a decentralized business model, which had been used since the company's inception in 1859, to a more centralized model. As Kapaldo explains, "The Brink's Company operates in approximately 40 different countries, which typically meant at least 40 different ways of doing business when it came to property deals and development opportunities."

In other words, lease payments in one country can differ from lease payments in another. Some countries have regulations on property acquisition and development while others don't.

"There had never been anyone here who had experience with globalization," she says.

Kapaldo's charge is to unify the company's procedures and create a strategy and standard by which The Brink's Company can operate in all of its territories. She says local regulations will still cause some variation in the way deals are carried out, but at least everyone around the world will be working from the same template.

With that unified vision in place, Kapaldo says the company can better play to its strengths and fortify its portfolio.

"We're capitalizing on what we can do, and putting a [greater] focus on expense management," she says. "We can look at a property in a specific area and better decide if we want to build, buy, or lease."

Kapaldo honed that kind of decision-making ability throughout the course of her career. Before joining The Brink's Company, she worked as a business partner, relationship manager, and project manager with JDSU, Wachovia Bank, and Deutsche Bank. She says the "relationship management" aspect of her job—facilitating the communication between businesses and real estate companies and developing the strategy—is her favorite part of her role, and a skill set that made her uniquely attractive to The Brink's Company.

Photo: Mark Finkenstaedt

“We’re looking at how we can do things differently. How can we impact business? To do that, you have to be open to change, and some people aren’t. But I like change.”

Marcie Kapaldo, Global Head of Real Estate

“In a world such as this, you have to have a very broad background,” she says. “I have a track record of being able to build relationships and trust between two parties. A big part of that is having the courage to say, ‘This isn’t the right thing to do.’”

Even with an established reputation, Kapaldo didn’t jump into her new role to hit the ground running. Instead, she sat back and observed.

“New eyes see things differently, and I ask a lot of questions,” she says. “For the first several months I was here, I made zero changes. I just spent that time asking questions about how we operate and the dynamics of different markets.”

In 2015, The Brink’s Company reorganized to bring more focus to markets in its portfolio where the company has a particularly strong presence.

“We’re looking at how we can do things differently,” Kapaldo says. “How can we impact business? To do that, you have to be open to change, and some people aren’t. But I like change.”

That’s a good thing, because after years of doing things one way, one change is leading to lots of others in the way that The Brink’s Company does business. ■



Jim Wilson of CBRE Limited has worked with Brink’s Canada for over 20 years and he and CBRE are very pleased to have assisted Marcie Kapaldo and her team in the relocation of Brink’s Canadian head office in Mississauga, Ontario.

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HUMBLE FOUNDATION

From inner city New York to the halls of Wall Street, Dale Burnett, head of real estate acquisitions and development at [Assurant](#), opens up about his unorthodox career path

by Brian Barth



▲ Dale Burnett says that he was instilled with a strong work ethic from a young age by his parents.

As a first-generation American born to Jamaican immigrants in the 1970s, successful corporate executives were not part of Dale Burnett's daily interactions, but a strong work ethic certainly was.

Even though he grew up in inner city New York, Burnett's parents were adamant when steering him away from self-defeating temptations and toward positive opportunities.

"My parents ingrained in me that hard work was non-negotiable," Burnett says. "They also taught me that education was the key to realizing the American Dream."

More specifically, Burnett's parents encouraged him toward one particular

dream that would have a far-reaching impact on his future career: "My parents said the centerpiece of the American Dream is owning your own home. They told me, 'That's when you know you've made it.'"

As the head of real estate acquisitions and development for Assurant, a New York-based provider of specialty protection insurance products and services, Burnett oversees the company's real estate equity investment portfolio, which is part of the company's \$15 billion multi-strategy investment group. He's completed more than \$10 billion in transactions—including acquisitions, restructuring, and asset management in the United States and abroad—but his real estate career began by following his parents' simple advice to achieve homeownership.

After college, Burnett moved back in with his parents and, saving everything he could, managed to acquire his first property in 2000—a brownstone in Brooklyn. Wisely, he rented out the house rather than moving in, and within five years, he and his wife (his fiancée at the time) had acquired seven multi-family properties.

"By my mid-twenties, I was making as much from real estate as I was working as a young professional at a Fortune 500 company," Burnett says. "I had the bug! At that point, I knew real estate investing was going to transform my life."

Indeed it did. Burnett's second job out of college was at a consulting boutique, where one of his first assignments was advising the Blackstone Real Estate Group. He was so enthusiastic and dedicated to the project that the six-month consulting assignment morphed into a five-year stint at the company.

"It was a life changing event, the first time I realized I could have a real estate career in corporate America," Burnett says. "At heart, I was still a first-generation Ameri-

Photo: Martin Bentsen

can from the inner city. Before then, I hadn't been exposed to Wall Street or the world of private equity."

Blackstone turned out to be a stepping stone as well. Burnett flourished in the operational aspects of managing real estate portfolios there, but says he knew he was "a deal-maker at heart." After completing his MBA at the Tuck School of Business at Dartmouth, he accepted an offer to join AIG's global real estate investment practice, which allowed him to make those deals. He helped lead a series of successful transactions in the United States, Europe, and Asia. After working his way up to vice president over a near 10-year period, Burnett played a significant role in restructuring and relaunching the company's real estate business after the economic downturn.

Skilled in underwriting and modeling, Burnett is also well-versed in understanding markets, properties, locations, and identifying investment opportunities. Yet, if there is anything he's learned at this point in his career, he says it's that success in real estate ultimately relies on people skills.

"The biggest challenge I have is managing all the relationships required to acquire and develop properties," he says.

In addition to the investment professionals that comprise his team internally at Assurant, Burnett interacts with developers, operators, lawyers, brokers, and consultants on any given transaction. Naturally, each party is working in their own best interest, he says, but maintaining good relationships

with all parties involved leads to positive outcomes in intense negotiating situations.

"People don't just do deals with companies—people do deals with people," Burnett says. "The most meaningful opportunities come through people you have served well, that enjoy working with you, that believe in your abilities, and trust your judgment. Mastery of the human element of business is probably the biggest difference between a smart guy and a leader."

Burnett says that, at times, his busy schedule makes it tough to keep everything in balance. "There will always be more requests for your time than you could possibly meet if you are going to run an investment business and sleep," he says. So he leans on his family and faith to provide an inner compass. Giving back to his community also helps him to feel like he's keeping his life in balance and maintaining the proper perspective. Burnett is the Board Treasurer of the Praxis Supportive Housing Foundation and is on the board of Life Center Ministries International, where he is an ordained minister.

"Giving back is not a choice for me," he says. "I grew up in a place and time where I was just as likely to end up dead or in jail as I was to end up in college. I was lucky enough to have people in my life who went above and beyond to provide me with the tools and resources for me to succeed. If it were not for the intervention of people who invested in my future without the prospect of a return, there is no way I could be in my current position. That fact is not lost on me." ■

"The most meaningful opportunities come through people you have served well, that enjoy working with you, that believe in your abilities, and trust your judgment. Mastery of the human element of business is probably the biggest difference between a smart guy and a leader."

Dale Burnett, Head of Real Estate Acquisitions & Development

Extracurricular Work

Outside of his role with Assurant, Burnett's commitment to community involvement runs deep.

Praxis Housing Initiative:

Praxis Housing Initiative is New York City's largest provider of transitional housing to homeless people who have HIV/AIDS, and is one of city's lowest cost/highest service housing providers. The organization provides a wide variety of permanent housing placement options through its Brooklyn-based program. Burnett has been a board member for six years, and is the board's former treasurer. During his tenure, Praxis developed \$50 million in LEED Platinum, state-of-the-art housing to support New York's homeless population.

New York Business Development Corporation

NYBDC is a multibillion-dollar lending consortium that promotes the economic development of New York by providing loans to small businesses, with a particular emphasis on minority- and women-owned businesses. The organization seeks to offer credit opportunities not otherwise available to small businesses in support of economic development, to create or preserve job opportunities, and to stimulate the growth, expansion, and modernization of small businesses in New York. Burnett is a Senate Pro-Tem appointment, board member, and has served for three years.

Rise to College

Rise to College aims to increase the enrollment of children from working-class families into competitive colleges and universities by providing scholarships for standardized test preparation and counseling during the college application process. Burnett is a cofounder of the organization and former board chair. During his time working with the organization, Burnett helped more than 350 students obtain sponsored SAT prep and college application guidance, resulting in attendance at prestigious colleges such as the University of Pennsylvania, New York University, and Pace University.

New York Real Estate Board

The New York Real Estate Board prescribes the content of courses of study for the examination and education of real estate brokers and salespersons for New York, as well as advising the Secretary of State on policies governing the administration of real estate broker examinations. Burnett, a gubernatorial appointment, has been a board member for three years.



Microsoft's infrastructure now includes more than 100 data centers in more than 40 countries, including this location in Chicago.



Photo: Courtesy of Microsoft

THE LINK IN THE GLOBAL DATA CHAIN

Microsoft's data center construction department is behind more than \$15 billion in resilient infrastructure for the company's cloud services around the world, and as the department's global director, Steven Ford has seen it grow into a world-class network

by Paul Snyder

It might seem hard to fathom a time when Microsoft wasn't employing teams of people throughout the world to build centers and fortify the company's ability to process and manage its data—much less a time in the 21st century—but Steven Ford can remember it.

"Originally, the team didn't even have 'construction' in the name," he says. "It was called 'the data center development team,' and there were three of us."

That was in 2006, when Microsoft hired Ford as one of the founders of that development team. A short 10 years later, he's now the global director of data center construction for Microsoft, leading a division that

employs thousands of construction workers. Today, Microsoft's infrastructure includes more than 100 data centers located in more than 40 countries, including Australia, Brazil, China, Finland, Hong Kong, India, Ireland, Japan, Netherlands, Singapore, and the United States. Under the umbrella of data center construction, Ford says that the company now employs teams for site selection, procurement, design, construction, and commissioning/integrating.

That kind of structured discipline proved incredibly helpful in 2015 when Microsoft had to finish work on a 35-megawatt data center in Singapore. Typically, Ford says, building a data center means finding a site that takes



“When you consider the weight of that building that transcends into the substructure, and the amount of fuel and electrical considerations needed, what we did in Singapore really is an engineering feat.”

Steven Ford, Global Director, Data Center Construction & Delivery

into account more than 35 weighted criteria, including close proximity to customers, an ample and reliable power source and fiber-optic networks, a large pool of skilled labor, and affordable energy rates to determine the long-term viability of each site. This usually translates into building a sprawling, one-story center on that land.

“There isn’t that kind of land in Singapore—it’s like trying to build in the middle of New York City,” he says. “So we had to come up with a multiple-story solution.”

Building up isn’t uncommon when there isn’t a lot of land to be had on the ground, but the difference between a data center and, say, a condominium high-rise in the center of a city is the weight (and height) considerations that need to be accounted for in data centers.

While the data center in Singapore technically has nine stories, that’s a result of the height clearances needed on each floor. For almost any other development, Ford says, the building would actually constitute 18 stories.

“When you consider the weight of that building that transcends into the substructure, and the amount of fuel and electrical considerations needed, what we did in Singapore really is an engineering feat,” Ford says.

The majority of data center projects don’t come preloaded with those kinds of land restrictions or additional engineering considerations, but the efficiency with which the company gets these centers built is impressive. In his role, Ford oversees and manages all projects from construction to turn over to Data Center Operations, and as of press time,

Photo: Jeremy Hyldahl (Top)

◀ Microsoft's data centers help support cloud services for customers throughout the world.

he says he helped bring several data centers online in the preceding six months.

Ford is also responsible for yearly budgeting processes and collecting and refining specific budgets for the company. Unsurprisingly, with an expanded department and global presence, the scale of the data center development business has also grown dramatically for Microsoft—Ford says the company has invested more than \$15 billion in building global cloud infrastructure and more than \$9 billion in research and development to improve efficiency of IT solutions, cloud services, and operations.

It might be even more astounding to consider this work increase in light of the fact that this growth continues to happen at a time when the workforce gets thinner. When asked about the most surprising changes between building a data center in 2006 and building one in 2016, Ford points out that the labor shortage never fully recovered from the economic downturn the company saw in 2008. Although it means more competition

amongst the different building trades, Ford says a lack of overall interest from younger generations in the construction industry means he has to reconsider the company's supply-chain strategy.

In order to satisfy its clients, Ford says Microsoft is doing more legwork ahead of projects to determine not only the volume of work that will need to be done, but also provide the most accurate estimates on when work will be done and how much projects will cost. That rationale has led to a greater focus on premanufactured, preassembled, skidded equipment building practices, which he says is the favored way of doing business in order to reduce onsite labor, improve quality and reduce the overall schedule.

"It leads to a higher-quality product, and a greater amount of predictability in terms of delivery," Ford says. "It also lowers labor costs and enables us to maintain the supply chain."

Given the workload that Microsoft has taken on in the past few years and the work ahead, that's just the kind of management to keep a global brand on top of its game. ■

THE MORE YOU KNOW ABOUT DATA CENTERS

- Data centers are essentially the real life versions of the Internet. It doesn't mean that you can walk into one and see cat videos in the making, but somewhere within the stacks of servers, those videos are being housed.
- Microsoft opened its first data center on the Redmond campus in September 1989.
- Today, Microsoft's infrastructure includes more than 100 data centers located in more than 40 countries.
- Microsoft's data centers help support all of the company's cloud services globally, including consumer services such as Bing, MSN, Xbox Live, Skype, OneDrive, etc., as well as business cloud solutions, including Microsoft Azure, Office 365, and Dynamics CRM Online.



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Quick Study



◀ Classroom renovations at the Browning School brought new equipment and technology to the building's lab spaces.

When Kenny Marshall became director of facilities at **The Browning School**, he inherited an ambitious renovation project with grueling deadlines and had to hit the ground running

TEXT BY SEAN SULLIVAN
IMAGES COURTESY OF THE BROWNING SCHOOL

TOURING THE BROWNING SCHOOL FOR THE FIRST TIME, Kenny Marshall was reminded of the apartment buildings of his childhood.

"It was that old New York City feel," he says. "Old plaster in the hallways, metal stairs . . . that old black and white paint, high gloss."

He had arrived at a genuine New York institution. The Browning School has educated boys from kindergarten through 12th grade since 1888, and the two stone buildings it operates on the Upper East Side of Manhattan were built in 1911 and 1922, respectively. Stephen Clement, the school's longtime headmaster, and John Campbell, CFO, wanted to end Clement's tenure on a high note by bringing the interiors of the school's buildings up to 21st century standards. As the new director of facilities and security, it would be Marshall's job to complete that upgrade.

Marshall had overseen school renovations before, so he already knew the rhythm of the work. Major projects are compressed into the summer months while students are away; smaller upgrades can be undertaken during the school year, as long as the learning experience isn't interrupted. Marshall enjoyed the "intrigue" of it all and the constant stream of new problems to solve.

Nevertheless, he had never faced a challenge like The Browning School's renovation. The architectural plan by Peter Gisolfi Associates called for replacement of plumbing, electrical systems, HVAC, walls, ceilings, floors, and stairs across two buildings, eleven stories, and 50,000 square feet. The project was so intricate that it had to be



▲ As part of the classroom renewal aspect of the Browning School's renovations, the rooms are now outfitted with Smart Boards and other technologies.

split into five phases—with each phase scheduled to be accomplished over the course of five summers. The first two phases, involving upgrades to the gym and cafeteria, had already been completed in 2011 and 2012.

Marshall came aboard towards the end of the third phase, which entailed improvements to the library and technology lab and the construction of an elevator shaft. The work had to conclude by the second week of September, when school resumed. His first day was August 6, 2013.

The school administration had warned him the job would be daunting, but he says he was still “surprised and shocked” during that first tour to see how much work still had to be done.

“I didn’t see how they were going to finish,” he recalls.

Before tackling the particulars of the third phase, Marshall stepped back to evaluate the situation and its place within the larger five-year plan. “Going into a new building, first I had to acclimate myself with what we had,” he says. Next, introductions were in order: he met with his counterparts at JRM Construction Management, the project CM, and Sterling Project Development, the owner’s representative, to prepare for a long and close collaboration.

After that, Marshall needed to rally his new staff for the end of the phase.

“I had to make known what my goal was: to make sure everything was finished and the school was ready to open on the right day,” he says, and credits his “New York accent” and “New York attitude” in helping to win his crew’s trust. By working night shifts and



"The transition is amazing. I have people who come in now and can't even imagine it's the same school."

Kenny Marshall, Director, Facilities and Security

- One of the first tasks that Kenny Marshall had to oversee during renovations was the replacement of a stairwell in a narrow recess of the building. The new stairway connects both of the Browning School's buildings and allows students access to the other building on all floors.

on Sundays, the crew managed to complete the third phase on time.

When the school year brought a pause to construction, Marshall took advantage of the extra time to get to know his buildings.

"When you get into a new place, you really have to familiarize yourself with the actual layout," he explains.

His new familiarity paid off during the next phases, which placed an elevator, a stairwell, and five Airstack chillers into two extremely narrow recesses behind one of the buildings. Marshall also had to supervise the installation of a new building-management system and the construction of a new lobby, while simultaneously dealing with HVAC complications and multiple floors that required both gutting and reconstruction.

Even after classroom renewal was finished, his job wasn't quite complete. The rooms were to be graced with 12-foot Smart Boards—high-tech displays so massive they had to be craned into place.

Through every project, Marshall constantly drew on his own experience. He was a steamfitter before moving into property management, and both careers taught him to be present for every step of the construction process.



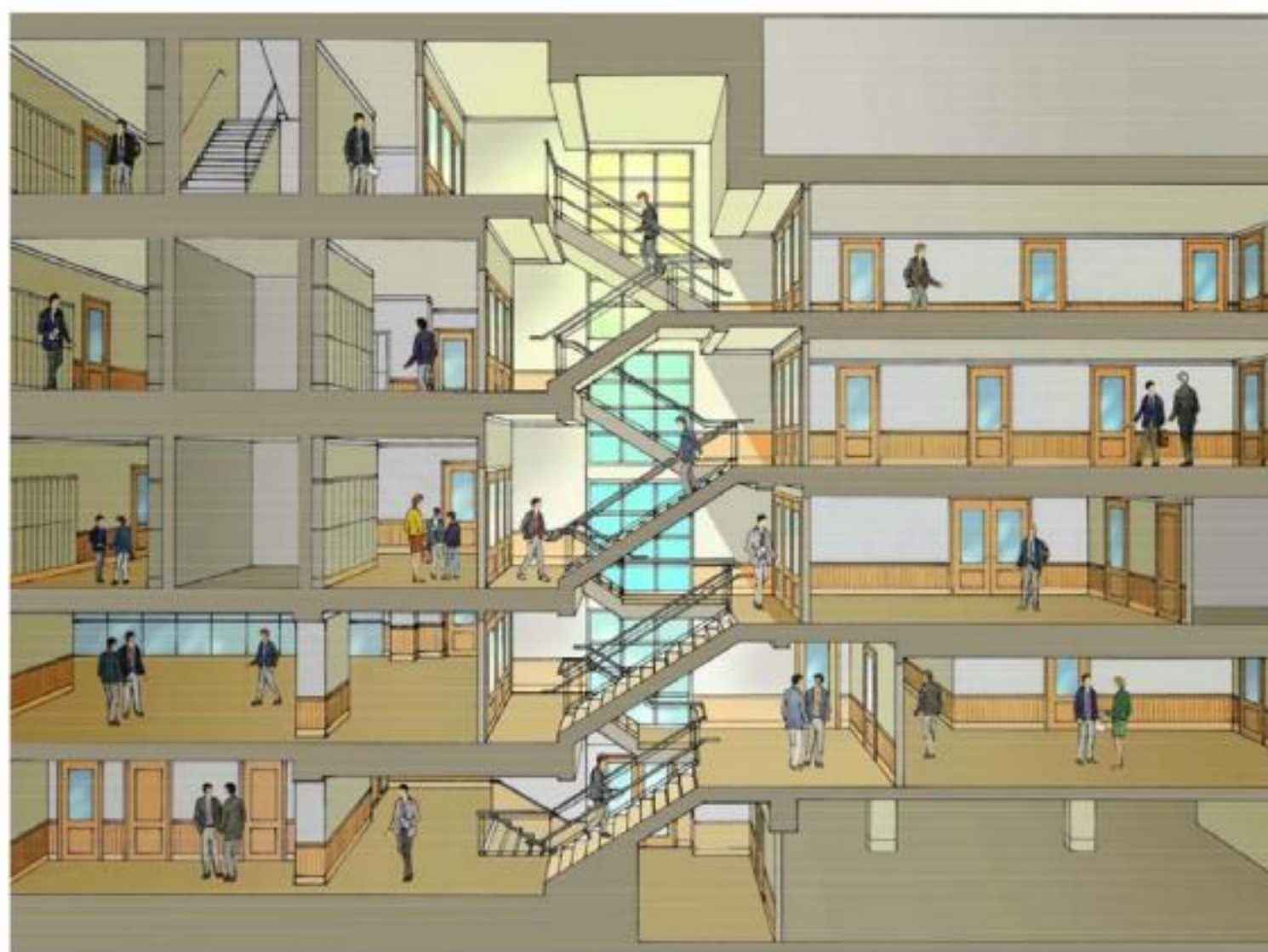
The Browning School's new cafeteria space, which uses new overhead lighting sources, opened to students in May 2013.



OPPORTUNITY KNOCKS: BENEFITS OF A MAJOR RENOVATION

Renovating the Browning School's two adjoining buildings simultaneously led to unexpected opportunities:

- ▶ When renovation closed the connection between buildings, cutting an egress in the cafeteria wall permitted students a new access point.
- ▶ The Browning School shares one building with a condominium association, which wanted input on construction, so shifting school utility systems to the other building simplified negotiations.
- ▶ One building was converted from a city steam hookup to hot water heat before it was ready to accept a hot water boiler. The other remained on steam heat, but the construction schedule called for removal of its steam boilers. The solution to the heating dilemma? Route city steam from the first building to the second, and pipe hot water from a boiler in the second back to the first.





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JRM Construction Management congratulates
Kenny Marshall and The Browning School on their well deserved
recognition in *American Builders Quarterly*!

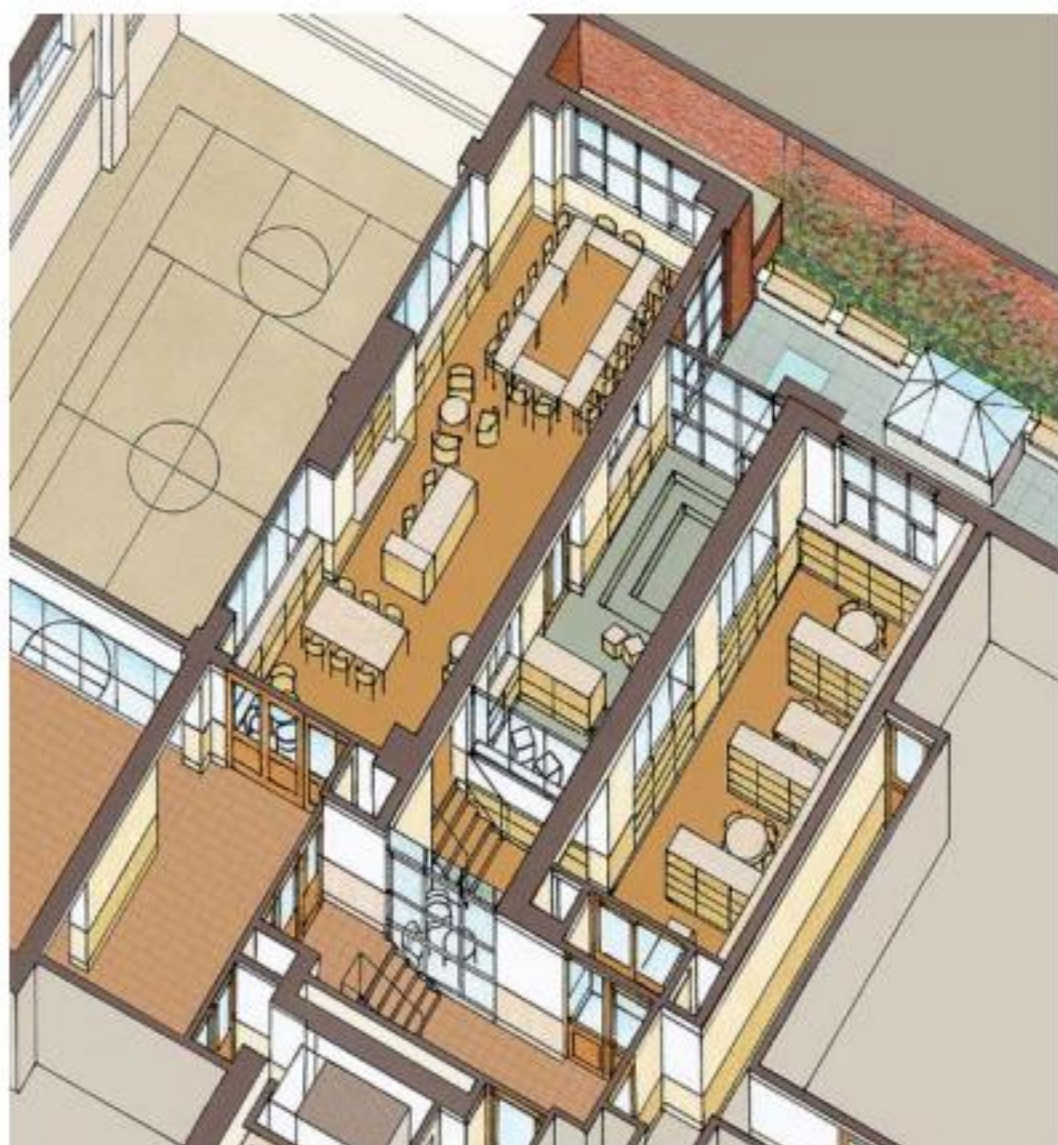


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▼ A rendering details how improvements fit into the Browning School's library, which is integrated into multiple levels of the building.



"If you're the person who is going to be running the building, and you're not actually there during installation, you're never going to see where all your valves are," he says. "It's about walking the job every day. I was here every day. If I want to be here, if I'm going to be comfortable in this building, if I want this building to run as efficiently as possible, I have to be here to make sure and watch where all the duct work is, where every sensor is."

The Browning School renovation project came to a successful conclusion in September 2015.

"The transition is amazing," Marshall says. "I have people who come in now and can't even imagine it's the same school." The bare plaster walls and the old glossy paint are gone, replaced with elegant wainscoting and tile.

The school's major renovations may be over, but Marshall is already planning for the next few summers. He has his eye on some windows that need replacing, and he's contemplating some work on the front walk.

"When you have that little space of time, you're always trying to do work," he says. "You're always trying to turn something around." ■

JRM undertook an expansion and renovation of the Browning School which involved connecting three separate properties and creating consistent interior conditions throughout the facility. The cellar level was expanded to accommodate a new cafeteria. Scope included reinforcing 102-year-old masonry structure with brickwork, structural steel modifications and framing for the support of new air handlers and compressors, outdoor paving, millwork, structural glass flooring and skylights for the covered outdoor seating area.

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Creating Craveability

Krystal's Brian Blosser on how the 83-year-old hamburger chain is revamping its restaurants to accommodate both dine-in and drive-thru customers

BY MELISSA ANDERS

▼ Krystal is remodeling and revamping its restaurants so that locations feature a drive-thru option in addition to dine-in availability.

THE KRYSTAL COMPANY WANTS FAMILIES and customers of all ages to come to its restaurants, sit down, and enjoy a meal together. Yet a significant portion of Krystal's business comes from drive-thru customers. That's why the Atlanta-based quick serve restaurant chain, famous for its unique hamburger, is looking to revitalize its 83-year-old brand by remodeling and revamping 360 locations within five years.

"You can go anywhere to get a hamburger, but you can only get a Krystal [in] one place," says Brian Blosser, Krystal's vice president of develop-

ment and construction. "Our product is unique and we need an environment and a building as unique as our product. We need to be inviting, we need to encourage people to stop by."

Blosser, who has worked in the food industry for nearly 30 years, including three years with Krystal, says many of the Krystal locations are three decades old and in need of a face-lift.

"We're really making quite a revolutionary change to the brand," he says. "We have more custom seating, we have created a more inviting environment, and we are placing awnings on the outside of the building to give it that iconic diner feel."

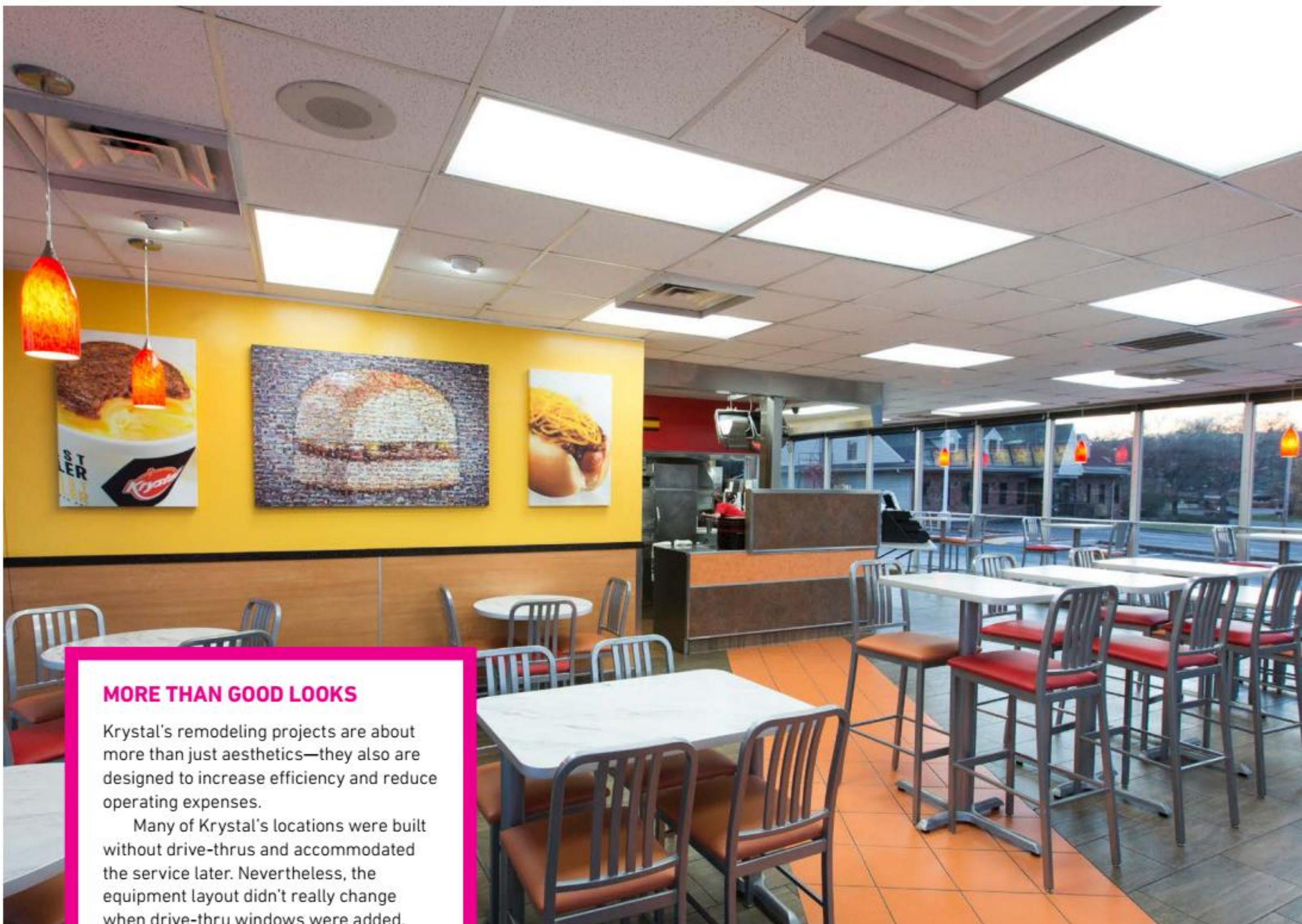
The company's goal is to differentiate Krystal as a brand and offer more of a casual setting in a quick-service restaurant.

The remodels cost anywhere from \$130,000 to \$177,000, depending on the building size. Improvements include new awnings, exterior paint, upgraded parking lots, lighting, tile, and replacing wallpaper with paint. Most feature a color scheme of walnut and red with upscale lighting and pictures on the wall, Blosser says.

Krystal remodeled 31 restaurants in 2015 and identified 35 locations for upgrades in 2016. It works with vendors to mass-produce elements such as awnings, siding, and wainscoting. The finishes are shipped to each site and kept in a storage container so everything is readily available for contractors. That way, the restaurant only has to close for a maximum of five days. The company typically starts work on a Monday and reopens by Friday afternoon.

During that time, employees go through an off-site boot camp where they're recertified in cooking,





MORE THAN GOOD LOOKS

Krystal's remodeling projects are about more than just aesthetics—they also are designed to increase efficiency and reduce operating expenses.

Many of Krystal's locations were built without drive-thrus and accommodated the service later. Nevertheless, the equipment layout didn't really change when drive-thru windows were added.

Blosser says he was inspired by Toyota Motor Corporation's set of lean management principles called the "Toyota Way." He hired WD Partners to do a time-motion study to compare how many steps employees must take to produce food in several different kitchen layouts.

They determined that the most efficient layout is a new "V" design where the fryers, grill and Thermodyne unit are set up in a triangle.

"What they determined pretty quickly is that the "V" design was set up in such a way that people didn't have to move very much and everything was pushed toward the front of the building, which is your front counter and your drive-thru," Blosser says.

Blosser is also looking at new holding units, grills, and fryers that are more energy efficient and use less oil in order to speed up service and save money.

hospitality, and the new point-of-sale system. They also receive new uniforms to match the updated décor.

"You can't just go in and remodel a building and expect to see a change in it," Blosser says. "You have to change the total atmosphere, and that includes your people as well."

Certain restaurants in parts of Florida, Georgia, and Louisiana are being remodeled with a sunrise design featuring vibrant orange and yellow colors. The Krystal in downtown Dalton, Georgia, served as the test market for the sunrise design. Krystal wanted to match some of the exterior elements with the nearby amphitheater, Blosser says.

"If we are in southern areas or areas where there's a predominant number of travelers who are driving through either for holiday or otherwise, we want to make sure that we use those elements as an inviting, open, airy, bright look," Blosser says.

▲ Renovated Krystal locations in southern Georgia, Florida, and Louisiana feature a sunrise color scheme, which Blosser says plays well in those markets.

► One of Krystal's design options is for restaurants located in or near college towns, such as the one near Georgia Tech, incorporate school logos and colors in dining rooms.

"How do you create that craveability? How do you get them to try it once? Because if you do, they'll be customers for life."

Brian Blosser, VP, Development & Construction

While the darker walnut and red color scheme resonates well in northern Georgia and Tennessee, the brighter sunrise colors do well in southern Georgia, Florida, and Louisiana, he says. Krystal offers a third design option for restaurants located in or near college towns. Those locations, including one near Georgia Tech, incorporate school logos and colors in the dining rooms.

Blosser says Krystal is particularly interested in attracting more millennials to dine in its restaurants and view it as a relevant brand since young people are the future of Krystal's customer base.

"How do you create that craveability?" he asks. "How do you get them to try it once? Because if you do, they'll be customers for life." ■



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Knocking it Out of the Park

Tim O'Connell of the Cincinnati Reds discusses the transformation of the Great American Ball Park into a multi-faceted destination

TEXT BY BRIAN BARTH / PHOTOS BY KIM SMITH



NEW THEMED BARS NOW OPEN AT THE GREAT AMERICAN BALL PARK

Just in time to host the 2015 MLB All-Star Game, the Cincinnati Reds completed renovations on two destinations, giving fans a new way to take in the game.

Bootlegger

Cost: \$2,500,000

Size: 2,500 sq. ft.

Information: This first-base side attraction mimics the early 20th century feel of Wielert's Café in Cincinnati's Over the Rhine, where the political influencers of the time, "Boss" George B. Cox and August "Garry" Hermann were regulars. Garry went on to be the first commissioner of baseball.

Contractor: HGC, Cincinnati, Ohio

Architect: MSA, Cincinnati, Ohio

Handlebar

Cost: \$2,500,000

Size: 8,600 sq.ft.

Information: A 24' x 8' glass wall opens the room to the sights and smells of the ballpark as baseball is being played, while customers can enjoy oversized "throne" ticketed seats with a bar-length video wall (including video columns), and an entire new look that brings new life to this right-field destination.

Contractor: HGC, Cincinnati, Ohio

Architect: MSA, Cincinnati, Ohio

SO MUCH GOES ON AT SPORTING EVENTS BESIDES THE game itself. Just ask Tim O'Connell, vice president of ballpark operations for the Cincinnati Reds. Wedding proposals are made, business deals struck, relations between nations soothed and restored.

In the early 1980s, O'Connell hosted then Vice President George H. W. Bush and the Crown Prince of Kuwait for a Reds game. In those same years, the governors of all 50 states took in a game together while in town for their annual meeting. Between his early years with the Reds and his return to the ball club two years ago, O'Connell spent 18 years as the assistant athletic director for the University of Dayton, which meant he was running the show when President Barack Obama and British Prime Minister David Cameron stopped by for a Division I Men's Basketball Championship First Four at the University of Dayton Arena.

"President Obama was walking up the ramp and the Secret Service representative tells me that the President wanted to take a picture with me," O'Connell remembers. "I said, 'Mr. President, you don't need to do that.' And he said, 'Your commander-in-chief wants to take a picture with you.' So I said, 'Okay, I guess I'm taking the picture.'"

Visits from presidents and prime ministers aside, O'Connell says that the Reds' focus has always been on the visitor experience—and not just a segment of fans, but "all of the 2 million-plus people we put through our gates every year. Ballparks are not just about baseball, they are a destination."

◀ Guests can watch a Reds game via several TVs inside the Handlebar or the 24-foot wide glass wall that overlooks the field at Great American Ball Park.

The fine art of making a ballpark a destination—for mothers, children, teens, businessmen, seniors, and everyone else who wants to come—is something O’Connell learned when he was hired by the Reds’ stadium operations crew in 1983. After three years as a jack-of-all-trades for the club, he was promoted to director of stadium operations “at the ripe old age of 25.”

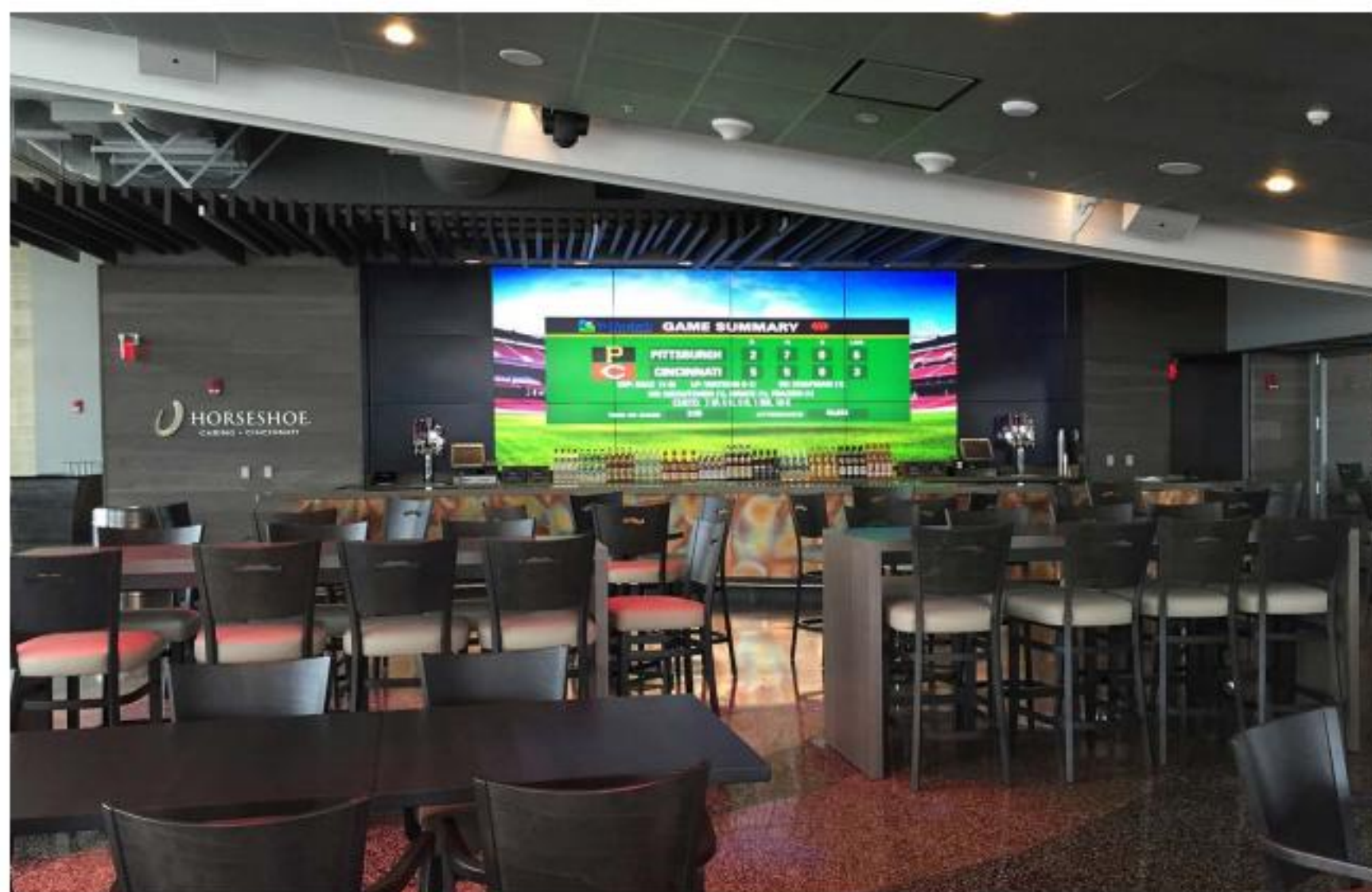
O’Connell’s early Reds years were focused entirely on operations and event management. In addition to the regular stream of VIP guests, the stadium hosted the 1988 MLB All-Star Game and the 1990 MLB Post-season, in which the Reds won the World Series. However, an initiation into construction management would not come until the second chapter of O’Connell’s career in the sports industry.

After the 1994 strike season, he moved over to the University of Dayton, where he embarked on several renovation and new construction projects, including a 32,000-square-foot, \$5 million addition to the university’s main arena. Managing \$40 million in improvements during his tenure at the university, O’Connell says there was a lot of on-the-job learning, but that he made up for his lack of training with a mantra of “on time, on budget, and exceeding everyone’s expectations . . . which put me in good graces.”

The Dayton experience proved to be crucial since O’Connell returned to the Reds in 2014. Unlike in his previous stint with the club, his leadership is heavily involved in improvements for its new stadium, the Great American Ball Park, which opened in 2003.

“Under the leadership of our ownership (the Castellini Family), we have been continuously making the ballpark a more attractive destination for our fans,” O’Connell says. “Subsequently, we have been basically non-stop in terms of projects.”

The biggest difference between managing the construction portfolio for a university athletics footprint versus a professional sports team, O’Connell says, is aggressive timetables. He adds that “at the university, the process was slower, because we usually had time in our corner, whereas now, we commonly only have three months to construct (January through March) to be ready for opening day.”



This off-season, the Reds have been busy renovating an area at the top of the stadium in right field to serve as a headquarters for one of the team’s sponsors. O’Connell says the \$2.9 million project includes taking out some of the existing seating and installing a “drink rail system,” converting a concession stand into “more of a lounge feeling,” and developing the roof of the same concession stand into an informal space for people to socialize while enjoying the game and the Cincinnati skyline.

“It’s been a very active off-season for us,” O’Connell says. “We really cannot have projects going on during the season for safety

▲ The \$2.5 million Handlebar includes a bar-length video wall that provides in-game looks as well as updates on out-of-town games.

▲ In addition to views of the field, the Handlebar also gives guests views of downtown Cincinnati and the river.

"Ballparks are not just about baseball, they are a destination."

Tim O'Connell, VP, Ballpark Operations

▼ The Cincinnati Reds are said to be contemplating a move to LED technology for stadium lighting as a sustainability measure.

and aesthetic reasons—but there is also an ROI attached to all of these, so we have to start generating revenue."

As an active member of the International Association of Venue Managers, the Stadium Managers Association, and a collective of the league's 30 stadium managers, who meet formally to talk shop each year, O'Connell keeps his finger on the pulse of the industry. Although conventional amenities, such as concession and children's areas, continue to be a focus, he says a variety of changes are in store for major league ballparks and other professional sports arenas. Paperless tickets, concessions without lines, increased automation of operations, and a plethora of Internet-based enhancements to visitor experience top the list of emerging trends.

Sustainability and security are also focal points for the organization. O'Connell says the Reds are contemplating a move to LED technology for stadium lighting. The club also installed walk-through metal detectors

at stadium gates in the past year. Additionally, there's now a plan for how to respond when drones are spotted over the stadium, an increasingly common occurrence.

"Dealing with drones is a learning curve that everyone is going through right now," O'Connell says. "It's very concerning to us for security and game-interruption issues."

From security to fan engagement, the game of stadium management is taking off in new directions, with new technology guiding the way to enhance this most traditional of American pastimes. Still, with more than 30 years under his belt coaching the team that works behind the scenes, O'Connell says some things remain constant.

"When it's all said and done, it's the people that buy tickets that are our backbone," he says. "We've got to make sure that their experience here is positive."

That will always be true, but achieving that goal also takes a more multidimensional approach than ever before. ■



The new scoreboard in the west end zone measures 163 feet wide and includes out-of-town game scores as well as in-game video.



Engineering the Game

Joe Frandina is a fan who appreciates the experience at the Buffalo Bills' home, Ralph Wilson Stadium—so it makes sense the engineer oversaw a renovation that was all about enjoying the game

BY RUSS KLETTKE

WHEN IT COMES TO FOOTBALL STADIUMS, professional engineer Joe Frandina acknowledges that the team and game are far more important to fans than the structure.

"They don't come to watch the building," Frandina says.

He would know. Frandina's been intimately involved with Ralph Wilson Stadium in Orchard Park, New York, as stadium manager since the mid-1990s. The stadium is the home of the Buffalo Bills National Football League franchise.

Yet, from his involvement with the 73,000-seat venue, he understands very well that the building can have an effect on fan experience. That's why Frandina emerged from retirement—he left his position as the team's vice president of operations in 2011, but returned in 2012—to work on a major renovation in the first seven months of 2014. The structure, which dates back to 1973, needed to be rewired for high-definition television broadcasting, crowd-flow issues into, out of, and around the stadium during games had to be revisited, and concessions and restrooms needed modernization. If that weren't enough, the stadium's single scoreboard that stood in place for more than 45 years was overdue for an upgrade as well.

The most visible part of the renovation was the reconfiguration and expansion of the video and scoreboard screens in "The Ralph," named after long-time team owner Ralph Wilson, who died in March 2014 at the age of 95. The new scoreboard replacing it is 163 feet wide and in addition to the score includes video of the game, as well as advertisements and out-of-town game information. An end-zone tri-vision board that was put in place in 2007 was converted to video using the elements from the old single scoreboard. Two new video displays were constructed in the opposite end zone, where fantasy league stats are displayed on one screen and game action on the other.

Why so many screens? It's all a part of a trend in professional league stadiums. The screens have not only been growing in size, but multiple screens are replicating to a certain degree what sports fans have at home. This

includes satisfying the intense and growing interest in fantasy leagues, which can be done by switching channels or using mobile devices—factors that otherwise pull fans away from the stadium or at least distract them.

Even with Buffalo's notorious "lake effect" weather, Frandina says the new scoreboards



▲ In addition to the renovations done inside the stadium, the Bills also added a stand-alone 8,000-square-foot retail store.

► Renovated suites inside Ralph Wilson Stadium now feature HDTV in addition to concessions for guests.

▼ Renovations for Ralph Wilson Stadium were designed by Populous, a Kansas City-based architectural company that's handled stadium designs around the world.

and video displays aren't subject to damage from high winds.

"They are designed to exceed code requirements," he says. In fact, the new board structures faced an early test in the fall of 2014 when the area received an historic, seven-foot snowfall. There was no resultant damage from wind or the weight of the precipitation.

With regard to HDTV and the accommodation of broadcasters, Frandina says the Bills "went from the worst to the first in the NFL." Not only is the newly installed wiring now at modern broadcasting standards, but so too is the booth where on-air personalities sit. Halftime commentary is provided in a much roomier setting.

Less obvious—but no less impactful—factors include various changes to concourses, entry gates, bathrooms, and food and beverage

concession stations. As anyone who has attended major public events in recent years knows—particularly in sports stadiums—security measures have seen a marked increase. The FBI has intercepted communications with foreign terrorist groups that include images of several sports stadiums in the United States, and a Department of Homeland Security risk ranking places stadiums among the top 12 generic targets for attack. Worldwide, a total of \$2 billion is spent on securing sports venues against terrorist threats. That applies to Buffalo as much as any other stadium location.

Consequently, the process of fans filing into stadiums everywhere is becoming more akin to the process of boarding an airplane. As per the NFL mandate, every fan is inspected at the gate. At the Ralph, the Bills organization actually reduced the number of gates from nine to six, but those six "super gates" are three to four times larger and have more

BUFFALO UPGRADES TO HD

Before the 2014 renovation at Ralph Wilson Stadium, television broadcasters had to specially wire the facility for each game that would be broadcast. They literally had to string high-definition TV-transmitting wires from trucks to trees to cameras, a process that began on Wednesdays to prepare for a Sunday game. The added labor costs were considerable, making Buffalo a less-preferred home game to broadcasters. Now that those cables are installed into the structure, 18 different camera stations allow a plug-and-play setup much closer to the opening kickoff.

\$120K
cost under-run

\$130M
cost

7
months to complete

4
total score- and video-boards

800
workers at the peak of construction



lanes that can expedite fans' entrance to the stadium. Just as important is the positioning of these gates, which are pulled outward from the stadium itself to create a concourse around the structure where concessions and landscaped walkways help fans find their way and provide better access to purchase food and beverages.

To keep foot traffic moving, the renovation also included wider staircases that replaced switchback stairs that were prone to trip and fall accidents. The design of these staircases allows more natural light into the Ralph to illuminate concourses as well.

Three new outbuildings were also added to the complex, freeing up more stadium space for both fans and the media. These additions include an 18,000-square-foot facilities building, a 33,000-square-foot commissary, and an 8,000-square-foot retail merchandise store. The team's weight room, locker room, and a staff cafeteria were expanded or rebuilt.

"Almost all of this was geared to enhance the fan experience," Frandina says.

He's a good judge. The Buffalo native has been a Bills fan all his life, as have the six other engineers in the Frandina family: his brother, sister, nephews, a son, and late father. The University of Buffalo, his alma mater, named the family its Engineer of the Year in 2001. It's not hard to imagine them checking out trusses and reinforced concrete wherever they go—before the game gets started, of course. ■

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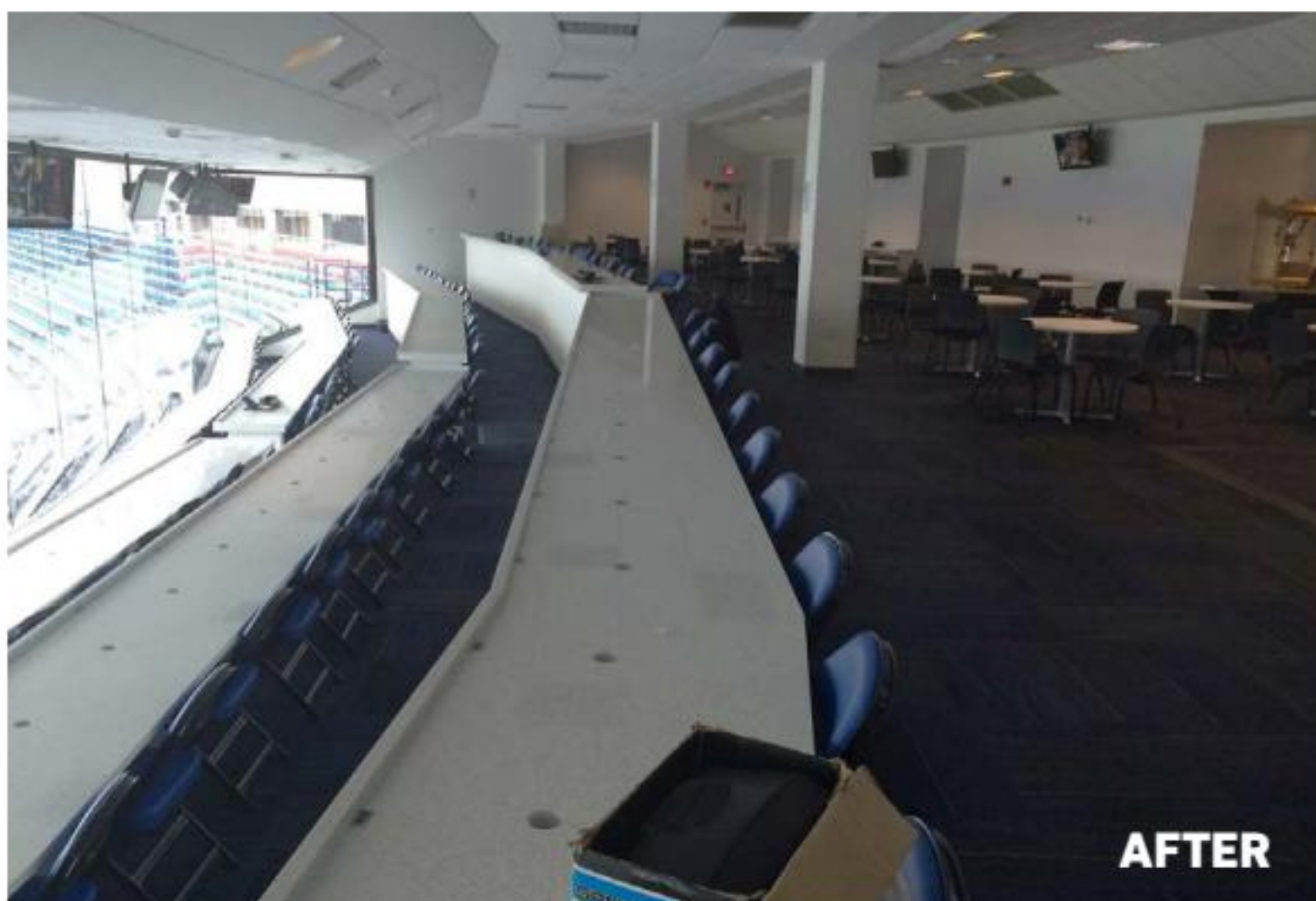
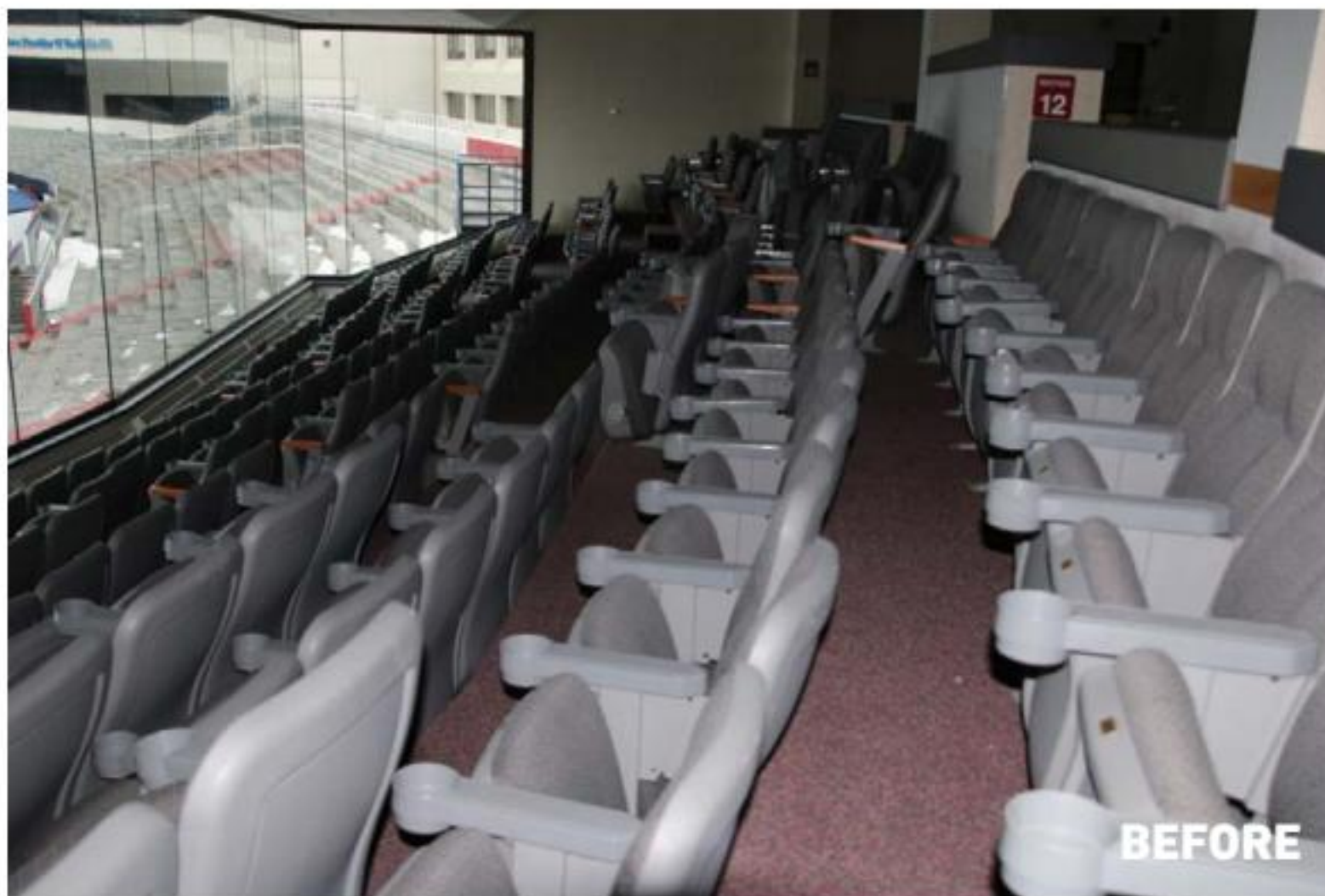
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"Almost all of this was geared to enhance the fan experience."

Joe Frandina

SVP, Director of Construction Management

▼ The press area at the stadium has been renovated to include desks to help facilitate game coverage.



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YOUNG IDEAS TAKE ROOT

BY PAUL SNYDER

IT'S ONE THING TO PROMOTE HEALTHIER EATING INSIDE YOUR STORE. It's another thing to spread that message outside your walls.

Launched in 2010, the Washington, DC-based healthy fast-food chain sweetgreen and its "sweetgreen in Schools" program began taking its message to local schools to teach kids about healthy eating, fitness, and sustainability through various hands-on activities. Originally a one-week curriculum, the program now works as a series of workshops throughout Washington, DC, Maryland, New York, Pennsylvania, and Virginia.

In October 2015, more than 100 of the company's store managers and executives traveled to DC Bilingual Public Charter School to provide, among other new amenities, a new mobile-lending library and garden beds, as well as repainted lines on the school's soccer field and basketball court. In exchange for the work, the management team gave lessons about nutrition to the kids.

These lessons are offered in a variety of ways, such as in-store workshops that might involve salad-making sessions, or experiential learning outside of the classroom, such as teaching kids how to plant a garden and how seasons affect what types of fruits and vegetables can grow.

As the company opens more stores on the West Coast, sweetgreen says the program will also make the cross-country journey. According to a 2015 report in *Vanity Fair*, "sweetgreen in Schools" has reached more than 5,000 students in communities where the company has a store presence. The company wants to double that in 2016 alone.

The goal is ambitious to be sure, but it also puts a healthy spin on the idea of a king-size order. ■

▲ As part of the sweetgreen in Schools program, students are offered a variety of different lessons about nutrition and sustainability, including outside of the classroom experiences, such as planting gardens and learning about seasonal crops.

▼ In some sweetgreen locations, students get the chance to make their own salads, using various ingredients that are available in stores.



Photos: Courtesy of sweetgreen, (top) Sebastian Marin

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