



STRUCTURETONE

Organization *Insights*

Structure Tone | L.F. Driscoll | Pavarini Construction | Pavarini McGovern | S&techs



Restoring *an Icon*

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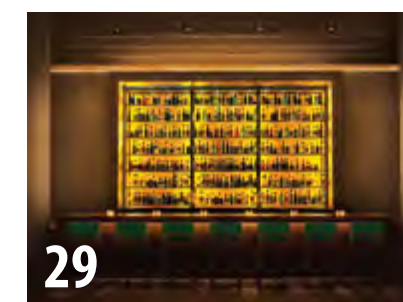
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Insights from the Top: An Interview with Todd DeGarmo

Todd DeGarmo, CEO of STUDIOS Architecture, discusses current trends driving our industry



Above ▲
Todd DeGarmo, CEO of STUDIOS Architecture

We're seeing the continued resurgence in urban development, in both established neighborhoods and emerging areas. Are we in a golden era of "the city"?

Organizations and employees want to engage with, and be part of, vibrant communities. When I started working, cities were in bad shape. Corporations moved to the suburbs, in part to provide employees with greater safety—but it also isolated them. As cities got safer, they began moving back into urban centers, primarily into self-contained corporate buildings.

Today, we're entering a new phase. STUDIOS is seeing organizations embrace mixed-space neighborhoods all across the US. That's why Brookfield repositioned Brookfield Place in downtown Manhattan, and Hudson Yards is being developed with 17M sf of commercial, residential, green and retail space.

It completely changes our approach. Rather than designing self-contained buildings, we are designing campuses that engage the community. We're making it easier for staff to access amenities around them, like restaurants and gyms. We also see organizations asking what they can give back to the community, and creating facilities and infrastructure they can share with their neighbors.

What are you experiencing in emerging markets that will impact workplace design?

In developing markets, the process has to be faster and less expensive. We've learned that by creating more prototypes, rather than relying on drawings, it helps people make informed decisions quicker.

Millennials comprise one-third of today's workforce. How are their expectations driving design?

Without a doubt, millennials have ushered in the death of cube farms.

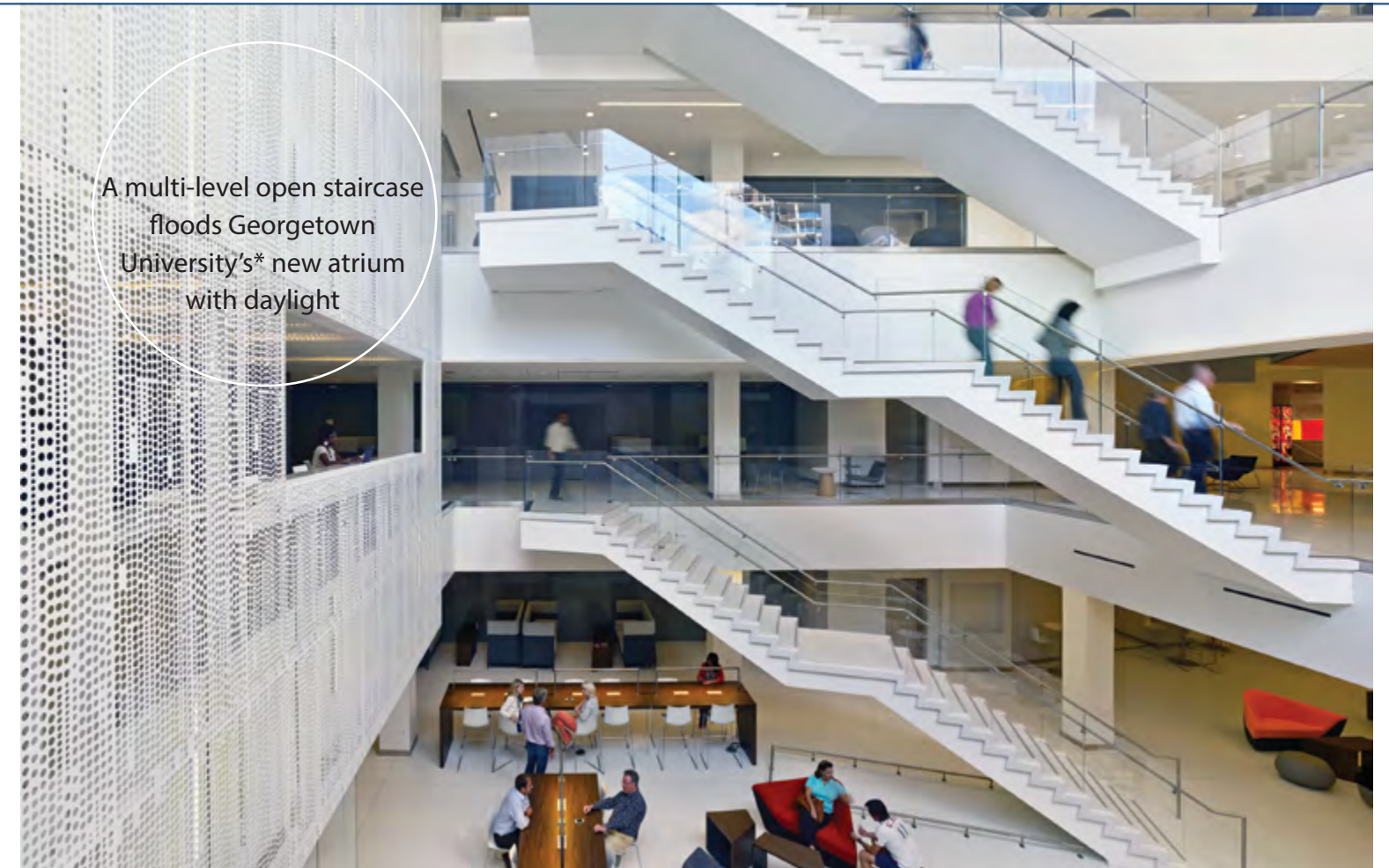
Both millennials and their predecessors, the boomers, want flexibility. Companies realize that employees no longer have to be in the office to do their work, so we're helping them provide space that both excites and enables them to do their best work.

What have your clients gotten right in their workplace design?

That the solution is no longer generic. To take real advantage of each building and neighborhood, we can't simply apply corporate standards. STUDIOS sees the best spaces being realized when a real estate broker and our design team come together to provide a solution that is unique to each building we evaluate.

For Georgetown University, STUDIOS found and transformed a vacant, dated television studio with unusable vaults under the sidewalk by removing the floor slab between two studios. We created a four-level atrium, pulling daylight deep into the nether regions, to make this a space ideal for their school of continuing studies—a solution only suited to that building.

Today, many media companies are rethinking how they're organized. They traditionally had to choose between organizing by brand or by function—locating their sales people with the brand or putting all the sales people together so that they can learn from each other. Most organizations need to do both.



A multi-level open staircase floods Georgetown University's* new atrium with daylight



Left ◀
Time, Inc.'s* relocated offices combine their many brands

Also, realize that trends will happen faster and faster. The sit/stand desk was a novelty just a couple of years ago; today 100% of every work surface is sit/stand for many companies.

What does the workplace of tomorrow look like?

We haven't quite found it yet, but fundamentally it is the search for authenticity that is still playing out.

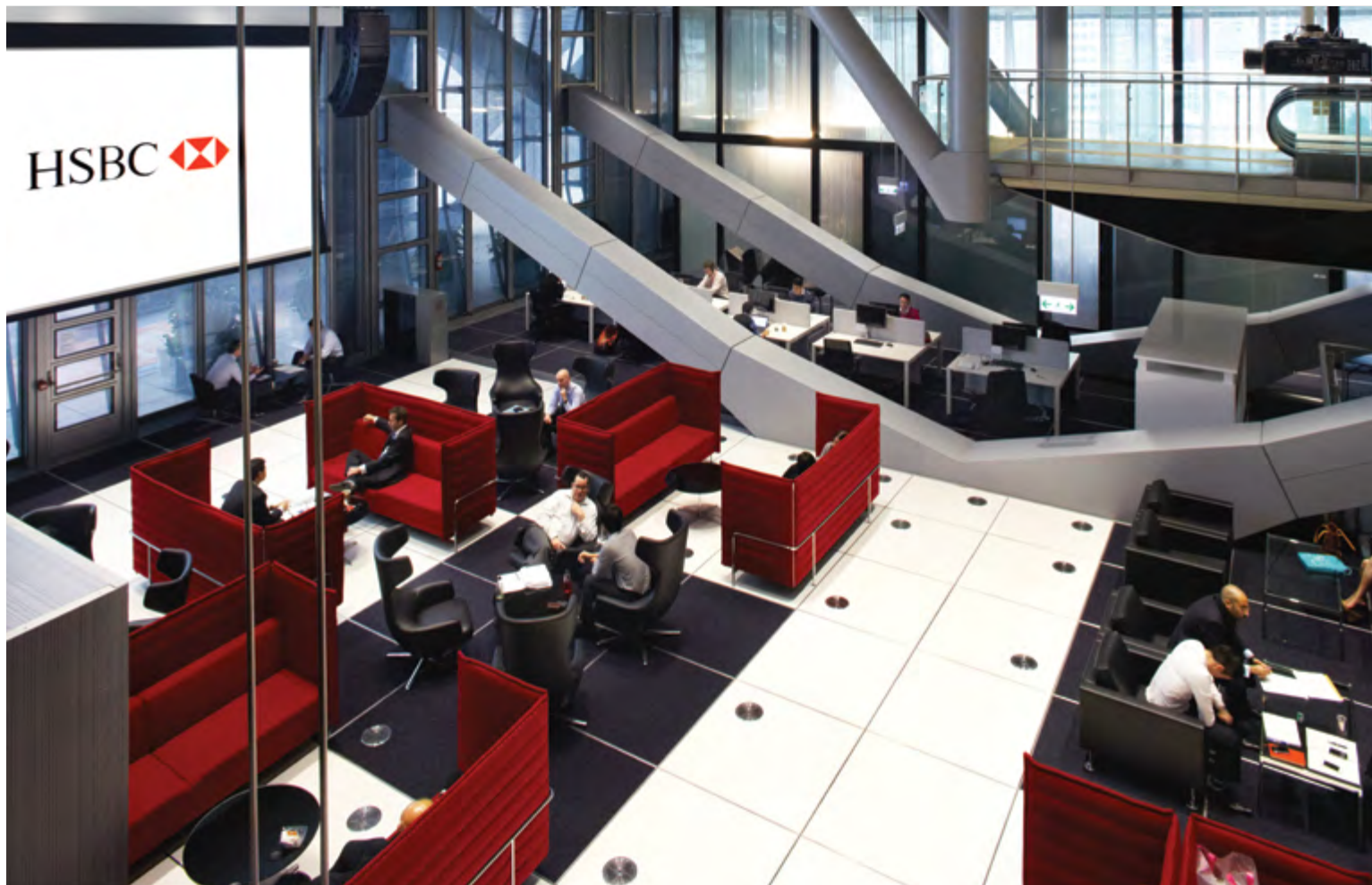
Currently, there are contrasting approaches to design. At one end of the spectrum are designers that embrace the minimalistic look, epitomized by Apple. At the other end, there's the Google approach which embraces controlled chaos. No matter the approach, everyone wants to be in a warehouse with high ceilings, a loft-like feel and brick façades because it represents the creative space.

I personally am skeptical of the notion of activity-based design. I think it is only an interim solution to the acoustic problem of background noise. Creating spaces for different work activities that people have to switch between requires more time and ultimately opposes the notion of a work/life balance. The real solution is a combination of architecture and technology that will enable someone to take a video conference call at their desk or complete a group activity in the open without disturbing their colleagues.

Where do you get personal inspiration from?

Some of STUDIOS' best work comes from a design that was created in response to a client's desire to change their business. These entrepreneurs have reshaped the ways existing industries do business or have even forged new industries. STUDIOS is fortunate to work with these visionaries, and we draw our inspiration from their commitment to lead their organizations into the future.

*The work shown here was not undertaken by the Structure Tone organization. ©Bruce Damonte



Revitalizing HSBC's HQ in Hong Kong

A client of Structure Tone's S&techs Hong Kong operation since 2011, over the past four years HSBC has engaged the organization to manage more than 152,000sf fit-out of multiple floors and an historic plaza level renovation at their headquarters, One Queen's Road Central.

Originally built in 1985 and designed by Foster and Partners, the striking 47-story headquarters contains more than 1M sf of space, does not have an internal supporting structure, and utilizes natural light as the major source of internal lighting.

Project highlights include building out meeting rooms with video-conferencing capabilities; file and storage rooms with roller storage systems; break-out areas; private offices at the building's perimeter and core; open plan office areas; copy and fax areas; storage and coat closets; and server rooms.

Working within the building posed many challenges, including:

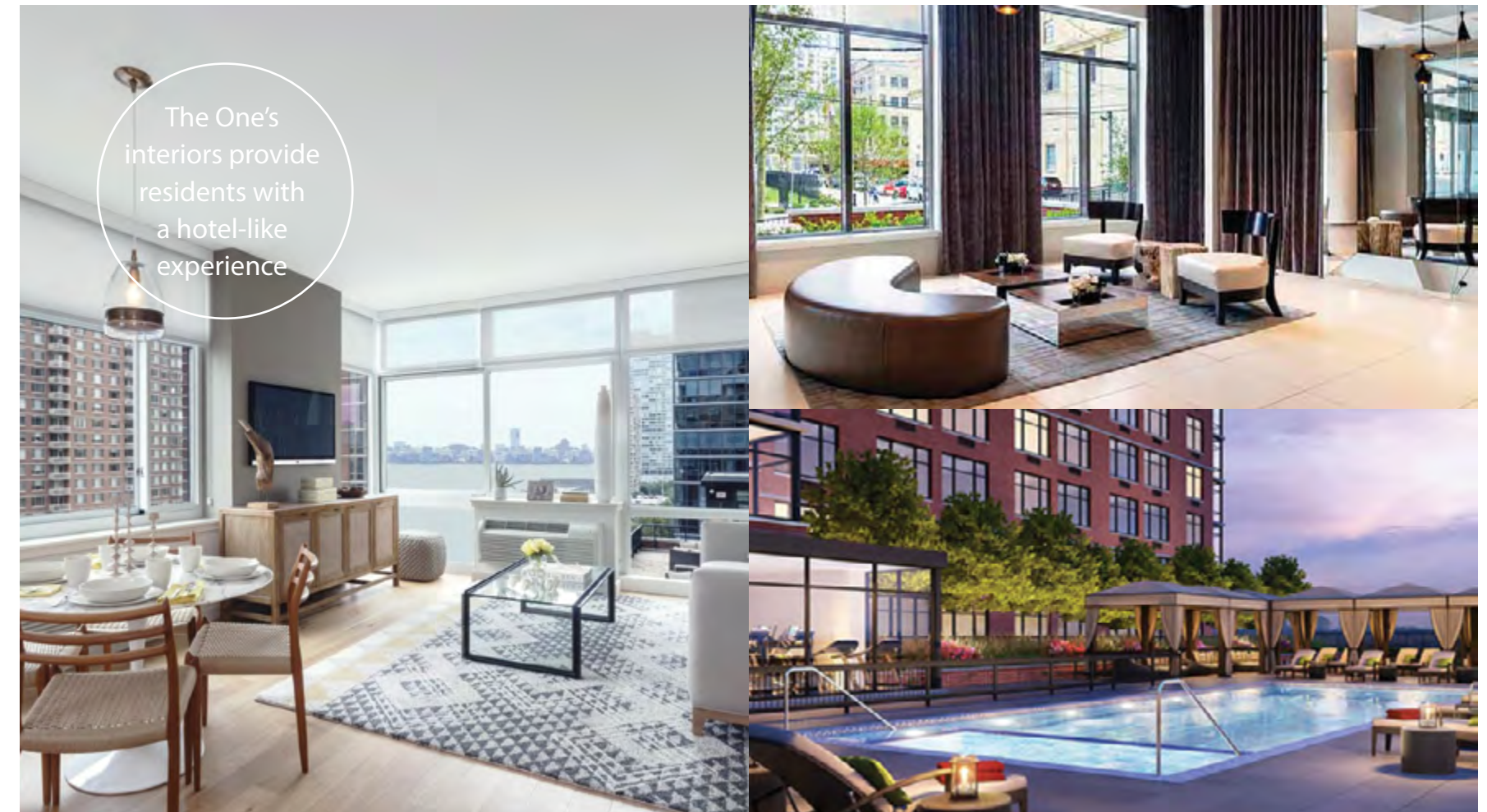
- ◆ Carrying out fit-out works within a live banking environment
- ◆ Providing materials to suit the building's unique design
- ◆ Ensuring that completed areas were handed back to the bank in an expedited manner to ensure disruption to operations were minimized
- ◆ Ensuring materials deliveries were carried out at key times given the busy central Hong Kong location of the bank

S&techs also oversaw the renovation of the plaza under the building, which now features a permanent exhibition comprising a giant historical map of Hong Kong's development depicted in stone engravings, lighting and display panels, and two large granite lion

head sculptures dating to the 1930s. These sculptures had been incorporated into the bank's previous headquarters building, located on the same site.

Below ▼

One of a pair of lion heads in the plaza, symbolizing luck and prosperity



The One's interiors provide residents with a hotel-like experience

Pavarini McGovern Builds 35-Story Residential Project in Jersey City, NJ

Jersey City has been the fastest growing municipality in New Jersey since 2010, and a symbol of the Garden State's revitalized urban core. Several major companies maintain operations there, including Goldman Sachs, JPMorgan Chase and RBC Capital Markets. A newly opened, 35-story, 451-unit residential building at 110 First Street will help meet the city's housing demand.

Pavarini McGovern provided preconstruction and construction management at-risk services for the 641,760sf residential building, along with an attached 10-level parking garage with a swimming pool and amenity terrace on the roof for use by the building's residents.

"The development was completed on time in the summer of 2015, despite two of the worst winters in recent memory and a shortage of inspectors due to the number of new buildings currently under construction" said Pavarini McGovern's project manager Darren Allen.

Pavarini McGovern generated a Project Labor Agreement (PLA) for the work in conjunction with the Jersey City Mayor's office.

The luxury building is located in Jersey City's "Powerhouse Arts District," a former industrial area with manufacturing and warehouse facilities near the Hudson River waterfront. The transformation of this neighborhood to an artist community has been a slow process, exacerbated by effects of the recent recession. The project initially started construction in 2008 but was put on hold because of changing market conditions. The development restarted in January 2013 with excavation and pile foundation work.

Lloyd Goldman, a real estate investor who owned the property for many years, joined with equity partners Area Property Partners and Kenneth Brown of Urban Development Partners to develop the project. It was designed by DeWitt Tishman Architects, and is a significant contribution to the transformation of this Hudson River neighbor while preserving the feeling of this artist community.

Right ► The 35-story building towers above Jersey City, NJ





BCBSMA's new HQ features a living wall, infusing wellness and tranquility in the workplace



Associates take a break and utilize the onsite yoga room

Blue Cross Blue Shield Puts Well-Being into Building

Promoting the well-being of its members and associates is essential to Blue Cross Blue Shield of Massachusetts (BCBSMA). In a recent move to their new headquarters in Boston's Back Bay, the 78-year-old premier New England health insurance company pursued this goal to the max for its own associates.

BCBSMA built its new 308,000sf space to provide 1,000 associates with a state-of-the-art environment to support collaboration, productivity and wellness—mind, body and soul—in an efficient and sustainable environment.

"Our new headquarters is transforming the way we work, improving the well-being of our associates. We wanted to create—and with Elkus Manfredi and Structure Tone we achieved—a shining example of an environment that encourages healthy behaviors, collaboration, innovation and sustainability." — Donald DiPanfilo, VP, Corporate Real Estate and Administrative Services, BCBSMA

Working with Structure Tone, BCBSMA leased floors 6 through 20 in an existing class-A commercial facility for the new headquarters, designed by Elkus Manfredi Architects and managed by Boston Properties. With an eight-month preplanning phase and an actively involved owner, the team developed the massive fit-out design and a complex logistics plan for moving materials and equipment in and out, scheduling trades, and converting the building into 14 floors of cutting-edge office space. The work was staged in two phases, beginning January 2014 and completed April 2015.

Fostering Associate Wellness

BCBSMA's focus on wellness is paramount. The insurer dedicated 13,000sf of space to a cafeteria and kitchen offering predominantly healthy food choices. Located directly below the building's mechanical floor, construction of the cafeteria, kitchen and service elevator had to be carefully coordinated with the infrastructure requirements above.

Abundant natural light and a living green wall spanning two stories create a connection with the outside world.

Structure Tone installed a wellness center with a yoga room, floating floors, mirrors, locker rooms and moveable partitions for exercise and meditation breaks. To integrate exercise with work, associates can reserve walk stations—desktop surfaces with treadmills beneath and plug-in capability. Sit-to-stand desktops and ergonomic chairs are standard, along with fully equipped hydration stations.

Enabling Collaboration and Productivity

The extensive use of demountable walls is a critical element in the construction of the new headquarters. Structure Tone installed 13,000 linear feet of pre-wired movable walls to create 12 floors of efficient and highly flexible workplace, capable of meeting current and future needs. To enable collaboration, a variety of for-

Award Winner

ENR New England 2015

Best Project: Renovation/Restoration

mal and informal meeting spaces were built, along with interconnecting, floating steel staircases that link multiple floors.

The new offices provide associates with connectivity from any loca-

tion via soft phone systems, Lync Innovation Rooms that facilitate virtual meetings and remote content sharing, and click-share technology. The technology-forward conference center can be converted into six separate rooms, each with its own dedicated AV system. Blue Space, a web-based program, contains up-to-the-minute wayfinding information and also serves as a reservation system for mobile workstations.

Creating a Sustainable Environment

BCBSMA set LEED® Platinum certification as a goal, minimizing the footprint of the office and incorporating energy-saving features, such as optimized daylighting with 96% of all workstations having access to natural light, and daylight savings built into a lighting system comprising 40 different types of LED fixtures.

A full-service recycling program is in place for office materials and disposition of compostable materials. Prior to the move, BCBSMA undertook a paper purge resulting

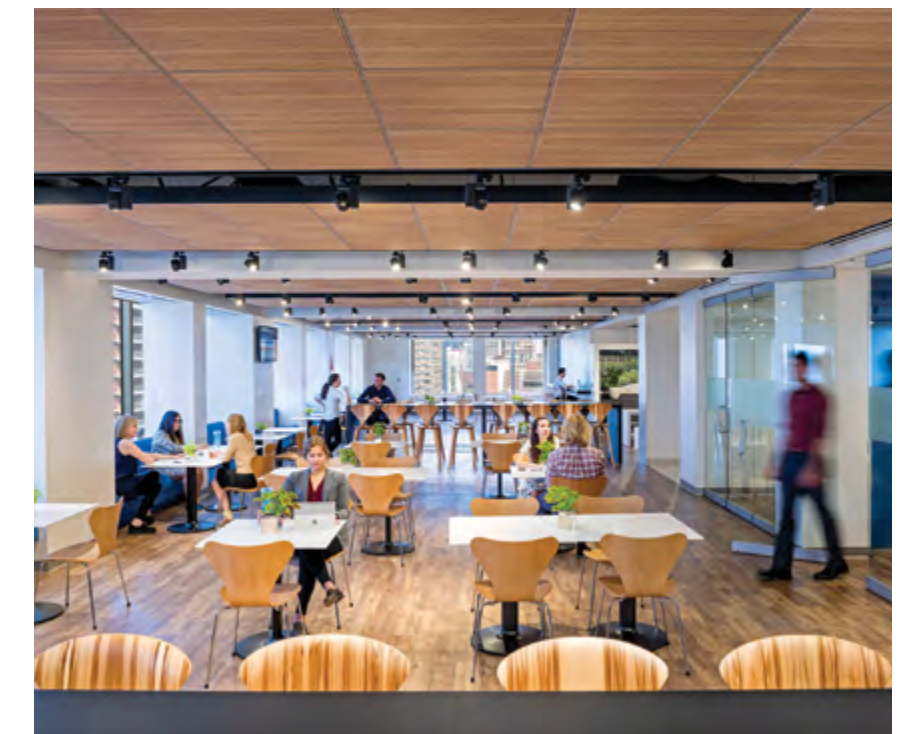
in a 50% reduction in paper storage—translating to an astounding 6,000sf reduction in BCBSMA's total space requirement. To handle the occupancy load, numerous amenities and technology requirements, Structure Tone upgraded MEP systems, including 50 plumbing shafts, electrical service, gas lines, new duct work and storm drains.

Below ▼
The bustling cafeteria offers healthy options and plenty of daylight



All images these pages: © Jasper Sanitida

Left ◀
A workstation in use at BCBSMA's new HQ, promoting health and wellness



Amazing Spaces

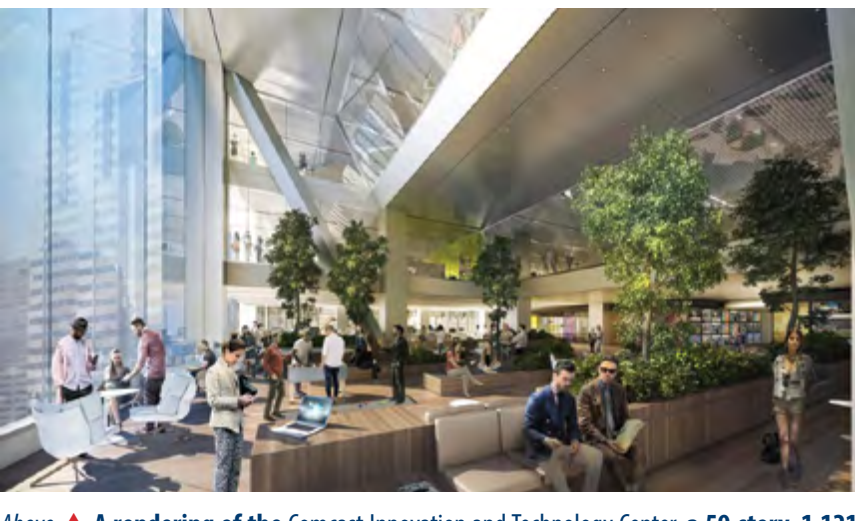
Some of our notable—and inspiring—projects recently/currently being built



Above ▲ Mashable, New York, NY

Above ▲ Colorful and welcoming architecture sets the tone for The Children's Hospital of Philadelphia Specialty Care Center Princeton, Plainsboro, NJ

Mashable, Silvana Dimitrova; The Children's Hospital of Specialty Care Center Princeton, LF Driscoll/Mike Verzella



Comcast Tower, Foster + Partners

Above ▲ A rendering of the Comcast Innovation and Technology Center, a 59-story, 1,121 ft. tower currently being built by LF Driscoll in Center City, Philadelphia, PA. It will be the tallest US building outside of New York and Chicago when it opens in 2017.



Above ▲ SeaGlass Carousel, Battery Park, New York, NY. Designed by WXY Architecture + Urban Design and built by Pavarini McGovern, the SeaGlass reimagined carousels. It is a 2,575 sf pavilion with a huge chambered nautilus containing 30 massive fish, reflecting the bioluminescence found deep in the ocean.



Edelman's Playbook

Edelman is the world's largest PR firm with 5,500 creative professionals in the world's top 60 cities. Alice Hogueisson, Edelman's facilities manager, has renovated more than 1M sf of office space since 2007. Structure Tone recently met with Alice to learn her keys to success.

Create a global team: Alice created an integrated team consisting of CBRE, Gensler, Structure Tone, Hawthorn, Fuzion Technology, Shaw Carpeting, Cooper Lighting and SG Ceilings to support Edelman in every market they operate.

Foster two-way communication: Alice treats every member of the team as a strategic partner. She encourages members to proactively share their concerns at every stage, and especially when they feel the budget is overstretched. Likewise, Alice doesn't hesitate engaging a partner when something has gone off track so they can solve the issue.

Be local: While Alice has developed guidelines for Edelman's space, she asks business leaders and staff in each location to put their unique personality on the space, which fosters pride and ownership.

Temporary separation: For Alice it can be necessary to walk away from a long-term partner to avoid damaging a specific project, despite the negative impact to the global team.

Conduct postgame reviews: Alice revisits the space after one year to examine what people are using and what they're not using to ensure every new build-out is more efficient than the previous project. For instance, Edelman found that no one uses upper cabinets, so they stopped installing them and saved money.

Plan forward: Two-thirds of what Alice does—power, data, plumbing, wireless access points, fire alarm, lights, HVAC—is invisible but she urges Edelman to “resist the pressure to reduce the budget for bones, because it reduces flexibility going forward.”



Get builders involved early: By involving the construction project manager in the design meetings, Edelman will know how design changes will impact the budget and schedule. Similarly, the construction manager is not learning about items for the first time from the drawings.

Biggest hit with staff: At Edelman, staff love the ‘Starbucks’ feel—a lounge where they can hang out after work, watch a game, as well as utilize it during the working day. They maximize usage of ‘scrub spaces’ with white and chalk boards, so they can brainstorm, visualize and play.



The most challenging markets: Washington, DC, New York and San Francisco, in that order. Washington, DC has finite space, and demand always exceeds supply. In New York and San Francisco, everyone is looking for funky loft space that doesn't exist, or the buildings are unsuitable even when the rent is \$70/sf.

The biggest challenge: How to grow Edelman's business without growing the real estate needs? To date, Edelman has reduced its needs from 250 to 150sf per person through new designs and renovations.

Next up: Alice is focused on incorporating greater mobility into Edelman's culture. They're contemplating how to move away from the fixed address and a physical space for every employee, and enable teams to collaborate together without taking over entire space. They're finding that it is as much about culture and change management as design and construction.



2015
Dallas, London
29,000sf

2014
Atlanta, San Francisco & Seattle
46,000sf

2013
Atlanta, Chicago & Miami
67,000sf

2012
Houston, Los Angeles & São Paulo
26,000sf

2011
Chicago, Mexico City, Montreal, New York, Portland, San Mateo, & Washington, DC
125,000sf

2010
Chicago, Dallas, New York & Washington, DC
144,000sf

2009
San Francisco & Toronto
31,000sf

2008
Chicago & New York
166,000sf

2007
London, Los Angeles & Seattle
139,000sf

© Ryan Gobury, Tom Arbon

Right
Alice Hogueisson, CFM, SFP



The entrance of Vineyard Vines' HQ, graced with the same faux boat hull desk that is seen in all their retail locations

The (Big Pink) Whale in the Room

Enter clothing manufacturer Vineyard Vines' new headquarters on the Sound in South Stamford, CT, and you're instantly transported to the rarefied, nautical world of Cape Cod. A custom-made Jarrett Bay boat hull doubles as a reception desk. An outsized pink whale, the company logo, smiles down from the wall. Bloomberg News calls it "the preppiest office in America."

Vineyard Vines isn't fashion, it's a lifestyle, according to co-CEO Shep Murray of the classic sportswear apparel company he founded with brother and co-CEO, Ian. The goals for Vineyard Vines' new 91,040sf home, created in a gutted, pre-existing building, were to embody that lifestyle—hook, line and sinker. For Pavarini's construction managers, CPG Architects and owners' rep Jones Lang LaSalle, fitting out the offices' four floors was all about meeting the clients' very precise standards.

The team carved the space into rooms built for varied and distinct uses, all impeccably finished and themed. First floor construction consisted of reception, showroom, interview rooms, employee café, mock retail room, full-sized mock store, 2,000sf photo studio, exercise room and locker rooms, and three themed lounges: 'Florida Keys,' 'Vineyard Boat House,' and 'Tiki Hut.' Floors two through four are comprised of general offices, pantries, copy rooms, server room, IDF closets, storage rooms, huddle/breakout spaces and an executive suite. The scope also included a post-tension deck, a new parking deck and an all new MEP system.

The entire project was completed in less than five months, with multiple addendums. Every design and construction detail in the office, completed in April 2015, was meticulously vetted to ensure

it represented the brand to a tee, from teak and holly floors, ubiquitous bead boarding and weathered shake wall finishes to rope lights hung from exposed ceilings and portal style windows.

Below ▼

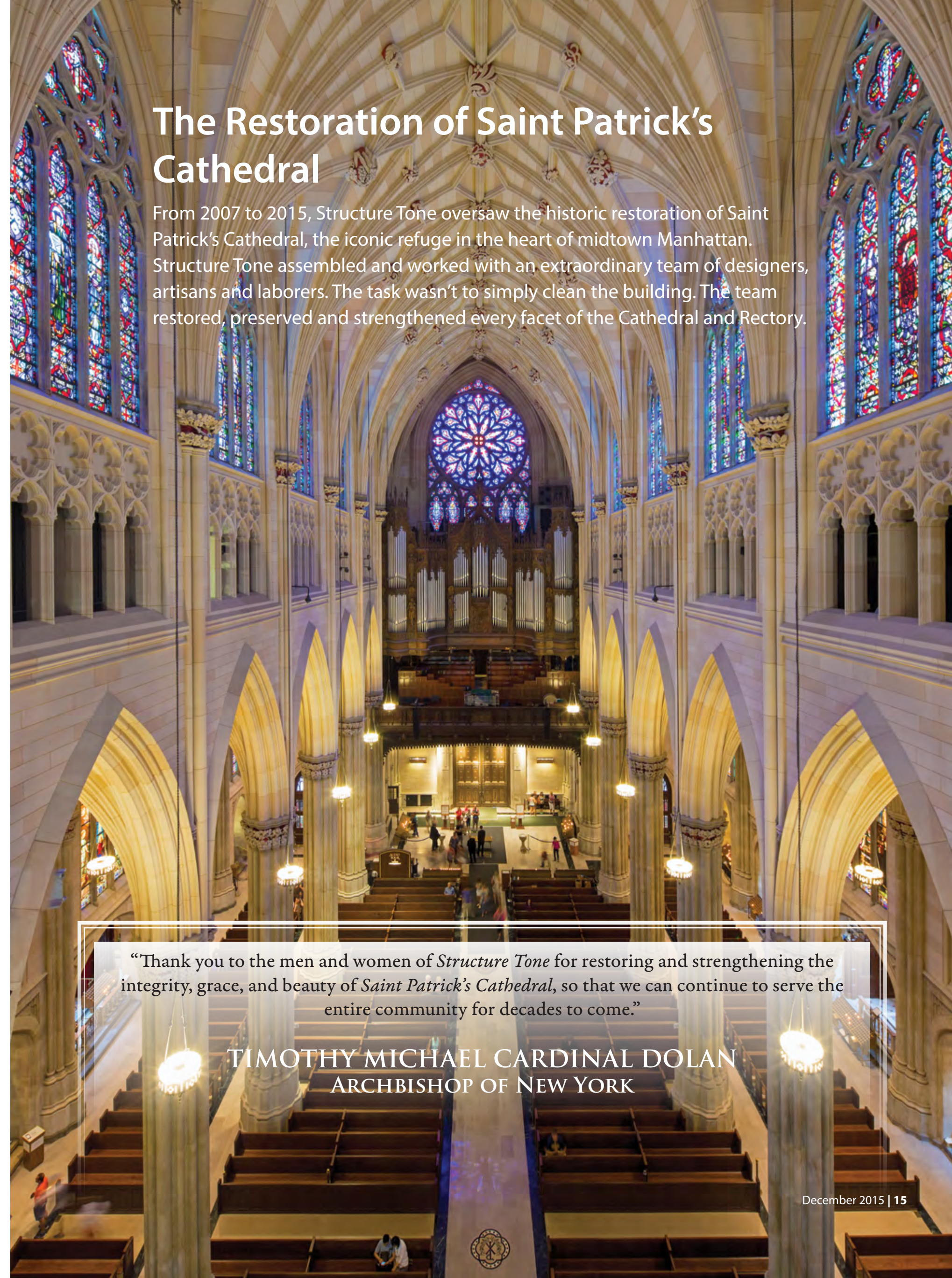
The new headquarters includes a full-sized mock store



© KPN Photography

The Restoration of Saint Patrick's Cathedral

From 2007 to 2015, Structure Tone oversaw the historic restoration of Saint Patrick's Cathedral, the iconic refuge in the heart of midtown Manhattan. Structure Tone assembled and worked with an extraordinary team of designers, artisans and laborers. The task wasn't to simply clean the building. The team restored, preserved and strengthened every facet of the Cathedral and Rectory.

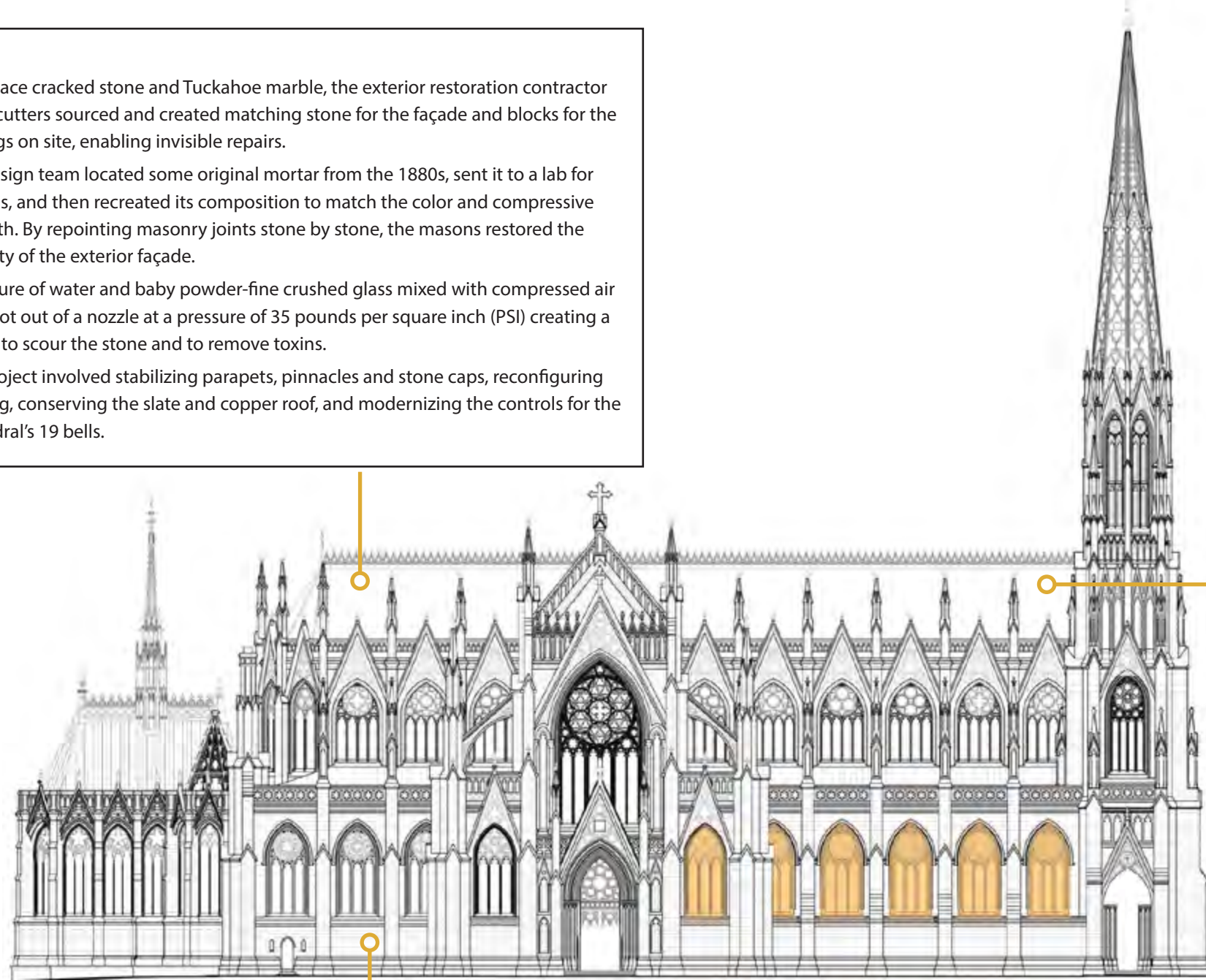


"Thank you to the men and women of *Structure Tone* for restoring and strengthening the integrity, grace, and beauty of *Saint Patrick's Cathedral*, so that we can continue to serve the entire community for decades to come."

TIMOTHY MICHAEL CARDINAL DOLAN
ARCHBISHOP OF NEW YORK

Exterior:

- ◆ To replace cracked stone and Tuckahoe marble, the exterior restoration contractor stone cutters sourced and created matching stone for the façade and blocks for the carvings on site, enabling invisible repairs.
- ◆ The design team located some original mortar from the 1880s, sent it to a lab for analysis, and then recreated its composition to match the color and compressive strength. By repointing masonry joints stone by stone, the masons restored the integrity of the exterior façade.
- ◆ A mixture of water and baby powder-fine crushed glass mixed with compressed air was shot out of a nozzle at a pressure of 35 pounds per square inch (PSI) creating a vortex to scour the stone and to remove toxins.
- ◆ The project involved stabilizing parapets, pinnacles and stone caps, reconfiguring flashing, conserving the slate and copper roof, and modernizing the controls for the Cathedral's 19 bells.



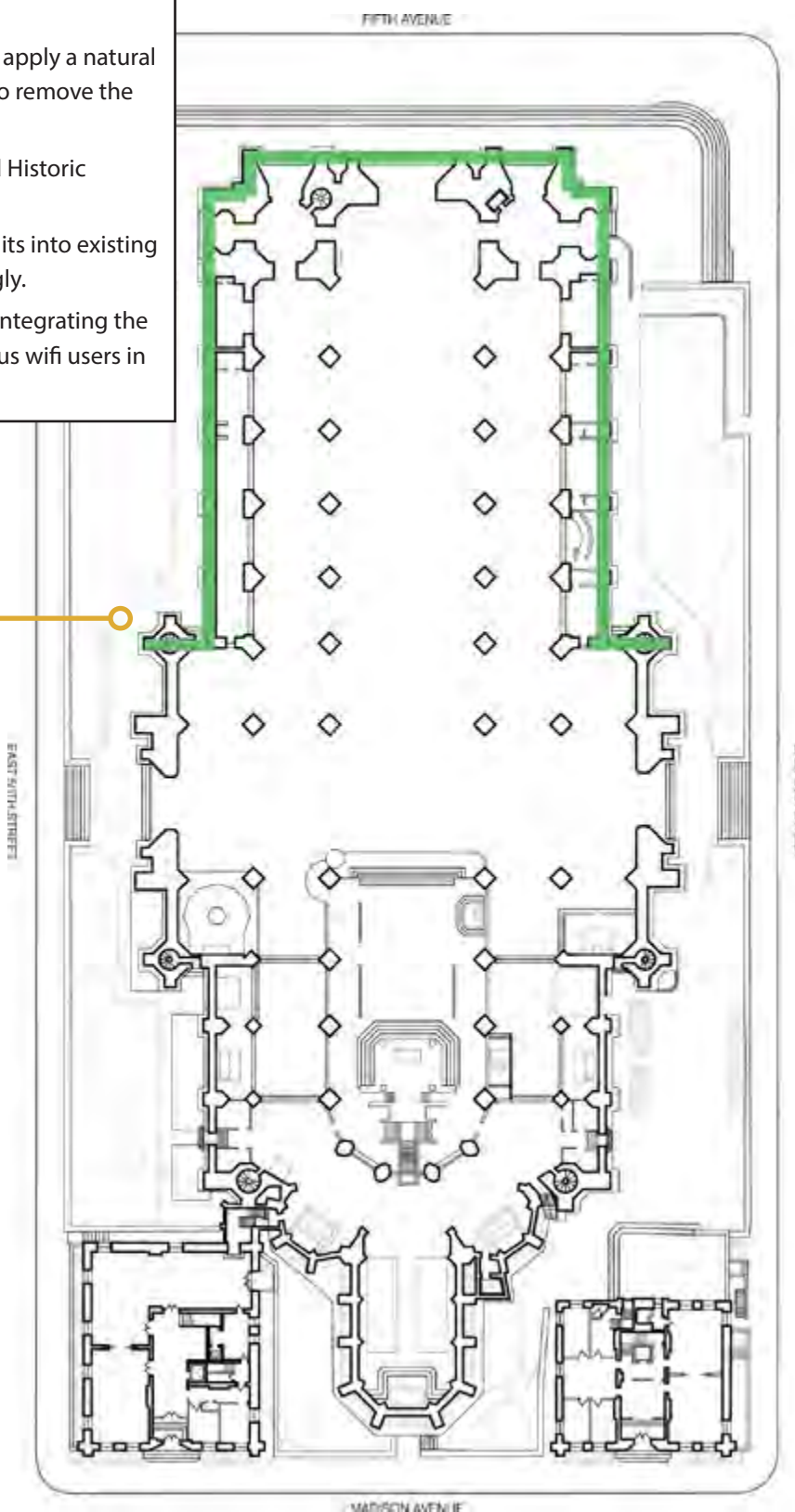
Interior:

- ◆ The main bronze doors, which weigh 8,800lbs. each and measure 6'-9" x 16'-8" were removed for restoration.
- ◆ The most common approach to cleaning the interior marble was to apply a natural latex-based poultice; let it dry, and then peel it off like a face mask to remove the dust, dirt and debris.
- ◆ The ornate confessional panels were hand carved at the Kingswood Historic workshop in Buffalo, NY, to match the existing woodwork.
- ◆ The new design of the heating system required retrofit of fancoil units into existing radiator enclosures and reconfiguration of the enclosures accordingly.
- ◆ Installed new state-of-the-art A/V/security/IT fiber optic backbone integrating the BMS system. The new IT system is able to support 1,500 simultaneous wifi users in the Cathedral.



Emergency Egress Fire Suppression to Protect the Wood and Plaster Ceiling:

- ◆ Installed mist fire suppression in the attic above the nave specifically to fit the 300ft. long space, which is a network of post and beam timber roof trusses and wooden lath, and walkways.
- ◆ The mist system uses a nitrogen pump to propel water under high pressure, through microscreens in the sprinkler heads to create a fog condition. The system uses a minimal amount of water to generate maximum suppression and minimize damage to the plaster ceiling.
- ◆ Worked closely with FDNY to modify design so the system will work with the FDNY operational response to the Cathedral.



Installing a Sustainable Geothermal Mechanical Plant:

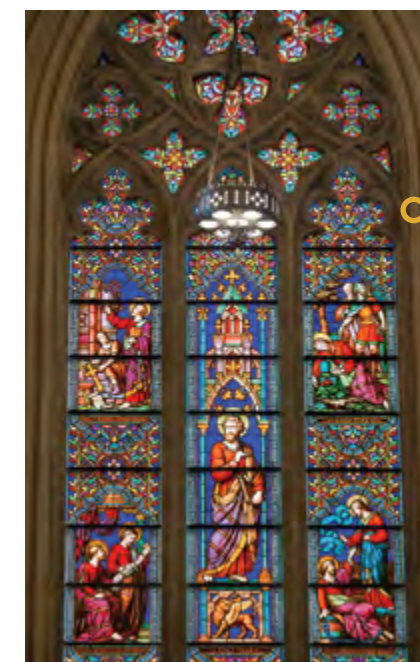
- ◆ Under the building, the undercroft (chamber) straddles 200 ft. long tunnels that extend from the high altar west to Fifth Avenue to house the new and technologically advanced mechanical, electrical and plumbing systems.
- ◆ A confined space permit was required by those workers who entered the undercroft. They worked closely with the FDNY on rescue protocol.
- ◆ The Structure Tone team is currently putting in a geothermal system by installing 10 wells more than 2,000 ft. through bedrock. The system will supply 240 tons of cooling and heating capacity for the entire St. Patrick's campus.
- ◆ With sustainable upgrades, St. Patrick's is moving toward meeting the City of New York's sustainable goals for the year 2030.



Constructed 35 Stories of Scaffolding:

- ◆ It took seven months to build the framework: a lattice of stairs, ladders, braces, frames and platforms, creating a 225,000sf scaffold lattice.
- ◆ Highest point reached 47 levels or 335ft.
- ◆ The Cathedral rector, Msgr. Robert Richie, took the required NYC Department of Buildings scaffold training course so he could climb the scaffolding and watch the restoration unfold.
- ◆ There were 6.9 miles of scaffold deck on the exterior of the Cathedral.
- ◆ There was .9 miles of interior scaffold decking with a structure of 80,000sf of static work deck.

All photos on these four pages: © John Baer/Building Images Photography



Restored 75 Unique Stained Glass Windows:

- ◆ Conducted solar radiation modeling to determine how solar heat gain impacted the stained glass during each week of the year, and performed temperature and humidity monitoring during one year to assess condition.
- ◆ To combat build-up of heat and humidity in the space between the stained glass and its protective glazing, a discrete venting system was devised to create air movement through the space. This venting is not visible from the floor of the Cathedral and is reversible.
- ◆ Removed fewer than six percent of the approximately 3,200 stained glass panels.
- ◆ Restoration methods used were unchanged from the original 1850s design.

In Summary, the Restoration Included:

- ◆ Constructing 35 stories of scaffolding to ensure the Cathedral remained safely and continuously open to more than five million visitors per year.
- ◆ Conserving/restoring exterior marble, roofing, metal, plaster, wood, Beton Coignet cast stone and all interior surfaces.
- ◆ Decorative painting of all plaster and Beton Coignet wall surfaces above the marble walls. Decorative painting of the plaster ceiling, plaster ribs on the ceiling as well as decorative boss elements on the ceiling, column capitals and pendants.
- ◆ Cleaning, stabilizing and conserving 3,700 stained glass panels, and 300 wood pews with 3,200 separate panels.
- ◆ Removing, conserving and reinstalling the two main doors weighing 8800lbs. each, as well as all door bronze transoms and the bronze doors at the north and south vestibules.
- ◆ Reopening skylights over the side chapels, that have been covered since the 1970s.
- ◆ Restoration of the gallery organ, chancel and triforium organs comprising more than 10,500 pipes. New integrated fiber optic controls were installed for all three organs
- ◆ Upgrading and replacing mechanical, electrical and fire suppression systems.
- ◆ Installing life safety systems.
- ◆ Using BIM 360™ technology to track and communicate in real time the status of nearly 30,000 individual repairs for the interior, exterior and attic spaces of the Cathedral.
- ◆ Vacuuming and washing of all interior and exterior wall surfaces, ceilings including the underside, and vacuuming the top side of attic ceiling.

Project Specific Challenges

- ◆ Coordinated the removal, preservation, relocation and reinstallation of Galeros of past Cathedral Cardinals from the sanctuary to the ambulatory ceiling.
- ◆ Coordinated removal, restoration and relocation of Baldichino from the south Our Lady of Guadalupe chapel to the original location over the Cathedral on the main altar.
- ◆ Renovated the undercroft, comprised of eight tunnels of 200ft long and just 2ft tall.
- ◆ Erected scaffolding to support a spire in replace the structural steel.

Awards Won:
Lucy G. Moses Preservation Award
New York Landmarks Conservancy
Best Practices/Safety Culture Award
Building Trades Employers' Association (BTEA)
North American Copper in Architecture
Copper Development Association

Prudential's 19-story atrium allows natural light to flood in on 665 Broad Street in Newark, NJ

Prudential's new, tranquil Zen garden

Prudential Opens New HQ Tower in Downtown Newark, NJ

On a once-blighted corner of downtown Newark, today a striking 19-story glass and stone tower hums with business activity. The new Prudential Tower is a testament to the company's commitment, persistence and optimism for the future of Newark, a city it has called home for 140 years. It is also a study in the power of partnership for the design and building team, delivering the financial giant's new 733,000sf corporate home in less than two and a half years.

Dedicated to the redevelopment of Newark, and with expiring leases on its Gateway offices, Prudential needed to relocate 2,400 employees and make room for 600 more, fast. Upon securing lots at Broad and Halsey Streets adjacent to the landmarked Hahne's department store, the company put construction of the new tower on a fast-track, breaking ground in May 2013 and opening its doors in August 2015.

Structure Tone completed the interior fit-out and had the facility ready for occupancy in 14 months. The building features a spectacular 19-story atrium, open plan workspaces, a trading floor, state-of-the-art video conferencing capabilities, cafeteria, LED media wall, two living green walls and

many employee wellness amenities, including a zen garden, a 3,700sf gym, a 50,000sf rooftop terrace with outdoor seating and walking trails, and electric car charging stations in the parking garage.

The tower is pursuing LEED® Gold certification, with carbon dioxide monitoring, a sophisticated, all LED lighting system with occupancy sensors, the use of sustainable materials in the common areas and a built-in water conservation system. An under-floor air distribution HVAC system was designed and installed to both reduce energy consumption and allow flexibility in office configuration. Targeting local workforce utilization, nearly 12% of total project man hours were expended by Newark residents.

"We had a very tight window to fit-out a massive amount of space. We had to be perfect in our coordination, following immediately behind the core and shell contractor. Relying on BIM to detect conflicts early on, and working 24/7 in the last six months of the project, we were able to deliver for Prudential," says Chris Mills, Structure Tone vice president and executive-in-charge on the project.

Project Team

- Lead Architect**
Kohn Pedersen Fox Associates
- Structural Engineer**
Thornton Tomasetti
- Development Manager**
SJP Properties
- Interior Fit-Out CM**
Structure Tone
- Interior Architect**
Mancini Duffy
- MEP Engineer**
Cosentini Associates
- Audiovisual Consultant**
Cerami Associates

Wellness Is Essential to Citco's Strategy

What keeps Robert J. Gavin, the global leader of facility engineering and real estate for the Citco Group of Companies, awake at night?

In one word—wellness.



Above ▲ Robert J. Gavin, Citco's Global Manager, Facility Engineering and Real Estate

The Citco Group of Companies (Citco) is a global leader providing services for industry leading hedge funds and private equity firms. The firm, founded 74 years ago, operates in 43 countries with 6,000 employees located in more than 1M sf of space.

The key to Citco's success is its ability to attract and retain the industry's best talent. Robert and his team contribute to this success by providing Citco's staff with working environments that combine collaborative work practices with state-of-the-art healthy workspace. Staff wellness is the guiding principle that drives all Robert's office space.

Building a Healthy Environment to Support Healthier Lifestyles

It is their attention to employees' health that sets Citco's working environment apart for employees. In addition to providing staff with key health benefits, including gym memberships, shower blocks and bicycle racks, Robert is relentless about ensuring all their buildings have ample fresh air to minimize the amount—and effect—of recycled stale air.

When Farrells and Associates and Leonard Engineering partnered with Structure Tone in 2014 to renovate Citco's 12,500sf iconic, 300-year-old Georgian SII*-listed building in London, they replaced the mechanical/electrical/plumbing (MEP) and air conditioning/fresh air systems, as well as the restoration of the original plasterwork, staircases, roofing and design sensibilities, while the building remained fully occupied by company staff.

To ensure their employees have a healthy work environment, Citco does a lot of due diligence before moving into a building, and finds that many facilities fall short in providing staff with access to fresh air. Further, before moving into a new space in Halifax, Canada, Citco engaged the landlord/owner, Wolfgang Thiel, to open a health-oriented deli on the premises, design and install a park complete with a running track, as well as provide Citco's required shower blocks and bike racks.

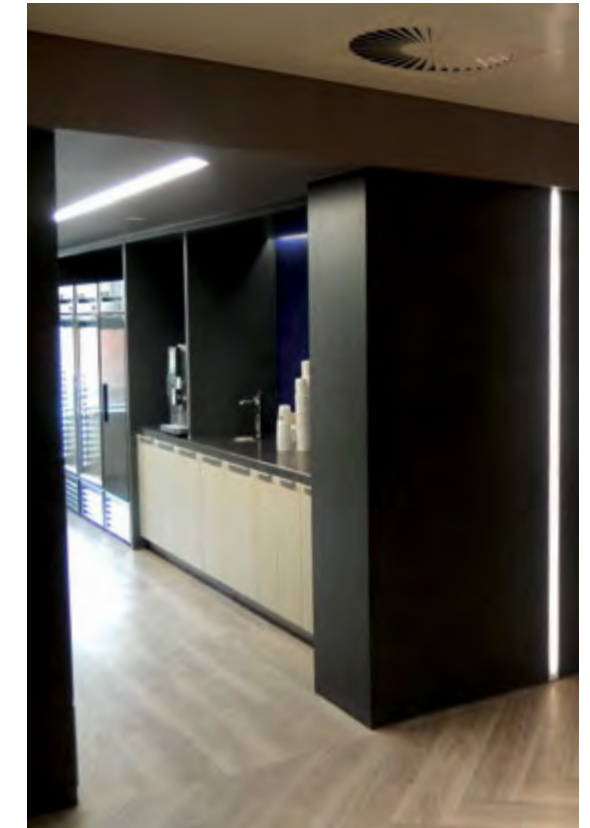
Robert sees wellness as a global trend. In many respects, Asia and Europe are slightly ahead of the US in this regard because they are further along with building mixed-used developments, combining residential, retail and parks with commercial space to provide employees with the opportunity for a better work-life balance.

Citco's Start-Up "Gateway" Space

Citco uniquely provides start-up clients with state-of-the-art space in key markets around the world, including Singapore, Luxembourg and Amsterdam. In July 2015 Ted Moudis & Associates and Structure Tone New York completed the renovation of the 13th floor at 350 Park Avenue, New York, by modifying and relocating office fronts, installing a specialty wood ceiling, reusing existing materials, protecting existing finishes and blending the new finishes with existing materials to provide their clients with a world-class facility in the heart of Manhattan.

Partnership is Key

To achieve Citco's goals, Robert looks for a construction partner who thinks beyond scope, price and schedule. He seeks a partner who can proactively make suggestions to the designer as well as his team, and is intimately familiar with the latest building products, finishes, furniture, ceiling, sound abatement and lighting solutions. Recently, Structure Tone's project manager—Gary Howard—took Robert on a tour of a number of newly completed global technology companies' European HQs in Dublin, so he could see first-hand how a product solution would be implemented. Efforts like these are all intended to help deliver a healthy and comfortable work environment for employees and clients.



Above ▲ Dublin's space features modern amenities

“Robert looks for a construction partner who thinks beyond scope, price and schedule.”



Right ▶ Citco recently renovated their 300 year-old listed building in Albemarle St., London



© Bob Zucker, Corporate Photographics

Left ◀ Citco's New York Gateway facility provides start-up clients with contemporary workspace



DIRTT Provides MFS with Quality and Flexibility to Meet Future Needs

When MFS, a 90-year-old global investment manager with offices across the world, renovated their 24,500sf office in central London, they used a partition system solution that combines contemporary style with customization and sustainability.

First-Ever Use of DIRTT in the UK

The DIRTT partition system is a global standard for MFS because it provides them with the ability to completely reconfigure future space. DIRTT partitions are a floor-to-ceiling system that can be repositioned without creating any problems for the end-user. The pre-engineered panels are made with environmentally friendly materials. The key to the system is the expandable and flexible connections that adapt to different interior angles and curves, without the need to dispose of wire and cables every time there is a move, addition or change. As part of our assignment for MFS, Structure Tone installed an energy efficient lighting control passive infrared sensor (PIR) system in the ceiling, and connected the power and data to the desking via grommets in the raised floor.

Migrating Risk

MFS retained Structure Tone on a design/build project basis for the renovation. We engaged HLW International as the architect, and Green Building Design as mechanical and electrical consultant, because of their experience with projects of this size and complexity.

To reduce MFS's risk, Structure Tone entered into an agreement with the landlord to undertake a complete MEPs validation and architectural condition survey, and to rectify any issues that could potentially cause program delays. To coordinate with simultaneous projects in the building, Structure Tone met with the landlord and contractors weekly to discuss the upcoming week's deliveries, permits and scheduled work.

Future Proofing the Project

To avoid delaying the entire project due to the complexity and design of an extensive A/V solution, trunking was installed inside the walls to create a cable highway from underneath the raised access flooring and above the ceiling. This approach enabled the walls to be closed prior to final installation of the A/V suite, and kept the entire project on schedule and budget.

Fit-Out

Structure Tone installed new IT infrastructure, security system, telepresence conference rooms,

meeting rooms, offices, tea-points, a café, communication and traders rooms, glass lobby elevator doors and high end joinery to match the Dirtt partition system.

To enable the millwork to completely match the high quality natural stone used for the reception desk and area, Structure Tone project managers traveled to Italy to select the stone and millwork templates. They specified that the stone would be cut so the grain completely matched, giving the impression the material was cut from one solid piece.

Above ▲
High quality millwork and stone finishes complete the sleek contemporary feel



Project Team

Project Architect
HLW International Ltd

Mechanical & Electrical Consultant
Green Building Design Consultants Ltd.

Quantity Surveyor
MFS VP/Director

Left ◀
DIRTT system in place, dividing space for more collaboration opportunities



Above ▲
Project scope expanded and completed on time. The Advanced Care Pavilion was designed to be five stories tall, but was engineered to support an additional floor. That floor was added to the project one year in to construction.

Building a World-Class Level 1 Trauma Center while Continuing to Serve 40,000 Patients

As Penn Medicine, which is the number one hospital system in Philadelphia and seventh in the country per *U.S. News & World Report*, continued to expand, they targeted Penn Presbyterian Medical Center (PPMC) as the new home of their Level 1 Trauma Center and related services.

In order to move critical care services to PPMC, the building would need to undergo an expansion and renovation—without shutting down the existing hospital because it was already too vital a medical center in West Philadelphia, PA, serving nearly 40,000 patients per year.

The project had to be completed on time because the new expansion would relocate Penn Medicine's Level I Trauma Center—which is home to the region's top trauma team and surgeons—from the Hospital of the University of Pennsylvania to PPMC. Any delay in turning over this project would have had a domino effect on the rest of Penn Medicine's operations.

The result is the PPMC Acute Care Expansion, a 216,000sf expansion to add a new Level I trauma center, including expansion of the operating suite, PACU recovery spaces, ICU, Neuro ICU, plus space for additional CT scanners, MRI suites, and a new roof helipad.

Keeping the Hospital Open

The project team included a member of the hospital with both administrative and clinical experience to help coordinate efforts. "They knew the inner details of how an OR works or a nurse preps for surgery," said John Haught, project executive at L.F. Driscoll. "They also understood that if we didn't move a piece of medical equipment or a function

L.F. Driscoll/Mike Venezia

At-a-Glance

Project

Renovate and expand Penn Presbyterian Medical Center to become Penn Medicine's new Level 1 Trauma Center

Building

Five-story, core and shell construction with structural steel slab on deck and augercast pile foundation

Project Architect & Structural Engineer

EwingCole

Size

216,000sf

Groundbreaking

May 2013

of the existing hospital on time, we weren't going to hit our completion deadline."

Adhering to Infection Control Risk Assessment (ICRA) Standards

By adhering to strict ICRA standards, not one dust mote from construction entered active patient areas. This was accomplished by not allowing any food on active

areas of the jobsite, water systems to limit waterborne pathogens, protective barriers, and rerouting air handling and ventilation so that what was coming out of the construction site never impacted patients.

On Time and On Budget, Despite Challenges

During excavation, the project team found unexpected PECO high voltage electric service inside the footprint of the new building foundations. Moving the high voltage ductbank would have created a substantial delay and cost. Instead, the team worked closely with PECO, and architect and structural engineer Ewing Cole, to design a cantilevered footing that could bridge over the ductbank and allow construction to continue on schedule.

Erection of the structural steel frame and concrete decks were impacted during the winter of 2013/2014, as Philadelphia experienced one of the harshest winters on record and the project lost 33 days due to weather. The team minimized the impact of the weather on the core and shell of the building, and double shifts and weekend work crews were

added to accelerate the fit-out and ensure that the project would be completed on time.

Below ▼
A new ambulance entrance and expanded emergency department improve patient flow within the facility.



How Technology Companies are Changing Construction

Dublin, Ireland, with a population of just 1.3 million, is home to nearly every major global technology firm you can imagine, including Facebook, Google, Intel, Oracle, Yahoo!, Ancestry.com and Prometric. Structure Tone spoke recently with John Rattigan, Managing Director, and Rory Quinn, Associate Director, Lafferty, Project Managers | Architects based in Dublin, whose clients include Yahoo!, Workday and Twitter, to discuss how design and construction in the Irish market is evolving.



Right ▶
Rory Quinn (L) and John Rattigan (R)



Structure Tone (ST): How have technology companies changed workspaces?

John Rattigan/Rory Quinn (JR/RQ):

Technology companies brought an entirely different way of thinking to projects. They've radically changed how people experience spaces by exposing the buildings' raw materials—the structure, concrete walls/ceilings and floors, and exposed services.

Similarly, fit-outs have evolved from spaces that regularly were in cellular configuration. Now employees work in neighborhoods of 30 or more with

ancillary space for collaboration to allow time away from the group as needed. Previously designed large meetings rooms for 10-plus persons have now been replaced with two and four-person spaces for meeting and collaboration. These provide comfortable areas to work. Break-out spaces with soft seating, sit/stand desks and game rooms are also becoming the norm. This work environment is conducive to the new way technology companies are working and communicating. We are also seeing a high degree of video conferencing installation with a high degree of usage for US conferences.

Technology companies have also demonstrated increased capital expenditure in office fit-outs, providing staff talent with facilities like rooftop gardens, gyms, wellness spaces, cafés, fully catered kitchens and showers. Technology companies aim to provide everything employees need to be productive, comfortable and effective.

The new design environment created by the technology company reflects the company ethos.

ST: What are some of the best practices?

JR/RQ: A Lafferty project, Ancestry.com, was awarded Fit-Out Project of the Year in 2013. This represented a good example of a successful project.

First, the architect had a compelling vision of how to transform the space. Lafferty completed a detailed due diligence process so the client's best interests were protected prior to legal signings.

"By using BIM 360™, we were able to show the U.S.-based client team exactly how the designs would work in the space, and elicit early input into the design process, which enabled us to do the entire onsite delivery of the project in nine weeks."

ST: What do corporations get right in their approach to projects?

JR/RQ: The best clients have the right people in place to communicate the design principles of the projects. It is becoming more common for large technology companies to assign an internal project manager or REW manager who understands the inputs required to the design process. The U.S. companies are also very effective in engaging internal stakeholders and user groups to review and sign off on key decisions, which ensures a smooth process.

Several clients operate their own real estate, design and construction departments so they already know what they want to accomplish, and provide clear and concise direction to the architect in terms of the look and feel, as well as key metrics such as occupancy, density, meeting room use, etc.

The most effective clients think about their medium- to long-term plans, as well as the immediate project. With the vision and metrics determined from the outset, the projects run smoother.

ST: What elements tend to be overlooked in the construction process?

JR/RQ: It is rare to find a building that doesn't have an issue, so undertaking a comprehensive due diligence to assess the building's statutory and technical status is paramount. This process enables a tenant to enter into a lease with full information about the condition of the property and what interventions or modifications are required.

ST: What one piece of advice would you share with a client?

JR/RQ: One should not underestimate the time involved, from project initiation to completion, to deliver a quality project in a controlled environment. The selection of the right team will aid this process and it is equally important that the right team is tailored to the right project.

ST: How has your client evolved?

JR/RQ: The age profile and structure of client organizations have changed. Many of today's clients are in their 20s and 30s. Clients are more socially responsible and have a desire to incorporate edgy design and health and wellness into their spaces. They're designing sustainable, flexible, efficient and comfortable places to work.

Above ▲
Lafferty worked with Structure Tone on Workday's new headquarters in Kings Building, Smithfield, Dublin



Novartis Builds Sustainable Data Center in Fort Worth, TX

To support their critical data needs across North and South America, global pharmaceutical leader Novartis selected and recently completed an essential sustainable data center—with the potential of doubling the size of the facility—partially powered by renewable energy in Fort Worth, TX.

Sustainability enhancements include photovoltaic cell arrays to supply the renewable power. The solar panels provide enough electricity to power almost 30 average size homes. Rainwater is harvested with a 20,000-gallon cistern, and a water purification system provides grey water to the building and landscaping, greatly reducing the consumption of city-provided water.

The center is capable of handling approximately 1,500kW of IT load. It was designed based on the Uptime Institutes' Tier III requirements, and employs cutting edge technology to achieve maximum uptime, operational sustainability and reduce the carbon footprint.

Serving the technical floor cooling needs are 11 Liebert DSE CRAC units with refrigerant economizers. These economizers provide an extra layer of efficiency by bypassing the rooftop condensers when outside temperatures permit. The office space HVAC system utilizes fan coil units and an energy recovery ventilator to achieve free cooling with favorable outside conditions. The lighting system includes all LED fixtures with occupancy and "smart" fixtures that can adapt to real time building loads and occupants.

Despite biblical—'100-year rainfalls'—across Texas, Structure Tone Southwest worked with project architect Integrated Design Group (IDG), and delivered the preconstruction and construction on time

and budget. The key to success was using a cloud-based design, BIM and quality tracking tools to enable the team to collaborate in real time on all aspects of the project. The building structure includes piers, grade beams, tilt wall panels and a structural steel frame. As part of the project's electrical infrastructure, Structure Tone Southwest also built a partial substation across the street that includes 15kV switchgear to supply medium voltage power to the data center, which is seeking LEED® certification.

Novartis selected Fort Worth, TX over other sites in the Americas because of proximity to its extensive manufacturing and R&D facilities and advantages of the campus, which is also home to several mission critical facilities.



Above ▲
North side view of the new data center



Award Winner:
The Marriott International's
New York EDITION
Best Hospitality Project
Greater New York Construction
User Council (GNYCUC)
Best Hospitality Project
ENR's Regional (NY)
Best 2015 Projects

A Landmark Reimagined in New York City

For more than a century, the heartbeat of New York could be conjured in the ticking of the 26.5ft, 4-sided clock atop the MetLife Tower at Madison Avenue and 23rd Street, built in 1909 as the world's tallest skyscraper.

With the 2011 purchase of the landmarked property by Marriott International in association with hotelier and designer Ian Schrager, the clock paused; New Yorkers skipped a beat. Slated to become the fourth of the partnership's Edition hotels—unique, upscale, location-centric properties—the MetLife Tower was about to undergo a massive and deftly synchronized renovation and conversion to a premier, 41-story luxury hotel destination.

The New York Edition

Working with the design team of Schrager, The Rockwell Group and DeSimone Consulting Engineers, Structure Tone initiated this 250,000sf, \$140M conversion project in January 2013. Structure Tone worked closely with the NYC Landmarks Commission throughout the process. The project was organized into three discrete scoped areas—core renovation, all new mechanical and electrical infrastructure, and high-end high-quality interior construction. These phases were carefully sequenced to shave four months off the original project schedule.

© Nicholas Koenig

At peak construction, Structure Tone's lead project manager, nine superintendents and a trade force of more than 320 were on site. The aging build-

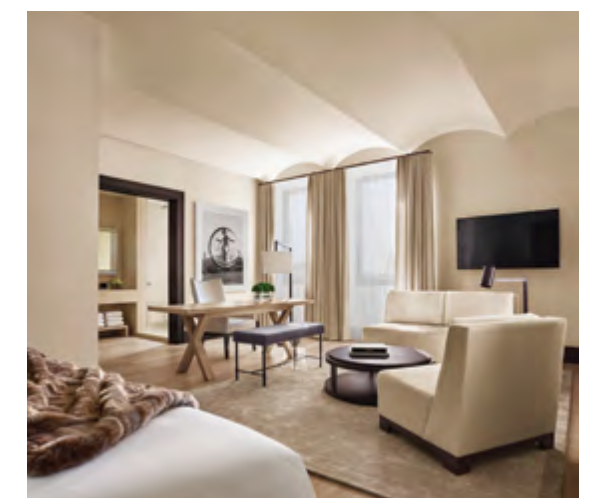
ing required significant core upgrades, including the addition of three new elevators, two new stairs and shaft space for the new infrastructure throughout the 41 stories. Reconfiguration of the core shell for this infrastructure was staggered to ensure the structural integrity of the building, and extensive logistics required to support the mechanical upgrades, including a new cooling tower. Using BIM 360™ software on iPads, Structure Tone maintained quality control and allowed the trades to quickly resolve any issues identified as work progressed.

In February 2015, The Marriott International's New York Edition opened its doors at 5 Madison Avenue offering 273 custom guest rooms and suites, 2,100sf of event and meeting spaces, an intimate lobby bar, a state-of-the-art fitness center and spa, and a restaurant by Michelin-starred chef Jason Atherton.

Meeting the demands of the modern, experienced traveler, preserving elements of the original structure, and working around decades of prior renovations and upgrades required flexibility and an embrace of the eclectic. In many places, historic millwork coexists with new lighting, finishes and furnishings. Guests are welcomed by a

dark oak-paneled foyer and then greeted with a mix of mid-century, classical and contemporary furniture. A signature, spiral steel staircase rises up from ground level; a fireplace on the wall is set against a neutral and stately backdrop of concrete, wood and Venetian plaster. The end result: a decidedly New York property—unpredictable and rare, much like the city it inhabits.

Below ▼
Stunning finishes throughout each of the 273 custom rooms and suites



Giving Back

①



Friends of Saint Dominic's Home—a non-profit organization dedicated to the aid of disabled, disadvantaged or vocationally challenged—raised more than \$1.2M at the **34th Annual Business and Labor Awards Dinner** in New York City. The dinner was attended by over 1,100 business and labor union leaders and executives in the construction, development and real estate industry. **Chairman of the Dinner Committee**, Structure Tone's **Eugene Peter White**, (R) recognized the late John A. Thomann, Vice President/General Manager, Turner Construction, with the prestigious Victory Award for his commitment to charitable giving.

②



Structure Tone **London's** cycling team completed the **London to Brighton Bike Ride**, a 54-mile track to raise funds for the **British Heart Foundation's** battle against heart disease.

③



Structure Tone **New York** hosted **high school students from NY Exploring** considering careers in the construction field. During the five-week internship, the students learned how to read drawings, compile a budget and present their projects to Structure Tone staff and their peers.

④



Structure Tone **Boston** hit the trails at the annual Thompson Island 4K Run, raising more than \$200,000 for **Thompson Island Outward Bound Education Center youth programs**.

⑤



Structure Tone was a proud sponsor of the Southern New York Chapter of the **National Multiple Sclerosis Society's** annual Race Against MS at the Belmont Park Race Track. In a separate event, pictured above, Team Structure Tone successfully climbed 66 flights of stairs to the Top of the Rock Observation Deck in Rockefeller Center in **'MS Climb to the Top.'**

⑥



Structure Tone **Southwest** supports efforts to create a greater awareness of cancer by wearing pink.

⑦



Structure Tone **Dublin** hosted their **fifth Annual Golf Classic** at the K Club, and raised €30,000 from friends and partners in the construction industry, to enable Michael Hickey the child pictured above **to be treated by the St. Louis Hospital in the US**. Since the event, Michael's family has raised the €60,000 for the SDR (selective dorsal rhizotomy) surgery, and will be traveling to the US before the end of the year. Structure Tone previously raised funds for two other children—Alex and Sophie—who needed SDR procedures, and are both well on the road to recovery.

