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Simply the Best:

Inaugural Metamorphosis Awards Winners

HISTORIC- CATEGORY WINNER story on page 76

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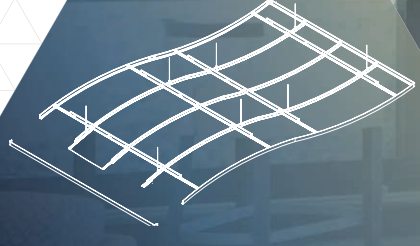

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INSIDE THIS ISSUE

NOVEMBER-DECEMBER 2019 // **VOL 10** // ISSUE 6

feature projects

2019 METAMORPHOSIS AWARDS

Sixteen winners were chosen for outstanding achievements in retrofitting commercial, industrial and institutional buildings.

cover

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INSIDE THIS ISSUE

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COLUMN

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AWARD-WINNING ATTITUDE

Last weekend, I inspected my condo in Chicago as a first step toward selling it. I moved to Iowa in 2014 and, because the Chicago real-estate market wasn't where I needed it to be after buying my unit in 2007 (talk about bad timing!), I hired a property manager and rented my condo the past five years. I've had three tenants in that time and, needless to say, nobody cares for your property as you would.

My property manager offered to help me sell the unit and when I noted some of my concerns with the unit's current condition, he responded, "These will be first-time homebuyers who will know less than nothing. We'll make it look as good as necessary." My heart sunk. I was a first-time homebuyer in 2007 when I first stepped foot in that condo. I loved that it was a gut rehab of a 100-year-old building. It had the character of an old building—exposed brick in the living room, original hardwood floors—along with the amenities of a modern home, like a marble bathroom with a jacuzzi tub. And it was immaculate. Even as a first-time homebuyer, I wouldn't have purchased my condo in its current condition and my property manager's comment ended our relationship. I ultimately hired a handyman I used while living in my condo to complete the necessary repairs and upgrades in my unit. I remembered him to be quick, thorough and meticulous, as well as affordable, which is exactly what I needed to return my condo to its 2007 charm.

You must trust your renovation team and, in this issue of ***retrofit***, it's clear trusted teams of design and construction practitioners came together to create projects deserving of ***retrofit***'s inaugural Metamorphosis Awards. In some cases, the teams had worked together previously, making their collaborations even more streamlined. For example, Marcy Wong Donn Logan Architects, Berkeley, Calif., and Orton Development Inc. (ODI), Emeryville, Calif., have earned a reputation for inventive restoration of immense historic properties. In San Francisco, their work on the Uber Advanced Technology Group Research and Development Center earned Marcy Wong Donn Logan Architects a Metamorphosis Award in the "Historic" category. The project appears on our cover and the story can be found on page 76. Uber ATG is located within four buildings, 120,000 square feet, of Pier 70 on San Francisco's waterfront. The buildings were in such poor condition that one of them was red-tagged by the city of San Francisco. Despite the buildings' conditions, the Port of San Francisco required the fabric of the structures to remain to create a historic gateway to all the development in the area. Marcy Wong Donn Logan Architects and ODI's solution is imaginative and awe-inspiring.

"It's obvious to me all the winning project teams spent hours solving problems, overcoming challenges, and ensuring solutions would please their clients and meet their clients' needs, which is why these projects have won our awards," says ***retrofit***'s Publisher John Riester. "This first group of Metamorphosis Awards winners exemplifies the beauty of our nation's existing building stock—no matter the beginning condition of these buildings—and sets the bar high for our 2020 Metamorphosis Awards program."

Like the winners of many of our inaugural awards, no matter the current condition of my condo, I have confidence the beauty of my unit is still there and will be uncovered by my trusted handyman. I'm also certain the unit's charm will sell it quickly to another person who will love it like I did.

CHRISTINA KOCH
Editorial Director, ***retrofit***

follow us

THANK YOU, JUDGES!

Thank you to our Metamorphosis Awards judges, who also are members of our editorial advisory board. These gentlemen—Nathan M. Gillette, AIA, LEED AP O+M, CEM, director of Natura Architectural Consulting, Grand Rapids, Mich.; William E. Holloway, AIA, LEED AP, principal of BERNARDON, Wilmington, Del.; and John J. Noonan, vice president of Facilities Management, Duke University, Durham, N.C.—carefully reviewed 98 awards entries, ultimately choosing 16 winners from 13 firms. We at ***retrofit*** appreciate the time and dedication the judges committed to this process, as well as their suggestions to make our 2020 awards program even better.

GO AHEAD: SHOW OFF

Winners, we'd love for you to share how you are displaying your Metamorphosis Awards in your offices. Please use social media to share photos of your displayed awards, tagging ***retrofit*** (#Metamorphosis Awards), or email photos to christina@retrofitmagazine.com.

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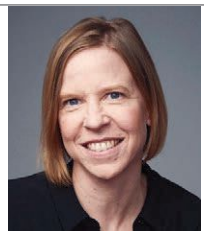
CONTRIBUTING WRITERS

When Washington, D.C.'s central business district's 1970s YMCA was put up for sale, an opportunity arose to reinvent the structure in a way that ties together the neighborhood's diverse architectural fabric. **KJ Fields**, a Portland, Ore.-based ***retrofit*** contributor, explains how the design team at Hickok Cole, Washington, created premiere office space within the 7-story, 104,000-square-foot building and brought new vibrancy to the district, page 26.

Nathan M. Gillette, AIA, LEED AP O+M, CEM, is director of Natura Architectural Consulting, Grand Rapids, Mich., and a ***retrofit*** editorial advisor. He served as a judge during the magazine's inaugural Metamorphosis Awards program and raved about the updates at the John F. Kennedy Center for the Performing Arts' Terrace Theater in Washington, D.C. Gillette writes how Quinn Evans, Washington, updated the 1970s finishes while enhancing acoustical performance and considering accessibility requirements, page 38.



Lauren Perry Ford, AIA, LEED AP BD+C, is an associate principal with Cooper Carry, Alexandria, Va. Her desire to advance sustainable design throughout the firm is demonstrated in Washington, D.C.'s Capitol Hill neighborhood with Bell Tower at Stanton Park, the winner of a Metamorphosis Award in the Multifamily category. Ford describes how the design team transformed the interior of the towering 1891 church into six residential condominiums that are sensitive to the church's history, the historic neighborhood and the environment, page 50.

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LIGHT THE WAY: HUMAN-CENTRIC LIGHTING PUTS OCCUPANT COMFORT FIRST

In traditional lighting design, the focus often can be on achieving maximum energy efficiency or placing the lights in a logical progression in the ceiling so all parts of the space are evenly lit. Although that approach does the job—in that it delivers illumination for mobility or tasks—it tends to default toward what works best for the building design rather than what's best for the people who occupy the space. Instead, more designers are starting to think of lighting from the standpoint of the occupant. The concept of human-centric lighting seeks to approach lighting in a more holistic way that keeps end users in mind.

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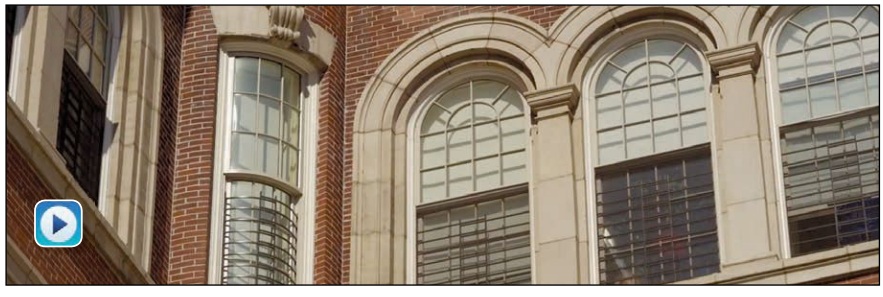
Historic Landmark Restoration for the Boys & Girls Club of Harlem

Project Walkthroughs



Built in 1903, Public School 186 in Harlem, N.Y., is a beautifully detailed Italian Renaissance Beaux-Arts building. In 1970, the school closed and the building sat empty for more than 40 years. See how the Boys & Girls Club of Harlem uncovered the building's enormous potential and gave it the restoration it deserved, including new windows from Pella Windows and Doors.

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THE 428

Former Five-and-Dime Store Gets a New Lease on Life as a Speculative Office Building

PHOTOS: KIRK MONPAS unless otherwise noted

For more than 70 years, the Woolworth Building defined the northeast corner of 7th Place and Minnesota Street in downtown St. Paul, Minn. For the last 30 of those years, it sat abandoned and neglected.

In 2015, when Woolworth's lease finally expired, a new chapter began to be imagined for this downtown landmark. St. Paul-based HFS Properties and Commercial Real Estate Services Inc., the longtime property owner and developer—recognizing that the building had great bones—embraced the opportunity to invest in a repurposed life for the structure as a contemporary office building. In fact, it would be the first speculative office development project to come online in downtown St. Paul in five years. Although the city had struggled with rising vacancy rates, what would become The 428—appropriately named for its address—was designed to help reverse that trend by providing modern, appealing office space for companies, especially those in the tech and marketing fields.

But the developer didn't want to create just any ordinary office building. Understanding that in life—and in business—every day counts, HFS Properties and Commercial Real Estate Services sought to create a building that brings together wellness and environmental elements that are proven to create healthier, happier people who are more engaged and productive at work.

To get there, the team first had to deal with a building in major disrepair: The roof structure was compromised; the second floor was windowless; the sidewalks were becoming a hazard; the canopy on the south and west façades was slowly disintegrating; and the HVAC system faced complete replacement because it was original to the building. The developer brought HDR's Minneapolis office on board to modernize the concrete and steel building. The design team proposed three big ideas it knew would modernize the building and give it a new lease on life:

SLICE: The exterior brick on the south and west façades was removed and replaced with glass curtainwall, allowing natural light to enter deep into the tenant spaces in the building's core and maximizing views to the outdoors. From the outside, the transparency of the glass façade provides a glimpse of the engaging spaces within. (A Husqvarna DXR-140 giant wheeled claw-hammer robot was used to remove the exterior walls.)

BOOKENDS: To solve the need for vertical transportation, the team created two corner elements that frame new exterior curtainwalls. These Bookends illustrate the flow of movement through the space before even entering the building and also make the transition between the new modern façade and the classical revival style of its neighbor, the Golden Rule Building.

CORNER CUBE: A dramatic, 6,000-square-foot glass cube on the fifth-floor rooftop distinguishes this office building from all others. Designed to house a collaborative coworking space, called Wellworth, it's an alternative to traditional office spaces on the floors below. The Cube is flanked by patio spaces to the north and south. All tenants can use these patios to take work outside or lease additional seats from Wellworth to round out tenant spaces below.

The 428 is paving the way for today's workforce into a future focused on the physical and mental health of its occupants. To accomplish that, owners established a new standard for occupancy health and wellness in a speculative office building. In addition to seeking a LEED rating, the decision was made to also embrace WELL Building Standard certification, which emphasizes the health impacts of the built environment on the people who live and work in buildings. It was the first building in the state to seek both, and it has subsequently met WELL Gold guidelines for healthy buildings and LEED Silver certification.

INSPIRED BY ITS LEGACY

Inspired by the building's 1950s mid-century modern design, the team took cues from existing architectural elements. Exterior brick was selected to match the existing colors and set the primary color palette for the exterior. The distinctive metal panel "brows" that make the canopy and wrap the windows on the third floor were reinterpreted to wrap new curtainwall windows and form the edge of the new street-level canopy.

A contemporary interpretation of the ornate mid-century modern handrail found


428
THE 428
ONE WAY
BEFORE PHOTOS: HDR
Before

Retrofit Team

OWNER AND DEVELOPER // HFS Properties and Commercial Real Estate Services Inc., St. Paul, Minn., www.cres-inc.com

ARCHITECT AND INTERIOR DESIGNER // HDR, Minneapolis, www.hdrinc.com

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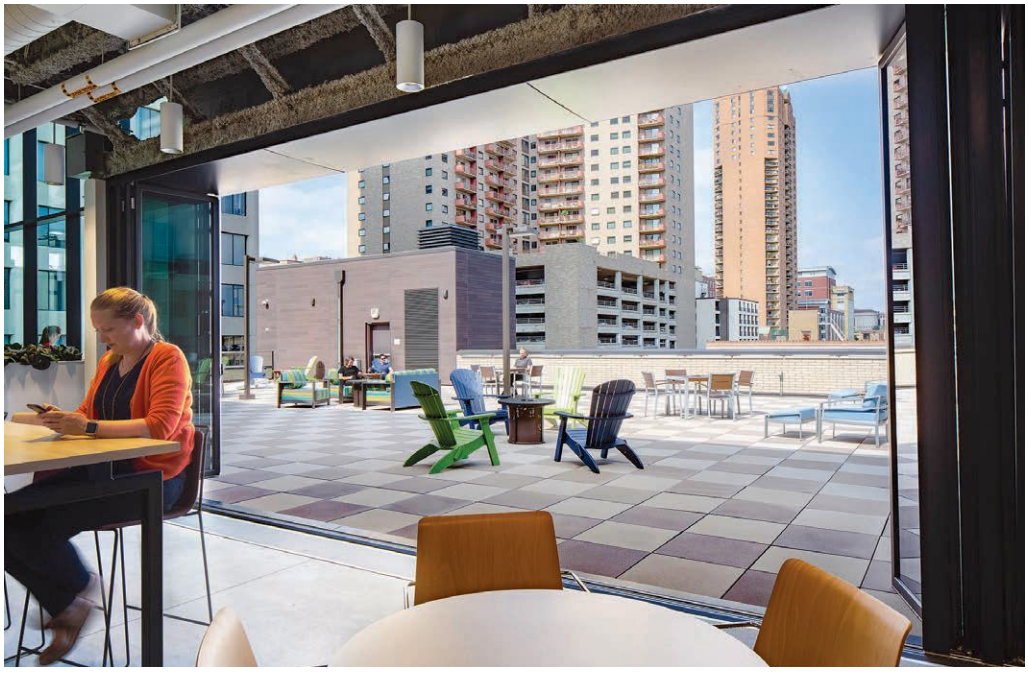
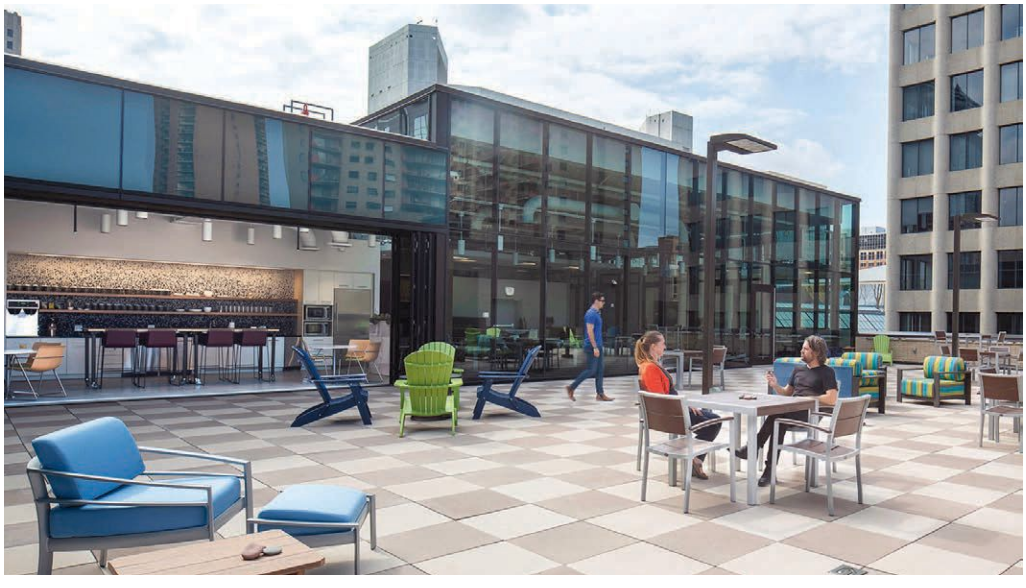




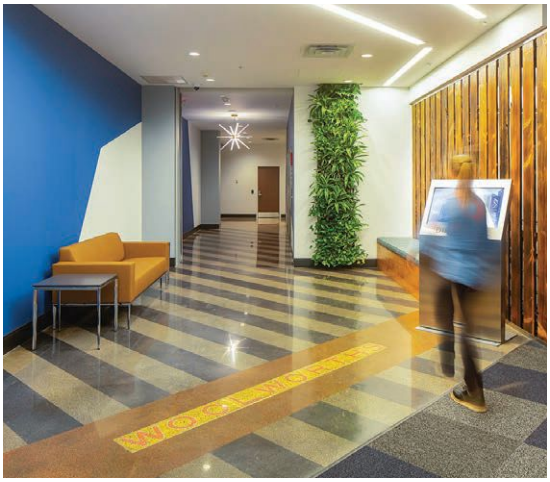
at the customer stair between the existing first and second floor was installed into the stair railings from the basement to the second floor. Woolworth's first-floor lunch counter was torn out and reinstalled in the building—about 50 feet from its original location—as the centerpiece of a new café. A terrazzo floor found during demolition now graces an entry floor.

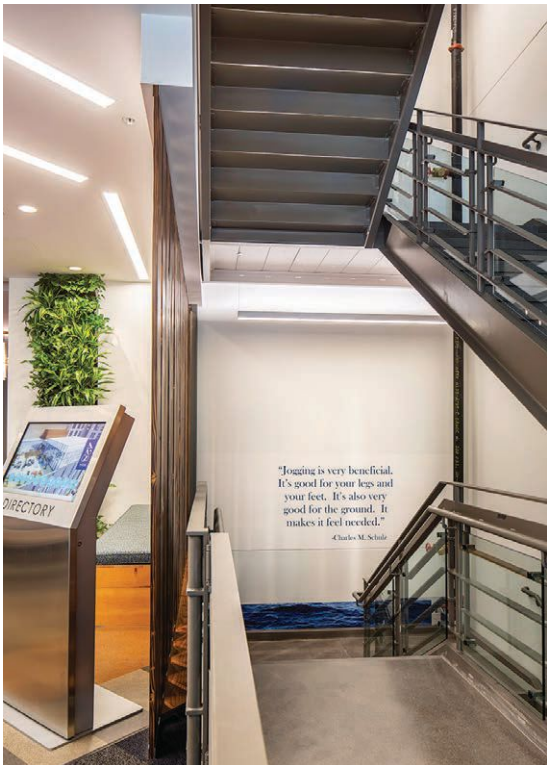
All lighting is LED, including the crown of the glass Cube, to meet energy-use requirements. A large portion of the material removed from the building was recycled, including the light fixtures found in the women's breakroom on the third floor. These were removed, reconditioned and installed in an entry vestibule.

THE FUTURE OF WELLNESS AT WORK

The 428 is the first building in the seven-state region to be awarded WELL certification at the Gold Level. One key element of the WELL certification—encouraging tenants' physical activity—drove the location of the south stair from behind a closed door to front and center, encouraging tenants to take the stairs over the elevators. The stair enclosure was designed to extend to the exterior of the building, creating the lobby for the building. Earth-themed graphic elements and artwork, along with colored precast concrete treads, further encourage the use of the stairs.

Among other WELL-inspired features are re-filtered city water (to remove chemicals, such





as fluoride), heat-reflecting glass, indoor lighting that adjusts to natural light and sophisticated air filtering. Other improvements include providing new egress stair towers, new elevators, tenant toilets, and new HVAC and MEP systems. The building is also equipped with bicycle storage and showers to encourage active transit.

A RENEWED PURPOSE

Since opening, The 428 has hosted numerous local and professional events. Its attractive spaces and convenient location make it ideal for a wide variety of get-togethers. In the past few months alone, it has been part of the walking tour for Minnesota Commercial Real Estate Women and hosted a meeting for the local NAIOP chapter, as well as greeted U.S. Green Building Council Leadership for the building's LEED plaque ceremony. Recent events in the Wellworth space have ranged from seminars about topics, such as Google analytics and storytelling to yoga on the patio and organizational networking events.

With a Walk Score of 92, tenants can step out of the office and are close to parks, museums, theaters, sporting events, concerts, fine dining, specialty food, brewpubs and more. This forgotten corner is derelict no longer. Today, The 428 is a progressive and vibrant professional space that has embraced the future while honoring its past.

RETROFIT MAGAZINE
METAMORPHOSIS AWARDS
Winner

TRANSFORMATION *Winner*

BLOCK 41

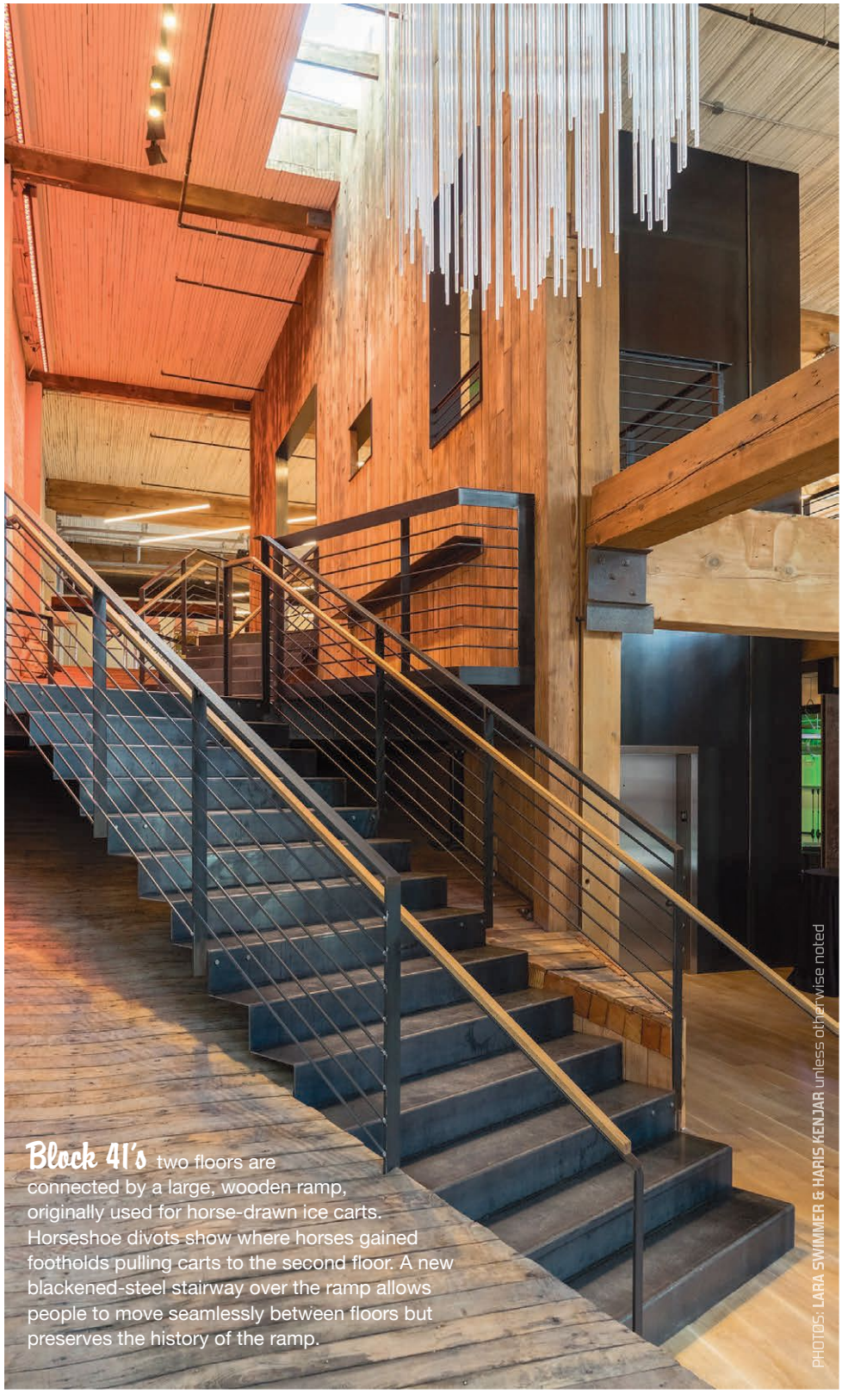
A 1927 Ice Warehouse Becomes a 21st Century Event Space that Honors Its Past

Located in the downtown Seattle neighborhood of Belltown, Block 41 celebrates the legacy of a historic warehouse while transforming it into a contemporary, multipurpose event space.

The 15,000-square-foot, 2-story brick-and-heavy-timber building began its life in 1927 as an ice warehouse. Over the years, it was subject to multiple renovations and modifications, resulting in the fragmentation of the building's large volumes into a series of dark and maze-like rooms. The new design highlights the building's history by stripping away later insertions and partitions to reveal its hard-won patina while opening up the volumes to create spaces large enough for formal events yet flexible enough to accommodate intimate gatherings.

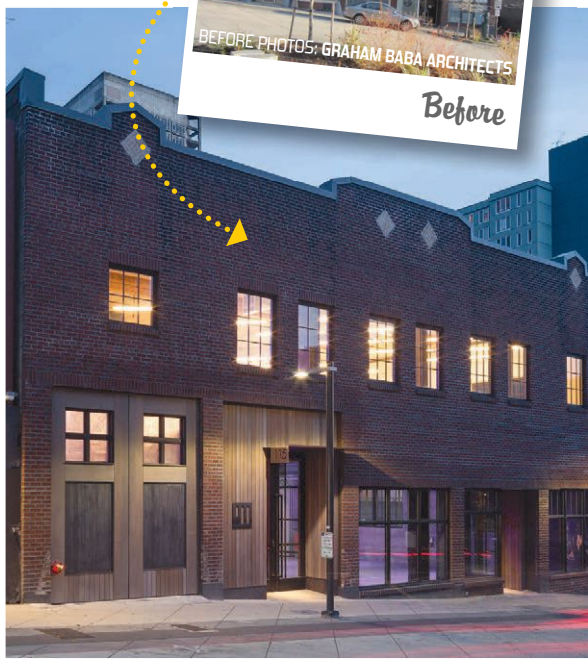
Occupying an L-shaped site, the building faces 2nd Avenue and a sloping Bell Street, resulting in a single-story facade on 2nd Avenue and a 2-story facade on Bell Street. The formal entry on Bell Street is a double-height space, created by removing a portion of the second floor to emphasize the connection between the two floors and reveal the building's impressive structure. The two floors are of roughly equal size and are connected by a large, wooden ramp, originally used for horse-drawn ice carts. Horseshoe divots bear witness to where horses attempted to gain footholds pulling carts to the second floor. To preserve that history and reconnect the building to its past, a sinuous blackened-steel stairway floats over the ramp, weaving through and above the old rutted wood of the incline and allowing people to move seamlessly between floors without having to negotiate the hazards of the uneven sloped surface.

The entry foyer includes a lighting installation by artist Steven Hirt. A steel-clad elevator is inserted opposite the entry while lookout perches on the second floor extend over the entry to provide voyeuristic glimpses of guests arriving.

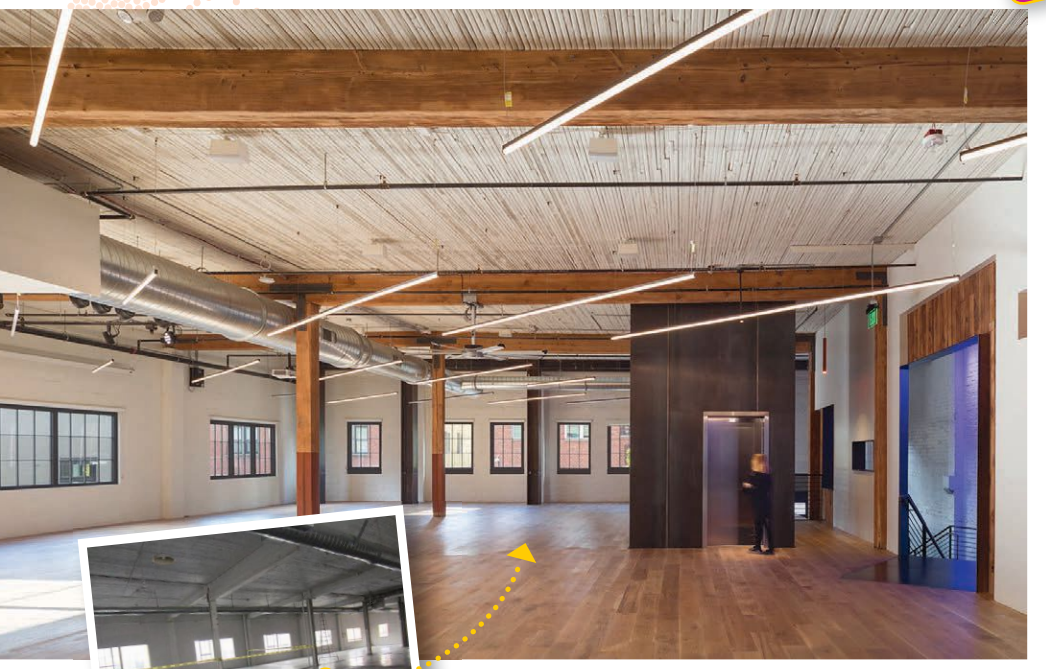


Block 41's two floors are connected by a large, wooden ramp, originally used for horse-drawn ice carts. Horseshoe divots show where horses gained footholds pulling carts to the second floor. A new blackened-steel stairway over the ramp allows people to move seamlessly between floors but preserves the history of the ramp.

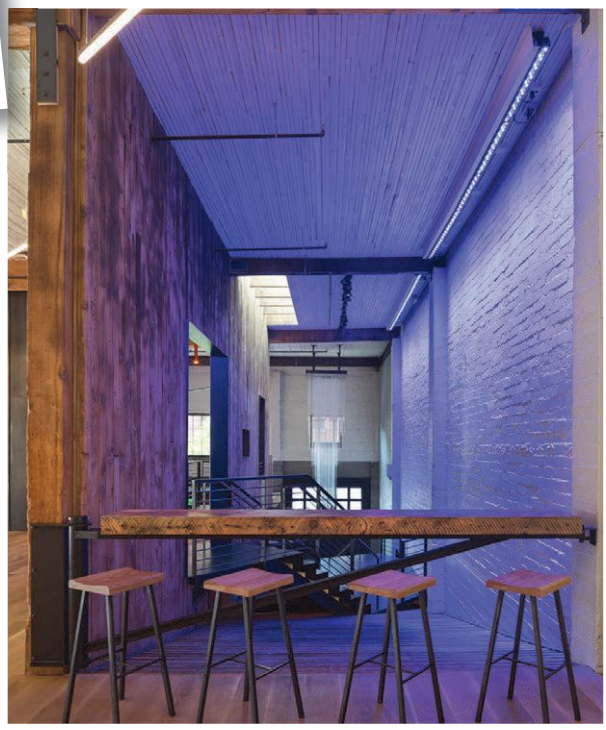
PHOTOS: **LARA SWIMMER & HARIS KENJAR** unless otherwise noted




BEFORE PHOTOS: GRAHAM BABA ARCHITECTS
Before



Before



METAMORPHOSIS AWARD WINNER!

Retrofit Team

ARCHITECT // Graham Baba Architects, Seattle, grahambabaarchitects.com

GENERAL CONTRACTOR // Wilcox Construction, Edmonds, Wash., www.wilcoxconstruction.com

LIGHTING DESIGN // Tom Sturge, Issaquah, Wash., (212) 245-2945

METAL WORK // Five Star Industries, Seattle, www.fivestarmetals.com

Materials

WHITE OAK FLOORING // K.D. Woods Co. Inc., www.kdwoodscompany.com

NATURAL OIL STAIN // Rubio Monocoat, www.rubiomonocoatusa.com

STAIN // Weatherwood Stains, www.weatherwoodstains.com

WOOD-CLAD WINDOWS // Eagle, element.eaglewindow.com/windows.asp

PAINT // Sherwin-Williams, www.sherwin-williams.com

SINKS // LaCava, www.lacava.com/collection/sinks.html

FIXTURES // Danze, www.danze.com

SHOWER FIXTURES // Grohe, www.grohe.us/en_us/bathroom/shower-collections

TOILETS // Toto, www.totousa.com/products/toilets

DOORS // Simpson Doors Co., www.simpsondoor.com

GARAGE DOOR // Northwest Door, www.nwdusa.com

STOREFRONT SYSTEMS // Kawneer, www.kawneer.com

HARDWARE // C.R. Laurence Co. Inc., www.crlaurence.com

TILE // Daltile, www.daltile.com

BATHROOM ACCESSORIES // Bobrick, www.bobrick.com

ELEVATOR // Otis, www.otis.com

Both floors feature large, open spaces defined by massive old-growth fir timber leather-wrapped columns, exposed brick walls, and car decking floors and ceilings. The first floor can be divided to host multiple events by virtue of a folding wall while the second floor opens onto a 2,700-square-foot courtyard. The courtyard preserves the former covered outdoor loading dock and enables events to spill outside. A perimeter fence and gate designed by Steven Hirt enclose the area and create separation from 2nd Avenue.

A gallery-like entry space along Bell Street will house works by local artists and serve as a reception and pre-function space for events happening in the building.

Building upgrades, including a seismic retrofit, addition of prep kitchens and accessible restrooms, a state-of-the-art sound system, replacement of non-thermal and broken windows, and the installation of new lighting and mechanical systems, bring the building fully into the 21st century.

RETROFIT MAGAZINE METAMORPHOSIS AWARDS Winner

> **It was really good to have Graham as a partner on this project. Very easy to work with and great team players.**

STEPHEN TORELL, PE, LEED AP
SENIOR PROJECT MANAGER,
PRISM CONSTRUCTION

PROJECT: THE RESIDENCES AT EDISON LOFTS
OWNER: DGP URBAN RENEWAL LLC
ARCHITECT: MINNO & WASKO ARCHITECTS & PLANNERS

HISTORIC REPLICATION WINDOW EXPERTS

Necessity truly is the mother of invention, as Graham discovered in replicating the former Thomas Edison Battery Building's nearly 2,500 windows. The solution required nearly 40 new extrusion dies. But by extensively modifying its rugged S6800 Series window, Graham was able to replicate the original windows' look while also delivering high-end thermal and structural performance. Edison would be proud.

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TRANSFORMATION *Winner*

EXHIBIT STAGING CENTER

Phipps Conservatory & Botanical Gardens Retrofits a Public Works Building into a Green Example

With block wall masonry, a flat roof and no windows, the former public works building that was the site of this adaptive-reuse project in Pittsburgh is a typical industrial facility of the 1960s—not the kind of building most would associate with sustainable design. In 2019, Phipps Conservatory & Botanical Gardens' representatives adapted this structure into an Exhibit Staging Center (ESC) with a dynamic, modernized design and the ambitious goal of achieving three of the world's most rigorous building standards: Living Building Challenge, LEED Platinum and WELL Platinum. The ESC showcases the latest advancements in green-building technology, transforming a dilapidated space on a former brownfield site into a safe, healthy environment for people, plants and animals.

To read a full feature about the ESC, see the September-October issue, page 58, or visit bit.ly/2lEqyeS.

The design team knew the ESC would primarily be used as a maintenance facility. In many places, the health and wellbeing of maintenance staff are often overlooked and they are given some of the unhealthiest buildings in which to work. The ESC houses a workshop, storage rooms and office spaces for the crew, as well as a yoga studio, meditation room and fitness center for all garden staff to use.

PHOTO: PAUL g. WIEGMAN

PHOTO: ROB LARSON PHOTOGRAPHY

METAMORPHOSIS AWARD WINNER!

Retrofit Team

OWNER // Phipps Conservatory & Botanical Gardens, Pittsburgh, www.phipps.conservatory.org

ARCHITECT // FortyEighty Architecture, Pittsburgh, www.fortyeighty.com

LANDSCAPE ARCHITECT // Studio Phipps, Pittsburgh, bit.ly/30SL6Q0

BIOPHILIC CONSULTANT // Shepley Bulfinch, Phoenix, www.shepleybulfinch.com

Materials

TRANSPARENT FINISHES // AFM Safecoat, www.afmsafecoat.com

INSULATION BOARD // Kingspan Insulation, www.kingspan.com/us/en-us/about-kingspan/kingspan-insulation

DOMESTIC WATER AND HYDRONIC PIPING // Uponor, www.uponor-usa.com

FIRE SUPPRESSION AND SANITARY WASTE PIPING SPECIALTIES // Zurn, www.zurn.com

SHEATHING // National Gypsum, nationalgypsum.com

ROOF ACCESSORIES // Bilco, www.bilco.com

TOILET, BATH AND LAUNDRY ACCESSORIES // Bradley Corp., www.bradleycorp.com

PLASTIC TOILET COMPARTMENTS AND LOCKERS // Scranton Products, www.scrantonproducts.com

HVAC // Taco Comfort Solutions, www.tacocomfort.com

ELECTRICAL // Starline, www.starlinepower.com

View additional team members and materials used in the ESC in the September-October issue, page 58, or visit bit.ly/2IEqyeS.

TRANSFORMATION *Winner*

3D TREATMENT

A YMCA Is Creatively Adapted into Office Space, Adding Vibrancy to Its Neighborhood

WRITTEN BY | **KJ FIELDS**

A range of building types with unique identities inhabit Washington, D.C.'s historic central business district—from a sequence of townhomes and commercial buildings to the copper-domed St. Matthew's Cathedral. When the district's 1970s YMCA was put up for sale, an opportunity arose to reinvent the structure in a way that ties together the neighborhood's diverse architectural fabric. Now premiere office space, the 7-story, 104,000-square-foot building at 1701 Rhode Island Avenue NW brought new vibrancy to the district and earned acclaim as a Metamorphosis Awards Transformation winner.

ARTS AND CRAFTS

The former YMCA sported a nearly windowless brick façade, which required a complete transformation for an inviting speculative office space. Architects at Washington-based Hickok Cole were intrigued by the challenge of creating daylight and views while still fitting into the historic district. Their design replaced the exterior brick with glass and focused special attention on exterior detailing. "We were intrigued by the beauty of copper and our client was attracted to the way it paid tribute to the cathedral's dome," recalls Hickok Cole's Project Designer Stefano Sani. "Copper allowed us to build a contemporary narrative to the district's context."

Hickok Cole selectively set back portions of the façade to scale down the building's volume. The design also took advantage of the adjoining 40-foot sidewalk to project a shingled copper frame 18 inches off the glass façade, evoking a three-dimensional experience with depth and shadows.

"We went to Italy to experiment with the materials and patterns on the shingles," Sani remembers. "We were like grown-ups playing with a children's chemistry set." Working with manufacturers, they developed a complex pattern by using an acid bath on 5-foot-wide copper shingles. Each shingle's finish is similar but never identical, making the constantly shifting geometry reminiscent of a snake's skin. Once the pattern process was defined, they gave a green light to the manufacturers to individually hand-treat 1,700 shingles. Then, a nano-ceramic coating was applied to the shingles that significantly slows their oxidation process to preserve the richness of the copper hues.

After arriving in the U.S., the flat shingles had to be bent and formed into the copper frames sequentially, from the bottom right corner to the top left corner. "We needed a customized interlocking installation to achieve the right pattern, which required a lot of advance communication and coordination," explains Project Architect Jason Wright of Hickok Cole. "When you're pushing the limitations of materials and fabrication capabilities, never underestimate the amount of time it will take. It's critical to engage the subcontractors as early as possible to ensure a smooth construction process."

To differentiate the glass inside the copper frames from the rest of the façade, designers introduced a filigree of black metal rods and bars.

"I believe it's one of the most significant contemporary examples of applied arts and crafts in a major scale to a commercial building," Sani says. "These details build an appropriate sequence of scale, both from a distance and standing directly under the copper frame."

The effect has a strong visual impact. According to Metamorphosis Awards judge John J. Noonan, ***retrofit*** editorial advisor and vice president of Facilities Management at Duke University in Durham, N.C., "The most impressive aspects of the project were the transformation of the exterior wall system and skin and the use of material on the exterior, as well as the interior."

SCULPTING SPACE

In addition to designing a market-enticing presence for the speculative office building, the

PHOTOS: ALAN SCHINDLER unless otherwise noted


BEFORE PHOTOS: HICKOK COLE
Before

Retrofit Team

DEVELOPER // Akridge, Washington, D.C., www.akridge.com

INVESTMENT PARTNER // Alcion Ventures L.P., Boston, www.alcionventures.com

ARCHITECT AND INTERIOR DESIGNER // Hickok Cole, Washington, hickokcole.com

BUILDER // The Whiting-Turner Contracting Co., Washington, www.whiting-turner.com

STRUCTURAL ENGINEER // The SK&A Group, Washington, skaengineers.com

MEP ENGINEER // GHT Limited, Arlington, Va., ghtltd.com

LANDSCAPE ARCHITECT // Parker Rodriguez Inc., Alexandria, Va., parkerrodriguez.com

Materials

COPPER CLADDING // KME, www.kme.com/copper-division/architecture/tecu-surfaces/

FOUR- AND TWO-SIDED STRUCTURALLY GLAZED CURTAINWALL AND VERTICAL FINS // YKK AP, www.ykkap.com/commercial/product/curtain-walls/ycw-750-xt

INSULATED GLASS UNIT // Viracon, viracon.com

REVOLVING DOOR // dormakaba, bit.ly/31d4Opm

RUBBER TILE FLOORING // Tarkett, bit.ly/2m32uSP

MOCA CREME STONE WALL AND SOFFIT // Lorton Stone LLC, www.lortonstone.com

PAINT // Sherwin-Williams, www.sherwin-williams.com

PENDANT LINEAR LIGHT FIXTURE // Peerless Lighting, bit.ly/2kjYKMm

PENDANT LIGHTS // USAI Lighting, bit.ly/2md3IR1

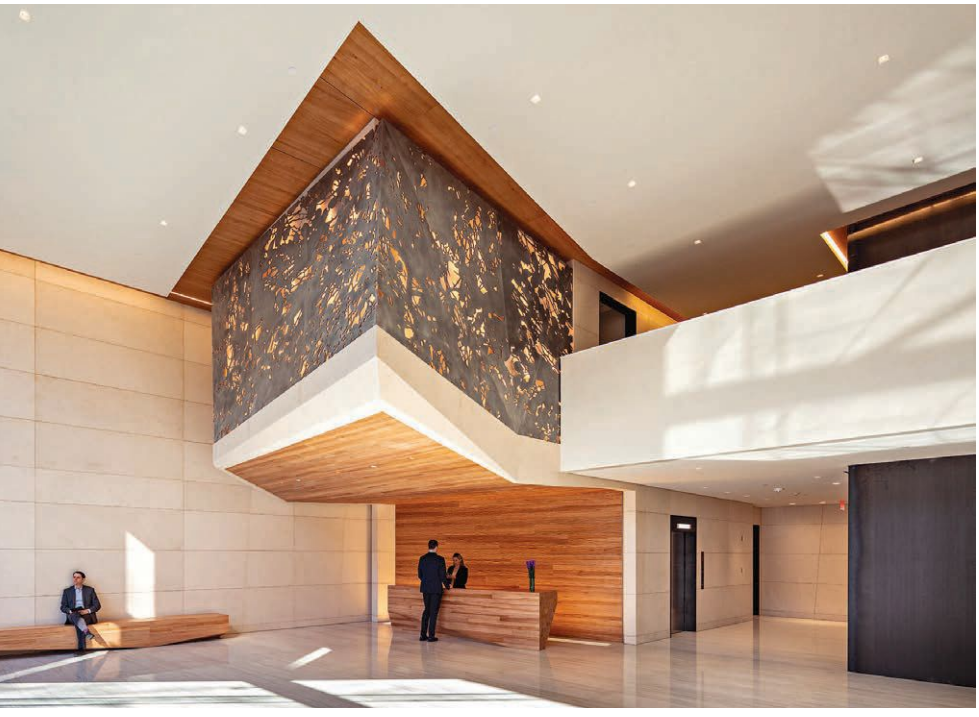
VRF SYSTEM // Daikin, www.daikin.com

METAMORPHOSIS AWARD WINNER!

team had to carefully preserve major portions of the building's structural elements to align with the city's zoning requirements. "We carved and sculpted the building to fill in the pool, racquetball courts and gym, to make them viable for office use," Wright says. "It was a balance between what to demolish and preserve while remaining economically feasible."

The original brick façade brought structural benefits to the renovation. During construction, the brick's mass provided enough bearing pressure to keep the footings in place while the team removed the below-grade pool deck and installed an underground parking garage. In addition, because the net weight of the structure was actually less once the brick was removed, the footings did not need reinforcement to accommodate two new 13,000-square-foot office floorplates.

"We had a lot of detailed conversations with our structural

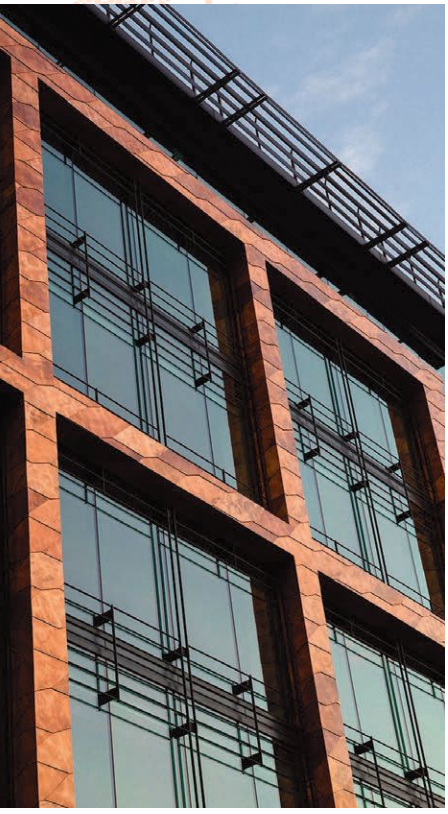


Top: In the lobby, a 2-story volume bridges the interior and exterior through a "cube" of perforated metal that can be animated with light. **Bottom:** Hickok Cole dismantled the gymnasium hardwood floor and repurposed it as wall cladding for the building's new fitness center, preserving the old floor marks on the wood as an homage to the YMCA's legacy.

engineers during design to streamline the work," Wright says. "The schedule to get to market was aggressive, and all the shoring and underpinning that we didn't have to do in the end reduced the timeline and eliminated costs."

Hickok Cole moved the lobby from the corner of the rectangular building to the center of its long span. There, a 2-story volume bridges the interior and exterior through a "cube" of perforated metal. Inspired by Washington's predominant cherry-blossom trees, the perforations form an organic motif. A white surface behind the cube allows light to bounce back and shine through the pattern, and a controller can animate the colors of light in the perforations. Each face of the cube is angled in different ways, casting an interplay of light and shadows.

At the lobby entrance, designers specified a more transparent, low-iron glass and a structural glass fin system to support the double-height volume without obstructing the view of the cube from the outside. "The cube became a beacon of the lobby itself and expresses its presence outside in the evenings," Sani says. "As we sourced the other materials for the lobby, we wanted the space to be warm but uncluttered and create a highly



sophisticated, calm showcase for the cube."

Honed Moca Creme Portuguese limestone lines the main lobby walls. The pieces of stone are tailor-cut with angled joints between the panels; the effect recalls the copper frames outside. An acid-treated blackened steel panel system covers one wall to integrate with the black elevator panels and provide a striking counterpart to the luminosity of the cube.

Sycamore wood above and below the cube defines the reception area, lending warmth to the spaces where people gather, including the reception desk and lobby bench.

"What was once a cold and uninviting building is now bright and welcoming to its occupants," notes Metamorphosis Awards judge Nathan M. Gillette, ***retrofit*** editorial advisor and director of Natura Architectural Consulting in Grand Rapids, Mich.

MODERN EMPHASIS

Hickok Cole dismantled the gymnasium hardwood floor and repurposed it as a wall cladding for the building's new fitness center, preserving the old floor marks on the wood as an homage to the YMCA's legacy.

A Variable Refrigerant Flow (VRF) system for air conditioning helped achieve two impressive goals. By eliminating the need for a cooling tower, the VRF system freed up a significant amount of space on the rooftop. The penthouse became 7,735 square feet of rentable space and the designers added a setback to offer a coveted rooftop terrace with a stunning city view.

VRF also lowered the building's energy consumption to such a great extent that it helped 1701 Rhode Island Avenue NW receive a LEED Platinum award. The building's distinctive character, sought-after amenities and LEED Platinum designation proved highly valuable in terms of market acceptance. The building was leased shortly after completion and recently sold at an exceptional price.

"Our philosophy was to always emphasize different scales to keep the relationship between the viewer, occupant and material surfaces engaging—both inside and out," Sani says. "When exploring unique solutions, test and prototype as much as possible but never surrender in the face of resistance. In the end, there's so much pride in the building and everyone's hard work was rewarded by the market. The result was worth the effort."

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MIXED USE Winner

START UP

An Abandoned Building Once Produced Great Inventions; Now as a Mixed-use Facility, It Has Catalyzed a Downtown's Restoration

WRITTEN BY | CHRISTINA KOCH

The Dayton Dragons play minor league baseball in Fifth Third Field, which can hold 7,230 baseball lovers, in downtown Dayton, Ohio. For 17 seasons, as fans cheered on their beloved Dragons, they likely didn't notice—or didn't care to notice—the abandoned 220,000-square-foot building adjacent to the field that had been "boarded up" with metal siding. Fans also probably didn't realize Charles F. Kettering, the inventor of the electrical system in the various cars, trucks, vans and buses that delivered them to the ballpark, once paced the floor of the building, conjuring his next big automotive development. (To learn more about Kettering, see "Who Was Charles F. Kettering?", page 36.)

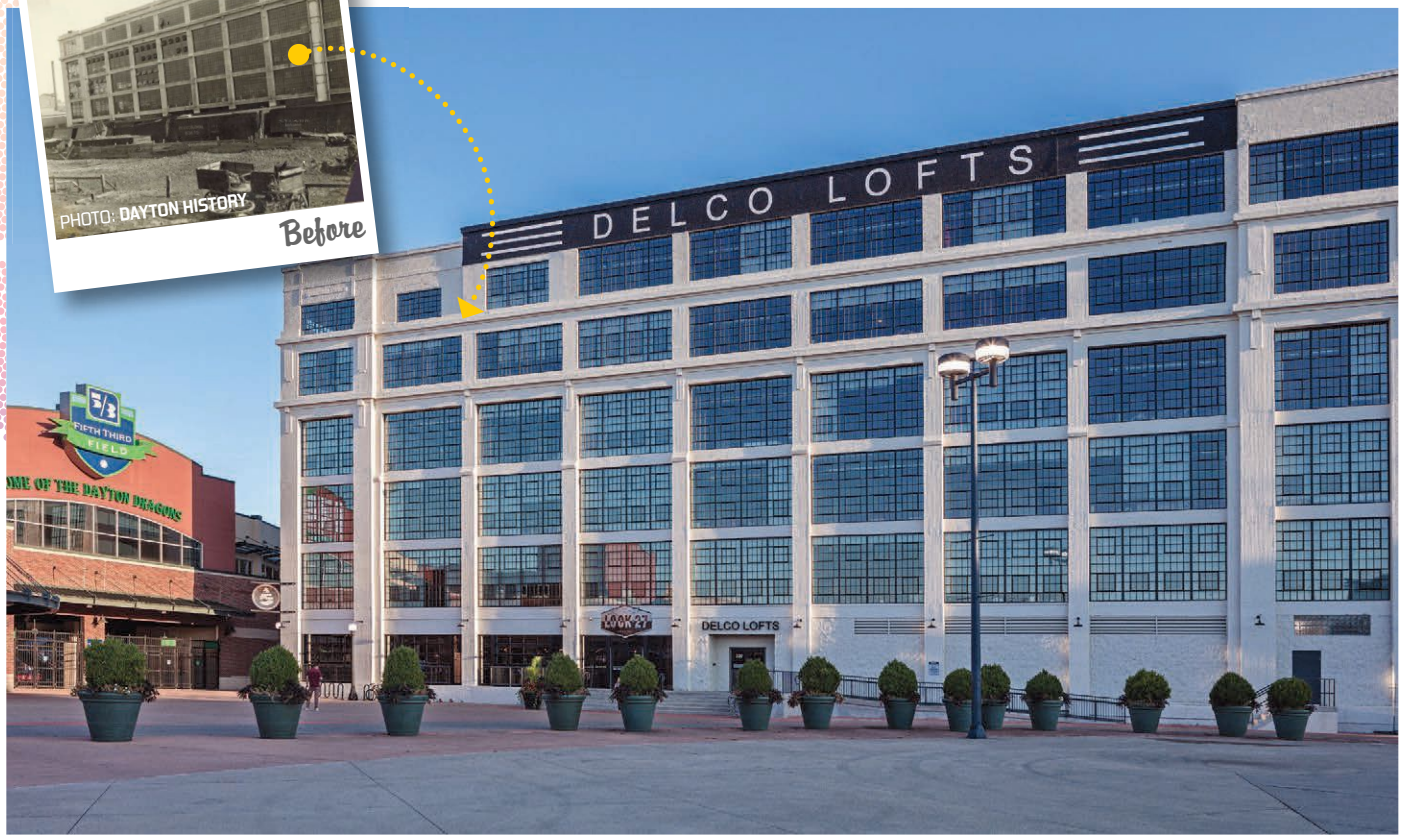
Two firms that took notice of the 6-story, 1912 building, which was named after Kettering's business, Dayton Engineering Laboratories Co., or Delco, were Troy, Ohio-based contractor Brackett Builders Inc. and Dublin, Ohio-based developer Crawford Hoying. Michael Hoying, vice president of Brackett Builders, and his brother, Bob Hoying, principal of Crawford Hoying, had been collaborating with other organizations on revitalizing Dayton's downtown since 2014—first by constructing a 50,000-square-foot, Class-A office building and then multiple buildings that resulted in 269 residential apartments near the ballpark, an area known as the Water Street District.

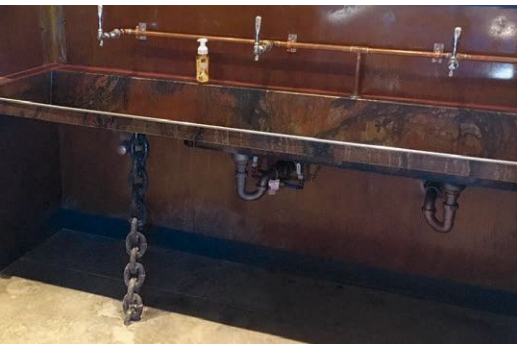
"The ballpark is the epicenter," Michael Hoying explains. "We started building the apartments right along the river, which is across the street from the ballpark and then quickly jumped into the Delco building for mixed-use space. Across from Delco, we

PHOTOS: CORY KLEIN PHOTOGRAPHY unless otherwise noted

Some sixth-floor units feature living rooms with ceiling heights of 15 to 18 feet, thanks to the unexpected discovery of beautiful wood beams and ceilings that were original to the building.

Delco Lofts' windows are energy-efficient recreations of the building's original windows, which in some places are 18-feet wide by 10-feet tall. Where electric lighting was added, the design team specified lights with an industrial vibe to pay homage to the building's history.





Elevator chains from the original freight elevator were reused as "legs" for the bathroom vanities of Lock 27, a microbrewery on Delco Lofts' first floor.

built the first new hotel in downtown Dayton in decades. We're still continuing today on another mixed-use project that's finishing up in the ballpark's center field, and we're just starting to design some other new build and renovation projects across the street from the ballpark."

The Hoyings' firms began work on the Delco building in April 2016. By July 2017, Delco Lofts was unveiled to the public, featuring 133 market-rate studio, one- and two-bedroom apartments (many of which were already leased), as well as a microbrewery, Lock 27, which encompasses about 5,000 square feet on the first floor of the building and 4,500 square feet in the basement for brewing facilities.

Not only has the dramatic transformation of this property captured the hearts of Daytonians and Dragons fans alike, it's also garnered Brackett Builders an inaugural Metamorphosis Award from ***retrofit*** in the Mixed Use category —and was the only winner in the category.

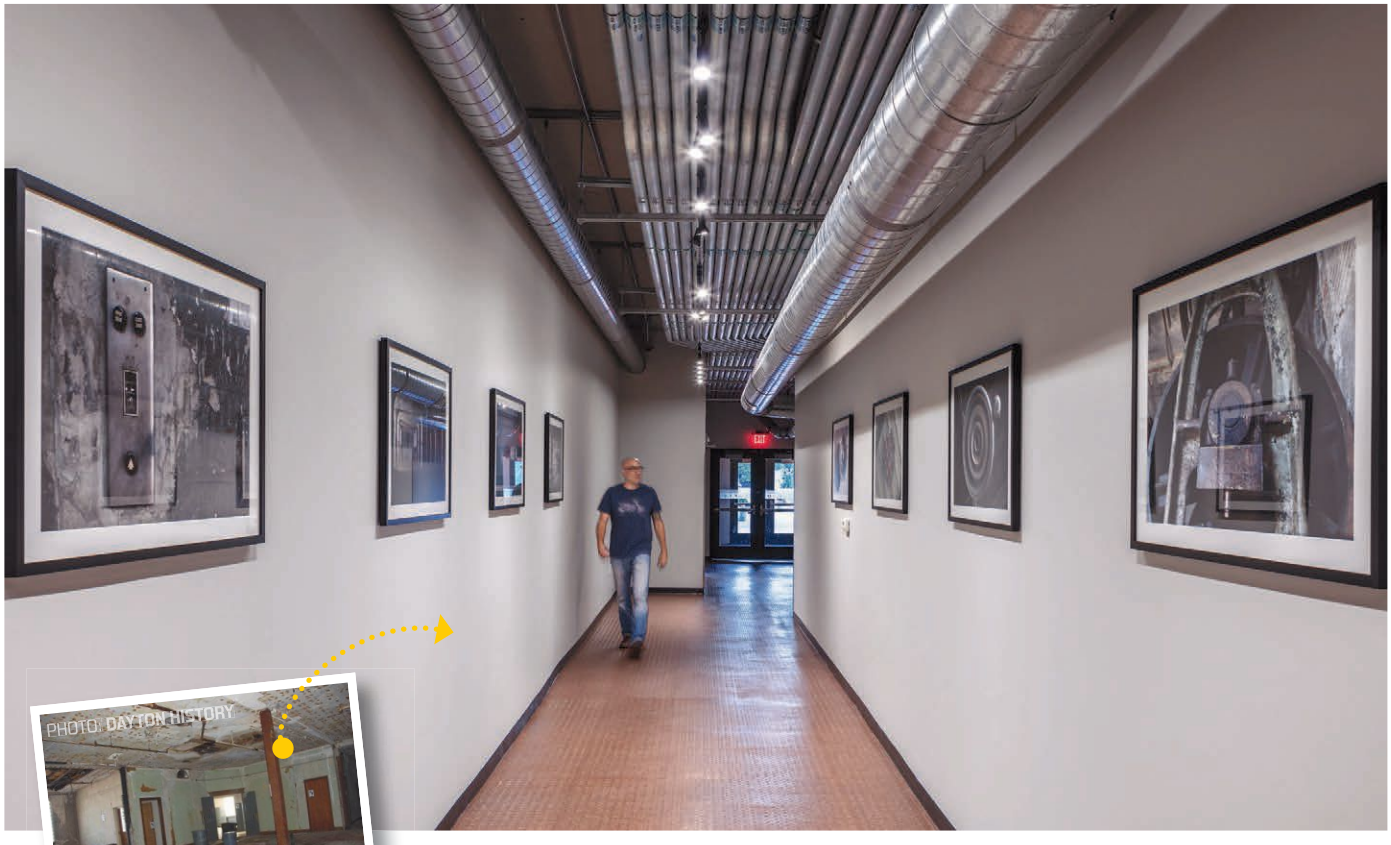
NATURAL LIGHT FOR THE WIN

The sturdiness of the concrete structure minimized major repairs to the Delco building's bones. In fact, the building was one of the few in downtown Dayton that survived the great 1913 flood. The design team relegated the basement and first floor to parking for tenants. In addition to parking and Lock 27, the first floor contains a lobby and leasing space. The team focused on adding stairwells and walls to transform the second through sixth floors into Delco Lofts.

The Delco building essentially is a big square, according to Michael Hoying, and wouldn't have been a great candidate for redevelopment if it hadn't been for its lightwell. "The lightwell allowed us to install a double-loaded corridor, so we have apartments on both sides," he says. "The apartments on the inside have views into this lightwell courtyard and the apartments on the outside have views into downtown Dayton; the ones facing east have the views into the ballpark. The lightwell ensures all units have good views and natural light."

As is often the case when working in historic buildings, the team was limited in some ways by the existing structure. "We could have designed more one bedroom or two bedrooms into the project but we had limitations in the building," Hoying recalls.

For example, the layout of the facility's columns informed the design. "The columns really drove these apartments to be larger than we would normally see designed just because it



doesn't make sense to have a 3-foot-diameter column in the middle of a bedroom or a living room," he remarks. "Instead, we placed demising walls and interior walls on these columns." Ultimately, the apartments range in size from 638-square-foot studios to 1,648-square-foot two-bedroom units.

In addition, the sizes and sheer number of windows helped the design team determine the layout of apartments. In many places, the windows are as large as 18-feet wide by 10-feet tall, which reaches from floor to ceiling. "We obviously couldn't have walls right in the middle of a window," Hoying notes.

Because of the Delco building's historic status, the development team opted to seek state and federal tax credits for the renovation. To qualify for tax credits while providing comfort to the building's tenants, the team recreated the look of the original windows but with an energy-efficient product in the same sizes. Hoying recalls some back and forth with the manufacturer about mullions and corner and jamb details, as well as communication with the State Historic Preservation Office to ensure the new windows would be approved. However, Hoying would say this aspect of the project was more of a process than a challenge.

To also meet the preservation requirements, Kettering's sixth-floor corner office was recreated. It boasts original wood floors that were repaired where necessary and refinished, as well as antique millwork and crown molding. The former office now acts as a 1,600-square-foot community space for tenants.

A NOD TO HISTORY

The original drawings of the Delco building were not highly detailed and the building contained multiple additions; therefore, during demo, the crew was surprised to find large wood beams and wood ceilings behind plaster ceilings on the sixth floor. "Our drawings directed us to install new drywall ceilings for that sixth floor. Then as we discovered the beams and realized they were in great shape and beautiful, we quickly involved the architect to make sure we didn't have to install drywall ceilings to adhere to code," Hoying recalls.

The local building department agreed with the architect's opinion the original wood ceilings could be maintained, so the team cleaned them and made repairs where necessary. Hoying is pleased with the outcome. "There are some sixth-floor units that have living rooms

Two new passenger elevators were placed in the shaft of the existing 20-foot freight elevator. Tenants and visitors can view the old doors on every floor of Delco Lofts.

THIS SHORT VIDEO SHOWCASES DELCO LOFTS' PRIME LOCATION IN DOWNTOWN DAYTON, OHIO.

Who Was Charles F. Kettering?

Charles F. Kettering (1876-1958) was an engineer, businessman and inventor who held 186 patents. In his early career, he executed financial inventions, including a credit-approval process and, in 1906, the electric cash register. But he soon recognized the automobile as a potentially prosperous venture, and he and several financial-industry colleagues organized under Dayton Engineering Laboratories Inc., or Delco, in Dayton, Ohio. The team first set about improving upon the ignition. In 1911, when Kettering invented the electrical system that is still used in modern vehicles—starter, generator and lighting power—he sold 12,000 electrical systems to Cadillac immediately.

Only a few short years after inventing the electrical system, Kettering sold Delco, which eventually came under the General Motors umbrella and still is referenced in GM's parts business as ACDelco. The Dayton Delco building was held by GM for some time before it was sold to a liquidation business that used it for storage. And then it was abandoned.

Meanwhile, Kettering helped found FIxible Co. in 1914. The company manufactured motorcycle sidecars, funeral cars, ambulances, intercity coaches and transit buses, eventually becoming the largest North American transit-bus manufacturer. Kettering was president of the company until 1940 when he became chairman of the board, a position he held until his death.

One of Kettering's notable quotes is: "It doesn't matter if you try and try and try again and fail. It does matter if you try and fail and fail to try again."

Retrofit Team

ARCHITECT // LUSK Architecture, Columbus, Ohio, (614) 827-6000

STRUCTURAL ENGINEER // Jezerinac Geers & Associates Inc., Dublin, Ohio, www.jgaeng.com

MECHANICAL ENGINEER // Prater, Dublin, praterengineering.com

GENERAL CONTRACTOR // Brackett Builders Inc., Troy, Ohio, www.brackettbuilders.com

METAMORPHOSIS AWARD WINNER!

DEVELOPERS // Crawford Hoying, Dublin, www.crawfordhoying.com, and Woodard Development, Dayton, Ohio, woodardresources.com

Materials

WINDOWS // Graham Architectural Products, www.grahamwindows.com

CEILING TILES // Armstrong Ceiling & Wall Solutions, www.armstrongceilings.com

CABINETS // Advanta, www.advantacabinets.com

QUARTZ COUNTERTOPS // Herostone, www.herostoneusa.com

WINDOW SHADES // Hunter Douglas, www.hunterdouglasarchitectural.com

PAINT // Sherwin-Williams, www.sherwin-williams.com

ROOFING // Firestone Building Products, www.firestonebpco.com

HEAT PUMPS // Goodman, www.goodmanmfg.com

ELEVATORS // Schindler, www.schindler.com

with ceiling heights 15 to 18 feet, which is pretty rare downtown," he says.

In a nod to the industrial use of the original facility, Delco Lofts features lighting with an industrial vibe throughout. For example, in the corridors, the designers took simple metal framing, typically used to support ductwork, and mounted LED strip lights to the framing. "It was a pretty simple concept, but it turned out great," Hoying says. "It provides great energy-efficient lighting while looking modern and industrial."

The design team also found ways to reuse materials from the original Delco facility in Delco Lofts. For example, the building had a 20-foot freight elevator, which the team removed. Because the freight elevator was so large, the team was able to place two new passenger elevators in the shaft while maintaining the original freight-elevator doors. The new elevators' doors open near the original freight-elevator doors so tenants and visitors can view the old doors on every floor.

Hoying explains: "We bolted the old freight-elevator doors shut on every floor. Obviously, they don't operate, but tenants and visitors are traveling through the original shaft in the new passenger elevators."

Brackett Builders did not complete the tenant fit-out for Lock 27, but Hoying says his team provided the brewery owner with materials from the existing building that were reused in Lock 27. "A few wood doors from the facility were used as toilet partition doors, and [the owner] used some elevator chains from the old freight elevator essentially as legs for the bathroom vanities," Hoying says.

VISIBLE SUCCESS

The Delco Lofts project wasn't without challenges. For example, finding ways to ventilate bathroom exhausts and dryer vents was perplexing. "You can't run out the exterior wall with anything because that wasn't done when the building was originally built and we had to maintain the aesthetic integrity of these critical elevations," Hoying explains. "We had to mechanically ventilate our dryer exhaust and all the bathroom exhaust. Creating the shafts for the 133 apartment bathrooms and dryers was a bit of a challenge. All these shafts had to go vertically straight through the building but had to miss critical floor and roof structural components—while maintaining the proper fire ratings at each floor penetration. Ultimately, all mechanical and electrical equipment had to be placed on the roof."

Hoying says any restoration project is inherently difficult because "you just don't know what you're going to get into when you start ripping into the old and trying to reuse a building in a way it wasn't originally designed and intended to be used." But uncovering the surprises also can lead to the rewards.

"I think a lot of difficult projects like this one end up being the most rewarding ones once they're successfully completed," Hoying asserts. "The fact that Delco Lofts is fully occupied and it's very visible in downtown Dayton, especially by the ballpark, so it gets viewed by thousands of people each game night, that is very rewarding to me."

RETROFIT MAGAZINE METAMORPHOSIS AWARDS *Winner*

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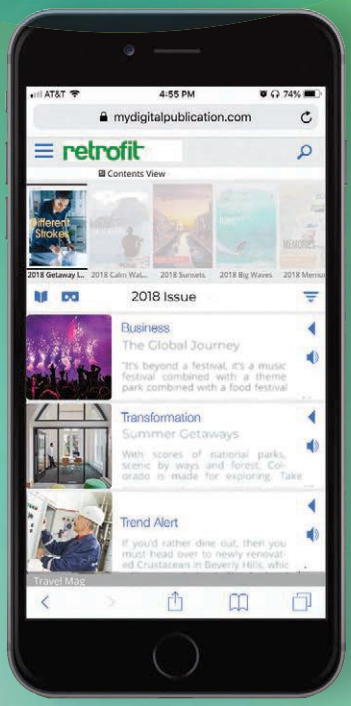

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INTERIOR Winner

OPENING NIGHT

A Beloved Theater within the Kennedy Center Is Updated to Rave Reviews

WRITTEN BY | **NATHAN M. GILLETTE, AIA, LEED-AP O+M, CEM**

Since the John F. Kennedy Center for the Performing Arts opened in Washington, D.C., in 1971, it has been in a state of evolution. Designed by famed Architect Edward Durell Stone and constructed between 1964 and 1971, the project was the culmination of Eleanor Roosevelt's idea in the early 1930s to create a national cultural center that would prohibit discrimination of cast or performance and be a venue for everyone in the U.S. Originally named the National Cultural Center, the venue became the John F. Kennedy Center for the Performing Arts after JFK's assassination in late 1963. It was renamed to be a living memorial to the president because the center's inclusive mission embodied many of the principles JFK stood for during his presidency.

Beginning in 1994, the entire facility has been through several phases of renovation, including updates to the building's life-safety systems and accessibility requirements. Leora Mirvish, AIA, LEED AP, a principal with Quinn Evans in Washington, is no stranger to the evolution of the Kennedy Center. She has overseen or been part of four of the nine major renovations that have occurred at the center since the 1990s: the Concert Hall, 1997; Opera House, 2003; and Eisenhower Theater, 2008. In 2010, her attention was turned to the fourth-largest venue in the Kennedy Center, the Terrace Theater.

The outcome of Mirvish and her team's work is not only inspiring performers and guests of the John F. Kennedy Center for the Performing Arts, but the Terrace Theater also earned them an inaugural Metamorphosis Award in the Interior category.

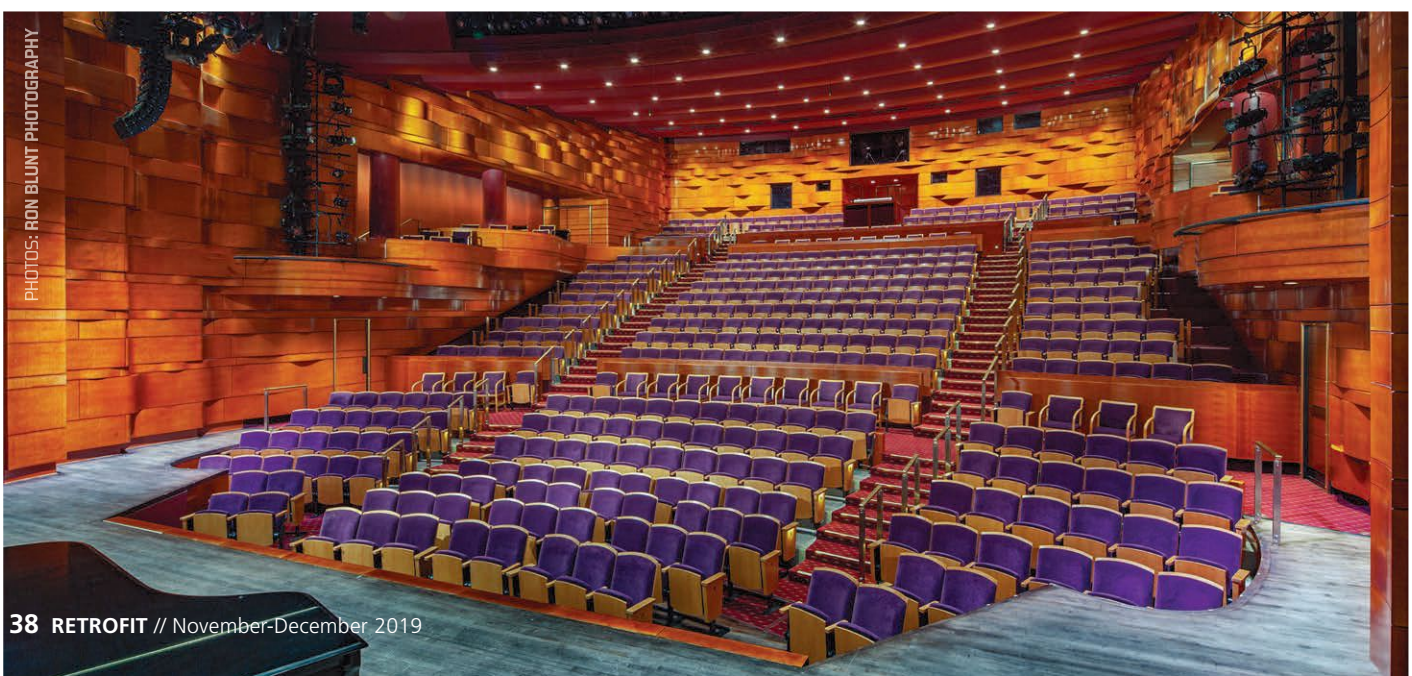
GOODBYE 1970s

The 487-seat, 30,000-square-foot Terrace Theater is smaller than other Kennedy Center theaters. However, it is one of the busier venues and is known for its ability to accommodate experimental performances, from spoken word to live music. Opened in 1978, the Terrace Theater was a bicentennial gift to the center from Japan. By the early 2000s, the theater had become functionally obsolete with worn finishes, aging systems and inadequate accessibility in the steeply raked theater.

The analysis of the existing space and redesign process began in 2010 and involved Building Information Modeling and physical models to reimagine the space and solve accessibility concerns. Because it was constructed in the middle 1970s, accessibility for disabled patrons was not on the designers' radars. Observations by Kennedy Center leadership revealed patrons who were wheelchair-bound or had difficulty navigating the steep rake of the theater could not enjoy performances, which did not live up to the center's mission of inclusiveness.

The renovated theater provides a new seating configuration that helps with sightlines and accessibility by expanding the rear of the theater, adding new cross-aisles and side boxes, as well as creating a more gently sloped seating area at the front. More than twice the number of ADA-required accessible seats are now distributed throughout the theater.

The accessibility improvements also offered the opportunity to enhance the hall's acoustical performance. After extensive analysis of the theater, the design team decided to alter the volume of the space by raising the ceiling level, which also improved the lighting positions. A new circulation staircase and elevator were incorporated into areas that were formerly back-of-house spaces, creating a new lower lobby. The main lobby was pushed back approximately 10 feet, which also altered the existing volume of space.



PHOTOS: RON BLUNT PHOTOGRAPHY

VIEW A SHORT INTRODUCTION TO THE UPDATED TERRACE THEATER, SET TO CLASSICAL MUSIC.

Retrofit Team

METAMORPHOSIS AWARD WINNER!

ARCHITECT // Quinn Evans, Washington, D.C., www.quinnevans.com

GENERAL CONTRACTOR // Rand Construction Corp., Alexandria, Va., www.randcc.com

MEP ENGINEER // Mueller Associates Inc., Baltimore, www.muellerassoc.com

STRUCTURAL ENGINEER // McMullan & Associates Inc., Reston, Va., www.mcmse.com

FIRE PROTECTION, LIFE SAFETY, CODE, SECURITY CONSULTANT // GHD Inc., Chantilly, Va., www.ghd.com

ACOUSTICAL CONSULTANT // JaffeHolden, Norwalk, Conn., www.jaffeholden.com

MILLWORKING CONTRACTOR // Architectural Woodwork Industries, Philadelphia, (215) 546-6645

THEATER CONSULTANT // Schuler Shook, Chicago, schulershook.com

LIGHTING DESIGN // Gary Steffy Lighting Design Inc., Ann Arbor, Mich., www.gsld.net

COST ESTIMATING // Venue, St. Petersburg, Fla., venue-consulting.com

Materials

WOOD PANELS // Quartered Figured English Sycamore on Veneer Core Plywood

FIXED SEATING // Allegro by Irwin Seating Co., www.irwinseating.com

CUSTOM CARPET // Wool-nylon Blend Axminster from Bloomsburg Carpet, www.bloomsburgcarpet.com

HOUSE LIGHTING // Kurt Versen, www.hubbell.com/kurtversen; LF Illumination LLC, lfillumination.com; Winona, winonalighting.acuitybrands.com; and ETC, www.etcconnect.com

WALLCOVERING // Knoll, www.knoll.com

STONE // Blanco Tulum Granite

TILE // Capriccio by Ann Sacks, www.annsacks.com

CEILING // Custom Glass Fiber-reinforced Gypsum/Plaster; Decoustics, decoustics.com; and Ecophon, ecophon.com

ACOUSTICAL COLLABORATION

Although generally regarded as having good acoustical properties for certain performances, the Terrace Theater's acoustics were not always optimal. The design team was required to maintain a high level of acoustical performance but altering fundamental aspects of the space introduced challenges.

In addition, during a previous renovation to the Eisenhower Theater, which is located directly below the Terrace Theater, the design and construction team uncovered the original intention for the Terrace Theater, which added another challenge to the acoustics in the Terrace Theater.

"When Edward Durell Stone originally designed the facility, the space where the Terrace Theater is located was intended to be a theater in the round with a rotating stage," Mirvish says. "Some of the original infrastructure was still in place—all challenges the design team had to contend with to achieve the acoustical performance we desired."

Some of the elements of the original design of the building could not be altered. "We knew there was some acoustical transmission between the Eisenhower Theater and the Terrace Theater from the roof beams," Mirvish adds. "The roof beams run continuous from the Terrace Theater space through the fly tower of the Eisenhower Theater, which is on the same level as the Terrace Theater. The budget didn't allow for removal or separation of these items." However, the team had made some acoustic isolation improvements in the prior renovation of the Eisenhower.

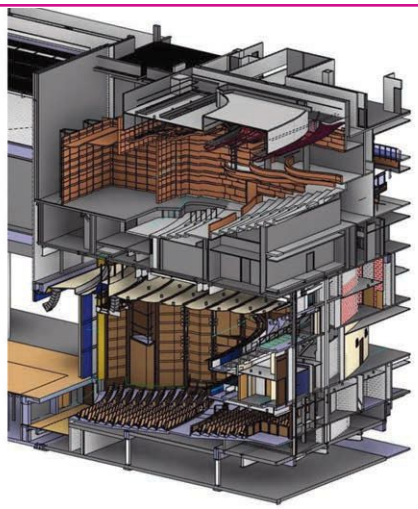
To overcome many of the acoustical challenges, more than 500 custom curved wood panels—that symbolize soaring sound waves—were placed in the space with guidance from the design team and an acoustical consultant. The panels help tune the acoustical properties of the space.

"All the panels were created from around a dozen different patterns," Mirvish explains. "By limiting the number of molds, we were able to decrease the cost and still provide the unique acoustical properties we needed. The panels help us modulate reflection versus diffusion of the sound. In the rear of the theater, we wanted more sound diffusion, so the curves of the panels have greater amplitude; in the front, we wanted more direct reflection of the sound energy, so the panels become flatter at the forestage area. The wood panels give us the sound qualities we were looking for and became a part of the aesthetic of the design."

Mirvish credits the success of this strategy to early collaboration with the Kennedy Center, construction manager, acoustical consultant, millworking contractor, as well as the design team's use of technology to model the acoustical properties of the space, which guided the wood panel design and placement. "We met with the contractor at the 35 percent design completion stage to begin discussions of the panels. Without the early

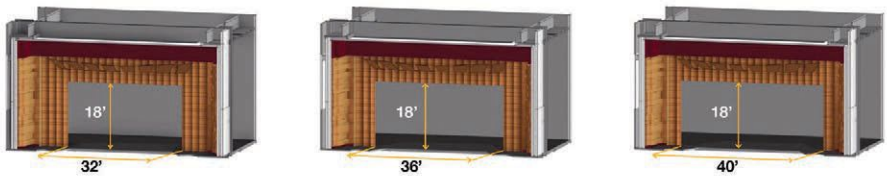
AN ITERATIVE DESIGN PROCESS

The design was developed using a combination of physical models and Building Information Modeling in an iterative process.



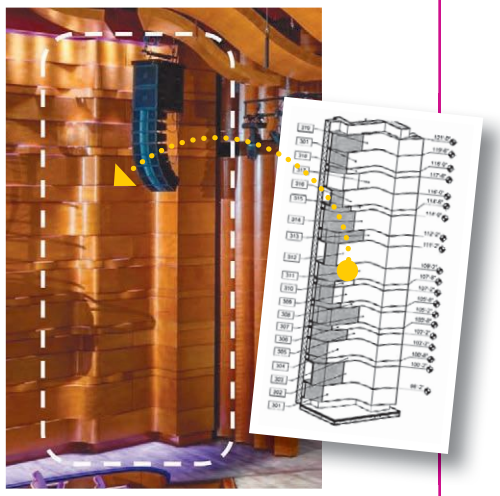
Early Revit model shows the relationship of the Terrace Theater (top) to the larger Eisenhower Theater below (renovated by the same team in 2008). The upstage wall of the Terrace is the proscenium wall of the Eisenhower.

A HOLISTIC SOLUTION



The proscenium is composed of adjustable side panels and a header panel that is raised when the orchestra shell is in place. This unique design marries a highly flexible technical solution with the overall architectural vision. **In any configuration, the Theater appears whole, never looking like a temporary setup.**

WORKING OUT THE DETAILS: COLLABORATING WITH FABRICATORS



The team worked with millworking firms to understand the fabrication process of the curved wood panels. Although there are more than 500 individual panels and 228 assembly types, they are based on only about a dozen radii. This minimized the number of molds needed to form the panels. The complex geometries were systematically documented in a series of schedules and diagrams. **Without the early collaboration, the efficiencies of computer modeling and modern fabrication methods, this design could not have been built within the project budget.**

collaboration, the efficiencies of computer modeling and modern fabrication methods, the design could not have been built within the project budget," Mirvish states. The center's own production crew installed the AV system and fabricated the chandeliers in the lobby.

In addition, deployable fabric drapes and retractable banners are acoustical solutions that also accommodate the many styles of performances in the Terrace Theater.

EFFICIENCY IS KEY

Prior to the renovation, the Terrace Theater's lobby was modest and lacked a strong connection to the theater. The design team opted to gut the lobby and transform it with curved walls and an open staircase. A new elevator to the lower level of the theater accommodates people with disabilities, and the restrooms were reconfigured for better accessibility. The lobby is punctuated by a striking glass sculpture by famed American sculptor Dale Chihuly.

Although no specific green-building certification was pursued, Quinn Evans implements sustainable features in all designs as a matter of best practices. Minneapolis-based Forest Stewardship Council-certified wood was specified wherever possible. Energy-efficient LED lighting was implemented to reduce energy consumption and reduce heating gains. Specific areas have color-tunable lighting to enhance the mood of the space for performances. Energy efficiency also was considered in the HVAC systems by reducing the intake of outside air by as much as 79 percent. The theater also has experienced a 46 percent reduction in water use despite a 25 percent increase in the number of water closets.

The renovation also features upgrades to help the crew operate the space more efficiently. "Because this is a smaller venue, it's run by a small crew that had to run all over to operate the space during performances," Mirvish remarks. The space now features one lighting position from a catwalk and box booms, reconfiguration of the technical booths, and a new audiovisual system that has enhanced operations and made the theater more efficient and safer to operate by a small crew.

The renovation, which was completed in 2018, brings a visual richness to the theater that it lacked previously. "The theater finishes were quite dated and cold and were in need of updating," Mirvish recalls. The new color palette of deep purple fabrics and vibrant red curtains gives the theater a modern feel while being pleasant to the eye, and the medium-toned wood acoustical paneling brings a warmth that was missing.

One of the most exciting aspects of the project for Mirvish was seeing the finished product and having it perform the way the design team intended. The project has received rave reviews from patrons and performers who were familiar with the space prior to the renovation, as well as media outlets, like *The Washington Post* and *Classical Voice North America*. All are amazed at how wonderful the space looks and sounds after the renovation.

The renovation of the Terrace Theater breathes new life into one of the busier venues at the John F. Kennedy Center for the Performing Arts. With the accessibility modifications and a fresh visual appearance, it will continue to be an exciting venue in which to see a performance for many years to come.

RETROFIT MAGAZINE METAMORPHOSIS AWARDS *Winner*

INTERIOR Winner

ALCATRAZ PHOTOGRAPHY STUDIO

A 100-year-old Building, Featuring Salvaged Wood, Provides Context for an Artist's Creations

The client, Richard Misrach, is an artist who is an internationally acclaimed photographer. His work is monumental in scale and content, navigating topics that are political and aesthetic. His art is collected and exhibited by museums worldwide. The Alcatraz Photography Studio (named for its location's view of the famous island) in Berkeley, Calif., provides the artist with a space within which he can design and mock up full-scale exhibit layouts with museum-quality lighting.

The original building's function and year of construction are lost to history; it appears about a century old. When Misrach purchased the property, it was being used as a costume store whose rabbit-warren rooms, overflowing with inventory, obscured the structural system and materials of the original building. Transformed for its new purpose by Marcy Wong Donn Logan Architects, Berkeley, the project exposes and seismically upgrades the building's masonry shell and gable roof. Eliminating an existing upper-floor structure, partition walls and old finishes enabled the creation of a lofty exhibit Gallery overlooked by a Mezzanine for ancillary work spaces.

PROGRAM

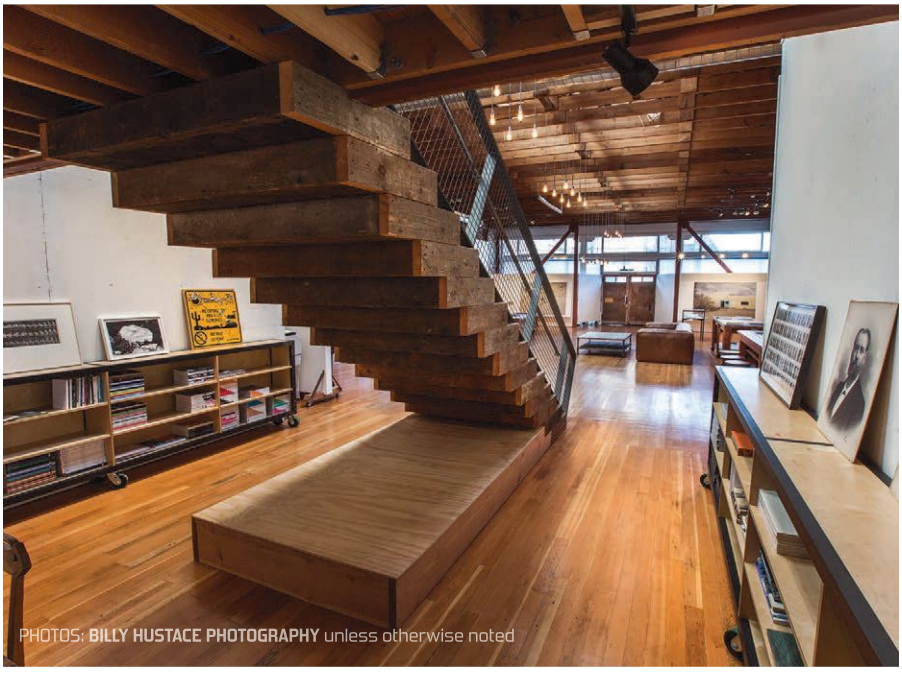
The project's architectural layout follows rather than resists the building's strong symmetry. Upon entrance from the street, one arrives into the Gallery whose axis is reinforced by continuous ridge skylights along the center-line of the room. The skylights softly diffuse natural light throughout the exhibit Gallery and Mezzanine. At the opposite end of the 2-story-high Gallery is a new stair—also centered on the ridge axis—leading to the Mezzanine.

The Mezzanine overlooks the main Gallery and contains an open office for staff and seating areas for visitors. Below the Mezzanine and beyond the Gallery are utility areas (bathroom, storage, kitchenette), a library, and a large table used for work and dining. At the rear wall is an existing door opening, leading to an urban garden.

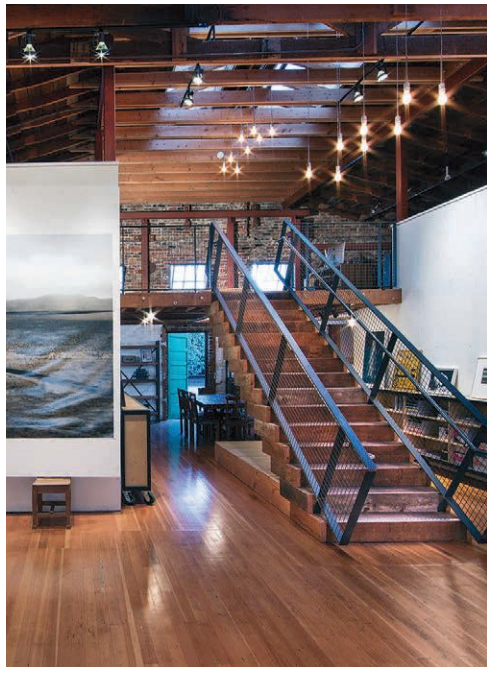
MATERIALS

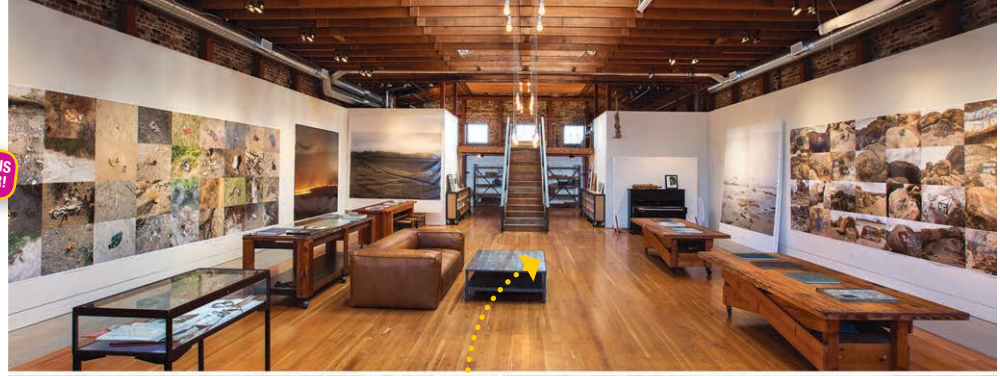
The materials used for the project's architectural elements, flooring and furniture make use of much of the wood salvaged from deconstructing parts of the original building. This use of recycled and local materials not only embraces the many positive characteristics of wood, including low embodied energy, low carbon impact and sustainability, but also helps achieve the architectural sensibility that the client and architect envisioned. Recycled wood, existing unreinforced brick, and new steel braces for seismic upgrade form the palette of architectural and structural materials in the project.

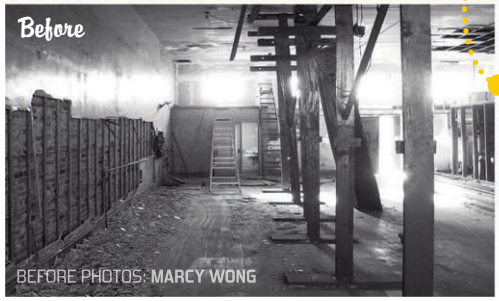
The structure is exposed to create a spatially dramatic context for the exhibited art while not visually overwhelming it. The welcoming nature of the spaces is in marked contrast to the subject matter of the artist's work. For example, a recent exhibit mockup consisted of photography that documented environmental



PHOTOS: **BILLY HUSTACE PHOTOGRAPHY** unless otherwise noted







BEFORE PHOTOS: MARCY WONG

METAMORPHOSIS AWARD WINNER!

Retrofit Team

ARCHITECT // Marcy Wong Donn Logan Architects, Berkeley, Calif., wonglogan.com

STRUCTURAL ENGINEER // Gregory P. Luth & Associates Inc., Santa Clara, Calif., www.gregorypluth.com

GENERAL CONTRACTOR // Gold Spring Construction Co., Oakland, Calif., (510) 238-8388

LIGHTING DESIGNER // Architecture & Light, San Francisco, www.architectureandlight.com

MILLWORK CONTRACTOR // Ross Craig, Oakland, rosscraig.net

HVAC DESIGN BUILD // Harry Clark Plumbing and Heating Inc., Oakland, www.hcplumbing.com

Materials

LAVATORIES, WATER CLOSETS // Toto, www.totousa.com

POCKET DOOR HARDWARE // Emtek, emtek.com

SKYLIGHTS // Skylight & Sun, www.skylights.com

BRICK SURFACE SEALANT // Xypex, www.xypex.com

LIGHTING CONTROLS, DIMMERS // Lutron, www.lutron.com

LED LAMPS FOR ART LIGHTING // Soraa, www.soraa.com

TRACK-MOUNTED LIGHTING // Lightolier, www.signify.com/en-us/brands/lightolier

LOW-VOLTAGE LIGHTING // WAC Lighting, www.waclighting.com

UPLIGHTING GALLERY CEILING // Ecosense, www.ecosenselighting.com

SUSPENDED INCANDESCENT LAMP // IKEA, ikea.us

GOOSENECK WALL-MOUNT LED LIGHTING // TMS Lighting Inc., www.tmslighting.com

SURFACE-MOUNT LINEAR LED // Lithonia Lighting, lithonia.acuitybrands.com

SUSPENDED JELLY JAR PENDANT // Stonco, www.signify.com/en-us/brands/stonco

ravages resulting from industrialization, natural disasters, petrochemical manufacturing and weapons testing. This juxtaposition of the Gallery's architectural ambiance and the art's unflinching depictions of reality is striking.

RECYCLE | RESTORE | REUSE | RENEW

A notable aspect of this project is the extent to which the materials used for the construction of the architectural elements, flooring and furniture are salvaged wood; in many cases, harvested while deconstructing parts of the original building. The project exploits the recycled wood for the ground-level flooring material, for framing and flooring of the Mezzanine, as well as for heavy-timber for the stairs. Of note are the new wood trusses, which enhanced by a series of ridge skylights, softly diffuse natural light throughout the space. Because most of the wood is salvaged and recycled from the original construction, there are no manufactured finished wood products. The old wood flooring has been sanded, cleaned and refinished.

STRUCTURAL SYSTEM

The original building was a modest gable-roofed "shoebox" of unreinforced brick masonry (URM) walls, a wood second floor and wood roof structure, constructed in the first half of the 20th century. The original URM walls' structural resistance to earthquakes was woefully inadequate; whatever seismic value existed from that construction was reliant upon what the intermediate floor and roof could provide. The following was done to strengthen the shell:

- Internally exposed steel framing and bracing were installed in the planes of URM walls.
- Structural shear diaphragms were provided at the new Mezzanine and the existing roof.

The wood-framed Mezzanine built using wood salvaged from the deconstruction of the original building provides functional floor area and an intermediate-height shear diaphragm with steel braces, working with the wood structure to form a hybrid structural system.

The structural engineer determined the salvaged wood was, in fact, recycled wood that was harvested from the building itself. There was no visible damage and/or degradation (termites, dry-rot, etc.). It was calculated that the "2- by 8-" salvaged wood joists had enough strength and stiffness to support the Mezzanine loads. (The actual dimensions of the members were full-dimensioned, predating modern sizes.)

FINISHES

Wood is the dominant material in the roof structural system (trusses and shear diaphragm), as well as in the newly constructed Mezzanine and recycled wood stair. The fir and redwood materials salvaged from the original building are about a century old. They are beautiful as exposed finishes—retained by design as a testament to the endurance of wood.

The original wood flooring presented an opportunity—recognized by the owner—for enriching the rejuvenated character of the space. A simple treatment to the floor was executed, using non-toxic floor cleaner and finish products. Misrach observes: "The wood floor is full of amazing colors, subtle and strong from years of paint drips to the recent random reconfiguration from re-installation. It has a unique character, a history, that seems to only need being mopped or washed well and then finished. This is quite unique and beautiful … ."

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INTERIOR Winner

CHEERS!

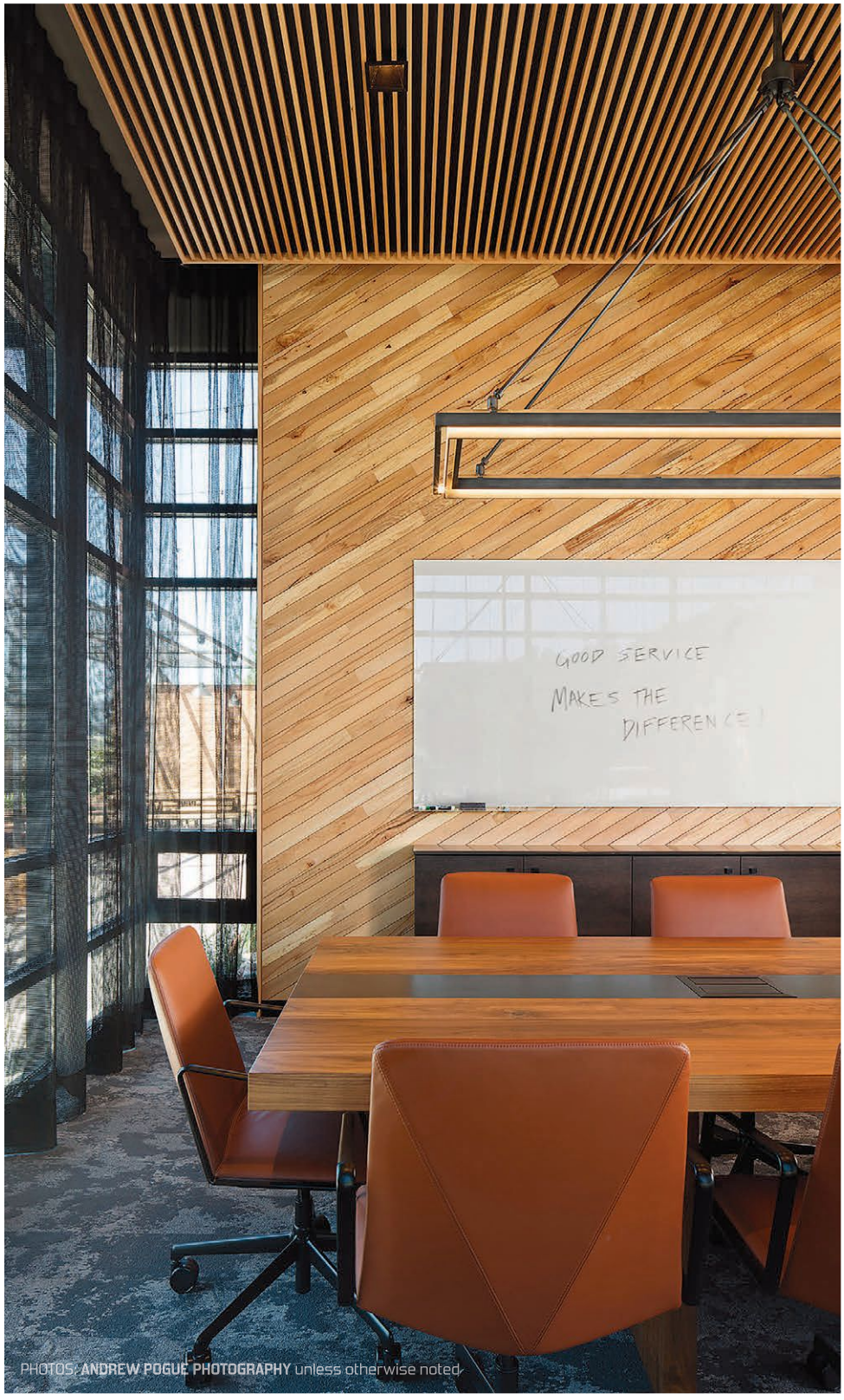
A Beverage Distribution Facility's Update Provides Distinction Between Public and Private Spaces

The renovation of Maletis Beverage, a family-owned beverage distribution business on a 9-acre Swan Island property in Portland, Ore., began as an extensive redesign of the company's 24,000-square-foot administrative offices. During the course of the project, Portland-based architecture firm Holst's scope expanded to include an 18,500-square-foot cold-storage warehouse addition, extensive landscaping and sitework.

Maletis Beverage's employees had been working in their existing offices since 1993. The spaces were outdated, disjointed and cramped—and not reflective of the company's long history of local industry leadership and continued growth. Company representatives wanted to bring focus and organization to their diverse range of workspaces, which were an inefficient mix of public and private spaces with intermingled, ill-defined departments all on one floor. Because of this mix, the public would often wander into private areas. Maletis Beverage reps also wanted showpiece spaces that would continue to attract local and craft brewers, as well as expand the company's reach into other markets, like cider and wine. Aesthetically, they hoped for an industrial feel that fit the character of their work and their industrial location.

The design of the new offices transforms the outdated work environment into a modern open office with varied workspaces and amenities that support diverse operational needs. An active work center on the ground floor houses a large sales room/event space, conference rooms, retail, and a brew and tap kitchen with indoor/outdoor beer-hall-style lounges and a garden. The design puts the flexible sales room front and center, enclosed by four industrial garage doors that open directly to the lobby. Administrative offices are consolidated on the upper floor, which supports focused work in an open-office environment.

The sales room and an indoor/outdoor lounge space enable Maletis Beverage to host a wide variety of tastings and events for



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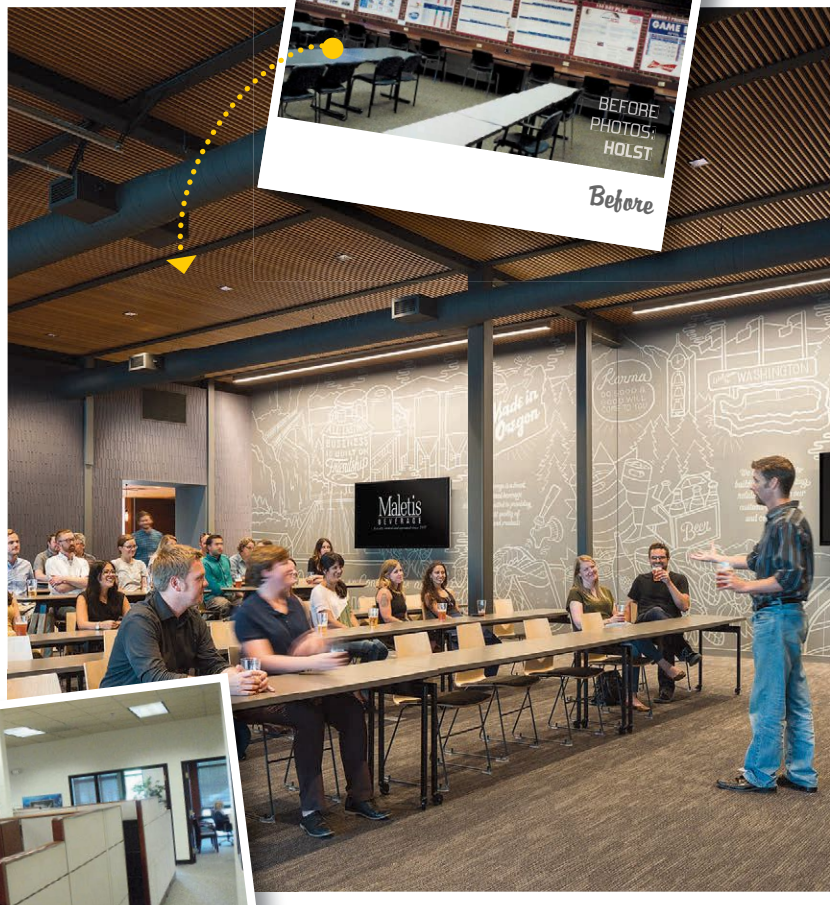
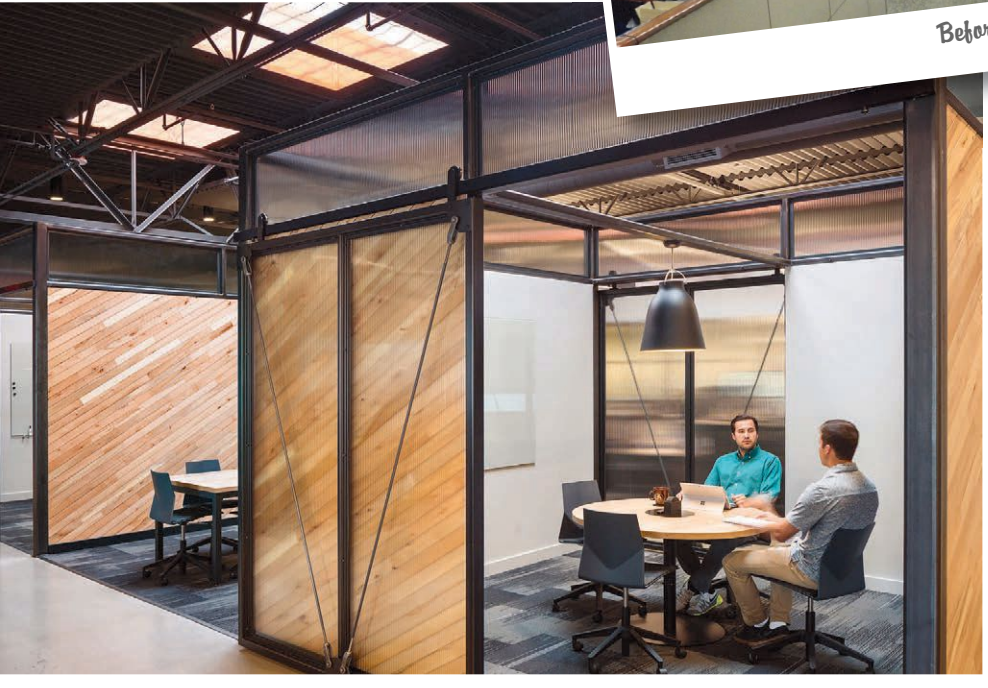
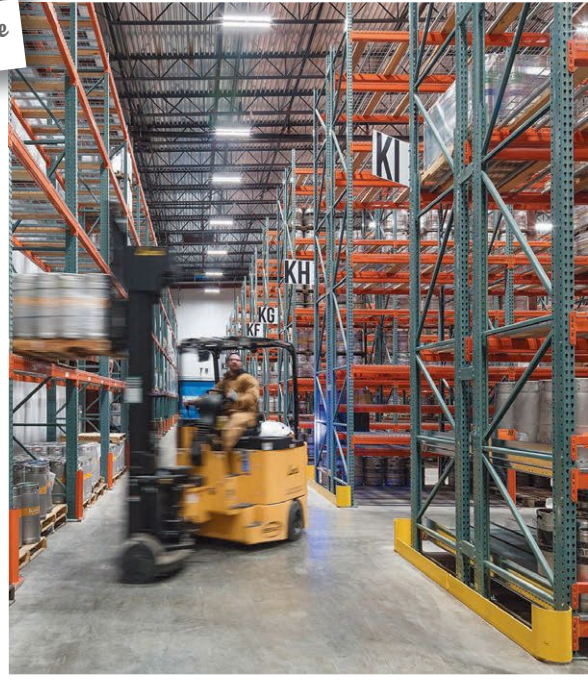

Maletis
BEVERAGE

BUD LIGHT
Budweiser
BEFORE PHOTOS: HOLST
Before


Before

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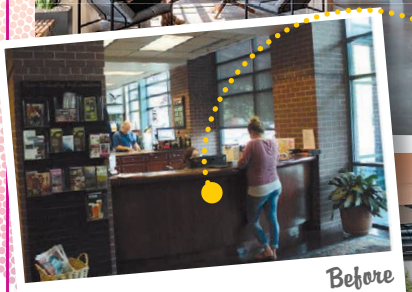

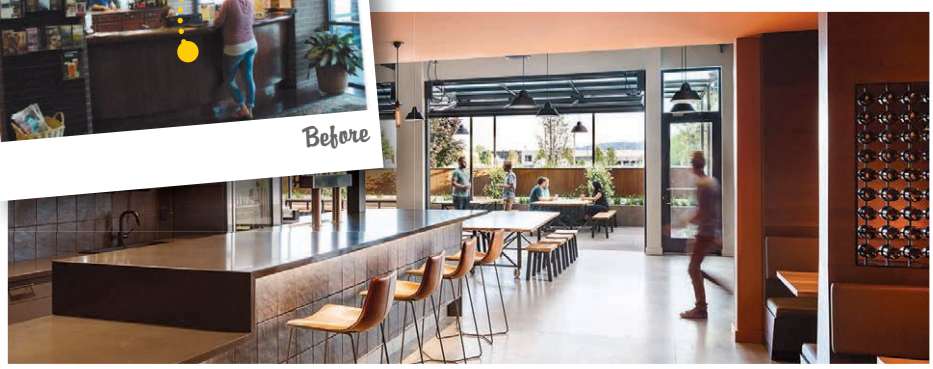

suppliers. Existing fixed storefront windows were replaced with large vertical bi-fold doors to enable the joining of the indoor and outdoor spaces. Booth seating inside, divided by custom bottle wall dividers, provides additional informal meeting spaces.

In the administrative offices, workstations, reclaimed-wood feature walls, polished concrete floors, an exposed ceiling, and steel and glass conference room pods with sliding doors fit naturally with the building's industrial use and the company's down-to-earth and nostalgic but industry-leading approach to business. The materials, furnishings and custom finishes combine to give a "dark nostalgia" vibe to a functional, contemporary industrial workplace. Skylights bring natural light into the open-office spaces.

The new program and plan organization brings clarity to each department while still maintaining the connections among them. It also creates a clear distinction between public, invited and private spaces. A new retail space with separate entrance sells directly to the public. Invited suppliers, salespeople, and event attendees come in the main entrance, directly to the sales room or to the event space (formerly a back room with neon lights, posters and fake brick walls). Truck drivers have a separate entrance adjacent to the loading drive with their own check-in, storage and touchdown space.

The renovation incorporated all new, high-efficiency mechanical, electrical and plumbing systems. All lighting was replaced with LEDs. A solar panel array on the warehouse addition will supply 15 percent of the energy used for refrigeration. The wood used throughout the project is reclaimed European beech from shipping crates.

During judging, ***retrofit*** Editorial Advisor John J. Noonan, vice president of Facilities Management for Duke University, Durham, N.C., said of the facility, "The renovation made me want to work there!"

Retrofit Team

METAMORPHOSIS AWARD WINNER!

ARCHITECT // Holst, Portland, Ore., www.holstarc.com
- Dave Otte, partner in charge
- Rachel Brand, senior designer
- Mara Indra, project manager

LANDSCAPE ARCHITECT // Ecotone Environmental, Portland, ecotone-env.com

ENGINEER // Alliant Systems, Portland, alliant-systems.com

GEOTECHNICAL ENGINEER // GeoDesign, Vancouver, Wash., www.geodesigninc.com

ACOUSTICAL ENGINEER // Acoustic Design Studio, Portland, acousticdesignstudio.com

Materials

WORKSTATIONS, TABLES // Antenna Workstations, Antenna Tables and Reff Profiles Sliding Tables from Knoll, www.knoll.com

STOOLS // Piton Stools from Knoll

CUSTOM WOOD CEILING // 9Wood, www.9wood.com

CARPET // Spangle Oak Wool/Bamboo Carpet in Ocean Grey from Tufenkian, www.tufenkian.com

CHAIRS // Four Cast Wheeler Chairs from Hightower, hightoweraccess.com, and Design Task Chair in Copper Leather from Bernhardt, bernhardt.com

LOUNGE CHAIRS // Nadia Wood White Lacquer Chairs, Hightower

PLANTERS // Modern Elite Divider Planters from PureModern, www.puremodern.com

AREA RUG // Luna from Lapchi, lapchi.com

LOBBY CHAIRS // Modern Halifax Chair from Gus, gusmodern.com

KITCHEN STOOLS // Slope Leather Bar Stools from West Elm, www.westelm.com

DRAPERY // Sheer Drapery from Architex, www.architex-ljh.com

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THE LIGHTHOUSE ON THE HILL

An 1891 Church in Capitol Hill Is Adapted into Condominiums that Respect and Celebrate the Historic Site and Structure

WRITTEN BY | **LAUREN PERRY FORD, AIA, LEED AP BD+C**

In 1976, a large segment of Washington D.C.'s Capitol Hill neighborhood was placed on the National Register of Historic Places in recognition of the important architectural and cultural significance of many of its buildings. Boasting proximity to the seat of government on the National Mall, Capitol Hill is largely composed of rowhouses built to house people who worked for the fledgling federal government in the years following the city's establishment as the nation's capital. Constructed during the Federal period (1800-20) through the Victorian era (up to 1910), these rowhouses form the core of the structures contributing to Capitol Hill's historic designation.

Because the neighborhood was one of the earliest to adopt widespread installation of electricity, indoor plumbing, and piped water after the Civil War, it soared in popularity and experienced a building boom from 1890-1910. Many of its most significant buildings date from that period. Nestled amid the rowhouses are other architectural landmarks that served the neighborhood in cultural and societal functions, including some notable religious buildings.

Although some of these structures are still utilized for their original purposes, changes in the neighborhood's demographics and the economic burden of maintaining aging buildings have made continued function as worship spaces untenable for some of these buildings. Often left vacant as congregations move to the suburbs, inner-city churches around the country are especially vulnerable to abandonment and decay. This has particular perils for a historic district that relies on the preservation of significant buildings to retain its historical character.

How can these architectural treasures be preserved when they are no longer suited to the function for which they were built? Recent interest in adaptive reuse has opened new avenues for bringing older religious buildings back into useful service. In Capitol Hill, these efforts have a new showpiece: Bell Tower at Stanton Park, the winner of a Metamorphosis Award in the Multifamily category.

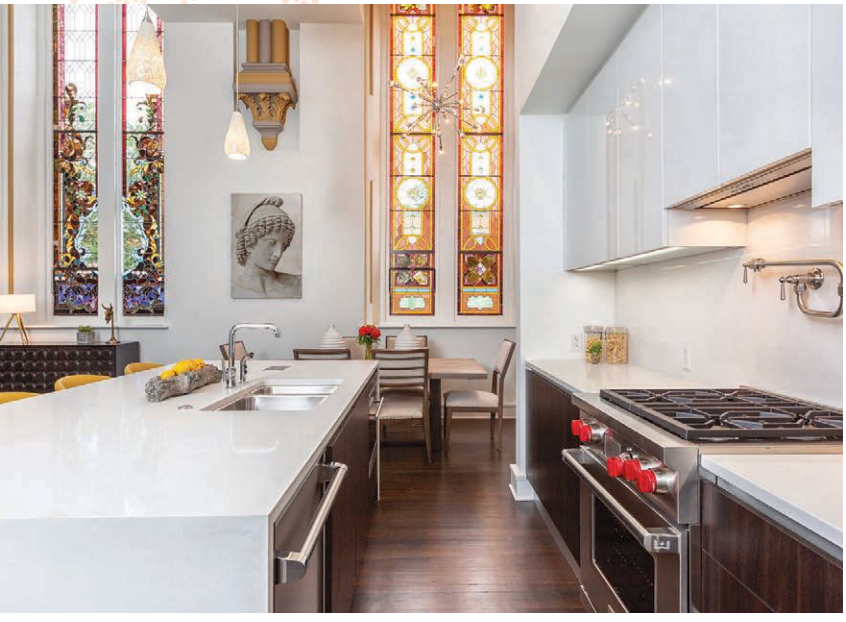
CHURCH HERITAGE

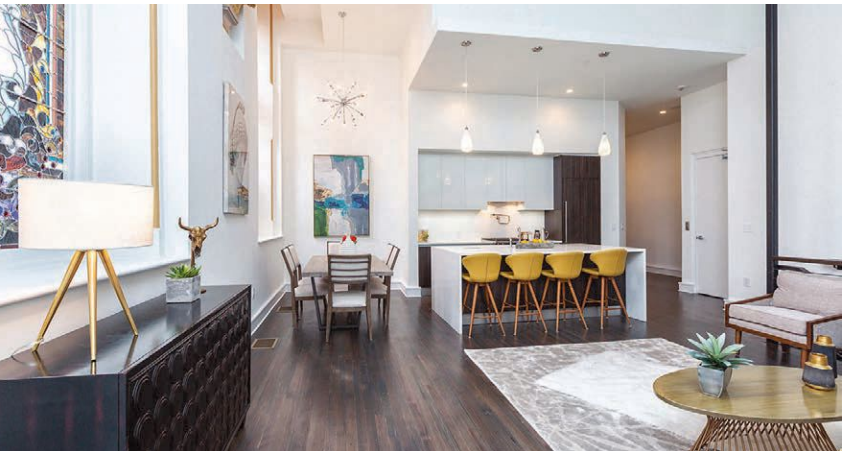
At the corner of Maryland Ave and Sixth Street NE, across from Stanton Park, sits a stately Romanesque Revival edifice of Potomac bluestone with limestone trim built in 1891. Designed by noted Washington architect Appleton P. Clark Jr., the 16,800-square-foot building has a prominent 130-foot-tall round bell tower and was once nicknamed "the lighthouse on the hill." For 62 years, it was the Eastern Presbyterian Church and echoed with the sounds of sermons, songs and the congregation's socializing. After World War II, membership decreased as many congregants moved to new developments in the suburbs. This led Eastern Presbyterian to consolidate itself with another nearby congregation and offer the building for sale in 1955 to the Greater Mount Zion Baptist Church, which owned and worshiped there for nearly 40 years.

In 1994, the African American Catholic Congregation Inc., also known as the Imani Temple, bought the building. After its own rewarding chapter in the facility, the leadership of the Imani Temple decided the church no longer met the congregation's needs. With the general waning of religious participation in the U.S. coupled with the building's ongoing maintenance challenges—well beyond the patch and repair work that had kept it functioning—Imani Temple representatives were not able to find another church interested in purchasing the building, yet its historical value made it impossible to simply destroy. They turned to the idea of adapting the building for an entirely different use and sold the building

PHOTOS: © SEAN SHANAHAN


Before
Before
Before





to Morningstar Community Development LLC, Washington, which focuses on infill, transit-oriented development and redevelopment projects often in emerging neighborhoods.

RESIDENTIAL REDEVELOPMENT

Sensitive to interest in keeping the character of the neighborhood intact, the new owners sought community input and collaborated with agencies and committees to come up with a solution. Committed to preserve the church's historical exterior to meet the requirements of the Historical Preservation Review Board of Washington, D.C., Morningstar Community Development representatives turned to architects and interior designers at Alexandria, Va.-based Cooper Carry to transform the interior of the towering church into residential condominiums. Because the building is bordered by roads on three sides, limited street parking determined the number of units that could be considered.

As expected, the constraints of subdividing a large building into individual units without adding entrances or removing windows presented a unique challenge. Because horizontal divisions would impact the intricate stained-glass windows that lined the exterior, the designers decided to divide the building vertically into six 3-story units suffused with light and lofty 15-foot ceiling heights. Clever use of lightwells allowed them to equalize floor heights while leaving the windows unobstructed.

The two- to four-bedroom units vary in size from 2,293 square feet to 2,765 square feet. Each has a private entrance, dedicated elevator, gourmet kitchen and built-in sound system. Common spaces include a shared wine cellar in the basement and the church tower with its breathtaking views. The bell tower had previously only been accessible to pigeons by air or to humans by ladder from the mezzanine in the sanctuary. Although space constraints prevented a stairway that meets current code, architects worked with the city to create a custom spiral staircase of wrought iron with wood treads to access the observation deck. Only a handful of blocks from the U.S. Capitol, without any neighboring high-rises, the view from the tower is unique and unparalleled in the area.

HISTORIC PRESERVATION

The project's designers strove to respect and celebrate the historic nature of the site and structure. The sanctuary's hardwood floors were preserved and refinished as flooring on the first level of the condominiums. Light fixtures were restored for use in the lobby and tower. Each unit also incorporates unique retained elements of the church: arches and columns, floor-to-ceiling stained-glass windows, exposed brick and stone walls, an interior domed ceiling in one unit, two fireplaces in another, turrets in two others.

All the building's stained-glass windows were removed, cleaned and painstakingly rebuilt. Lighter areas were replaced with clear

glass to allow some transparency for the homeowners without changing their exterior appearance. Many of the larger windows were fitted with slimline interior storm windows to boost energy efficiency. Egress requirements for bedroom spaces inspired innovative designs to convert some to casement windows that swing open and to pin-mount triangular windows, enabling them to swivel on an axis.

Clear windows at the basement level were replaced with custom replicas that incorporate modern energy efficiency and security features. The exterior condensers for the HVAC systems are discreetly located between windows in the basement window wells, disguised by staircases. Roof units and venting were concentrated on a flat area above the nave that is concealed from street view.

Thick doors of hand-carved mahogany grace each exterior entrance. Half the units open off a shared lobby at the former main portal to the church. The other three have private access along the sides of the building where emergency exits had formerly been located. Because these original entrances were half a story above grade, historical considerations necessitated compromises on ADA accessibility.

MODERN SUSTAINABILITY

Although the building is old, the project's commitment to sustainability is cutting-edge. Spray-foam insulation with the highest R-value available per square foot fills the wall cavities for a robust thermal envelope even though the walls benefit from the slow heat transfer that comes from their nearly 2-foot thickness. Exterior landscaping includes rain gardens that capture rainwater. The building implements sustainable features, such as ENERGY STAR appliances, low-flow plumbing fixtures, LED lighting fixtures and high-efficiency HVAC systems. The building is expected to receive LEED for Homes certification.

Bringing together modern efficiency with timeless style, Bell Tower at Stanton Park provides a roadmap for adapting historical religious structures for contemporary uses with sensitivity and respect. The project demonstrates the benefits of working with community and regulatory groups to find mutually acceptable solutions.

In Washington, D.C., where housing supply is tight and there are few industrial spaces that might be converted for residential use, adapting former religious structures to housing may be rewarding for developers despite the logistical challenges

Retrofit Team

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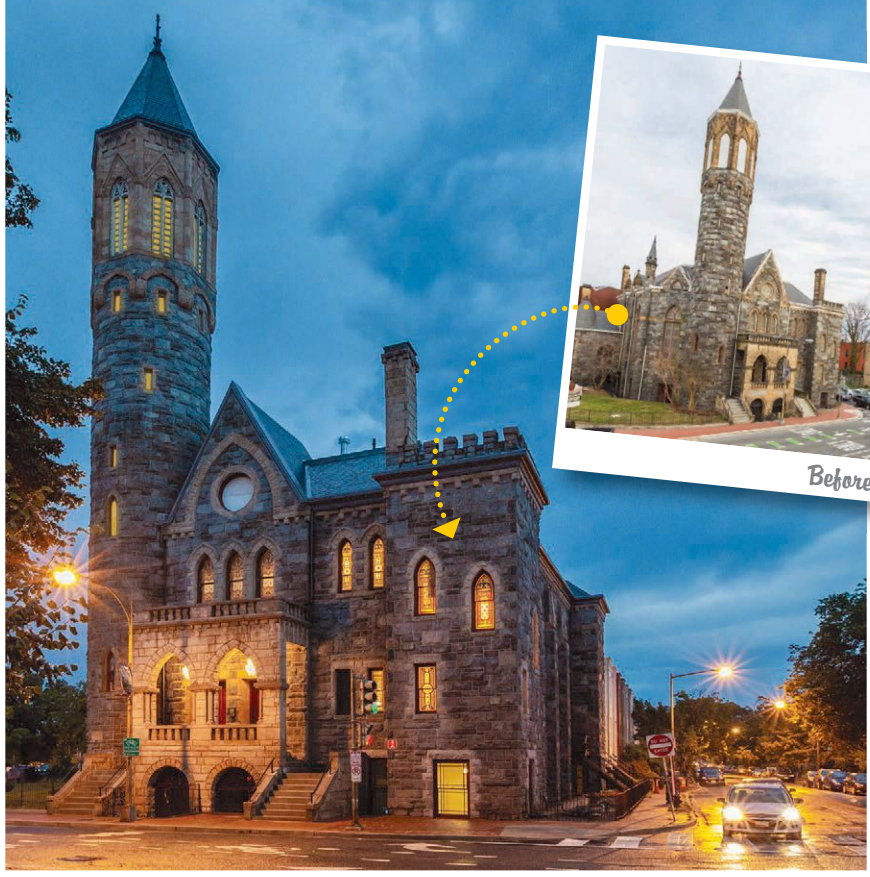
ARCHITECT // Cooper Carry, Alexandria, Va., www.coopercarry.com
GENERAL CONTRACTOR // MCN Build, Washington, D.C., www.mcnbuild.com
MEP ENGINEER // Setty, Fairfax, Va., www.setty.com
STRUCTURAL ENGINEER // Adtek, Fairfax, www.adtekengineers.com
CIVIL ENGINEER // Bowman Consulting, Washington, www.bowmanconsulting.com
LEED CONSULTANT // Steven Winter Associates Inc., Washington, www.swinter.com
IT/AV CONSULTANT // Genesys Impact, Washington, www.genesysimpact.com

Materials

CUSTOM SPIRAL STAIRS AT BELL TOWER // Linder Enterprises, www.linderenterprises.com
SLATE SHINGLES // Buckingham Slate Co., www.buckinghamslate.com
NEW WOOD WINDOWS // Signature Series from Weather Shield Windows & Doors, www.weathershield.com
CERAMIC TILE // Coleville from Trinity Tile, trinitytile.com
KITCHEN CABINETS // Scavolini, www.scavoliniusa.com
ELEVATORS // Luxury Lift LLT 950 from Residential Elevators, residentialelevators.com



involved. There is tremendous benefit to a whole community when a beautiful, historic building is rescued from abandonment and decay.

That doesn't mean that such projects will always be greeted with open arms. As a building endowed with memories and associations that span generations, a church is more than just brick and mortar to the people who care about it. Sensitive developers will celebrate and respect these emotional connections, seek the support of neighbors and make thoughtful decisions about which elements of the church structure to retain. Conversations about these issues are an opportunity for people to come together to preserve a historic edifice and cooperate in the task of building community.

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ONE OF A KIND

A Rundown Apartment Building Is Restored to Its Original Grandeur in a Manner Sensitive to Its Current Residents

The Hamilton is a historically and architecturally significant building located in the heart of Detroit's popular Midtown neighborhood. Situated at the intersection of Woodward Avenue and Martin Luther King Jr. Drive, the property first opened in 1913 as Hotel Stevenson and was placed on the National Register of Historic Places in 1997. In 2016, when Detroit-based Broder & Sachse purchased the building, it was the only remaining property owned by a trust for the Milner family—previously one of the country's largest hotel owners. Then known as 40 Davenport, the building was rundown and in disrepair, but its historical character and premium location were ideal.

After a $12 million redevelopment, 40 Davenport has been reborn as The Hamilton, a metropolitan blend of historic charm and boutique design. Floor plans were modified, walls were torn down to reveal original dimensions, and a seamless blend of period architectural detail and fresh contemporary updates skillfully bring past and present together. The Hamilton retains the ornate molding, columns and exquisite finishes of its original iteration, and the distinctive brick-and-stone exterior evokes period grandeur and a sense of stately majesty. The exterior was restored to its original inviting appearance and now features new landscaping, lighting, railings and awnings, as well as new window-ledge boxes filled with seasonal arrangements. Carpet and linoleum flooring were removed to reveal the original terrazzo below, and stud walls and drop ceilings installed at one point in the building's history were removed to showcase the original volume of the historic hotel dining space—complete with decorative plaster walls, high plaster ceilings and wood trim.

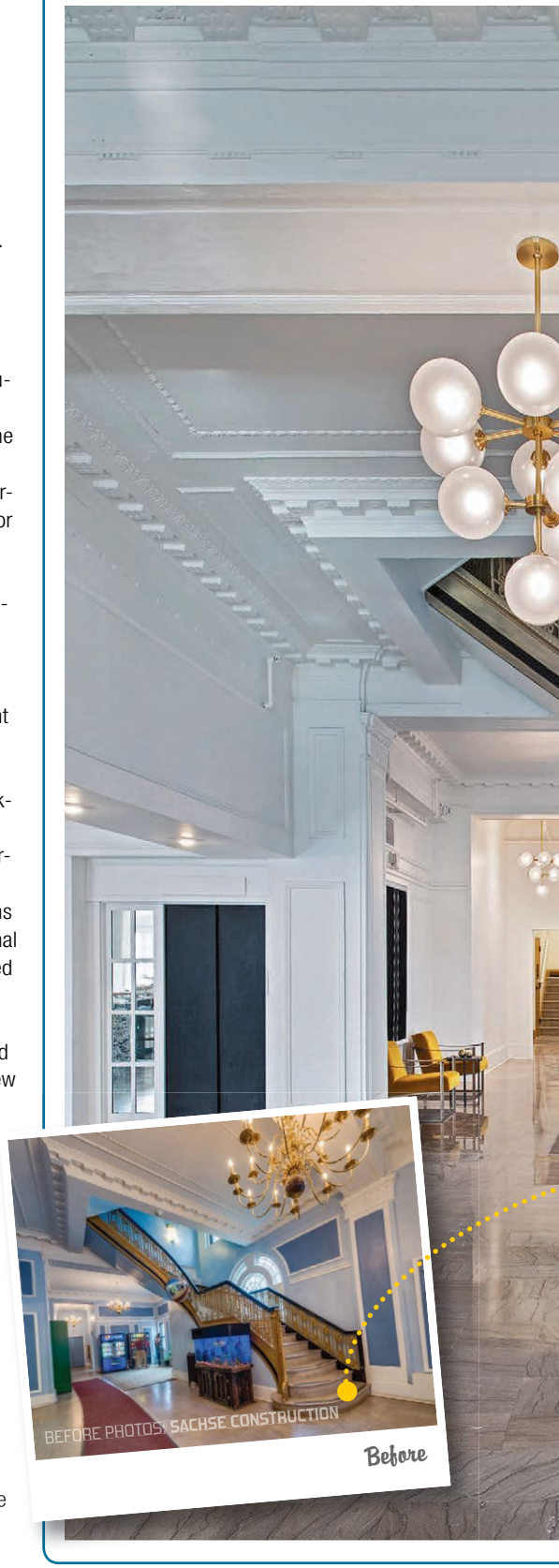
The Hamilton's renovation and redevelopment required a comprehensive top-to-bottom rehabilitation. Mechanical, electrical, HVAC and plumbing systems were completely replaced, and every finished surface in the building required attention. The existing elevator was replaced, and era-appropriate materials, colors, and finishes were used exclusively to maintain the historic elements inside and out. Historic architectural details—from banisters and ceiling detailing to original plaster and stonework—were preserved or reproduced throughout.

As with any historic renovation where valuable federal historic tax credits are a priority, the design and development team followed the constraints of the Secretary of the Interior's Standards for the Treatment of Historic Properties to achieve a modern, functional space. For example, an earlier renovation had removed the original wood casement windows on the front elevation and replaced them with historically inaccurate, ill-fitting windows. Based on historic photographs, the windows were restored as closely as possible to the original window configuration with insulated casement windows. The original wood transoms also were restored.

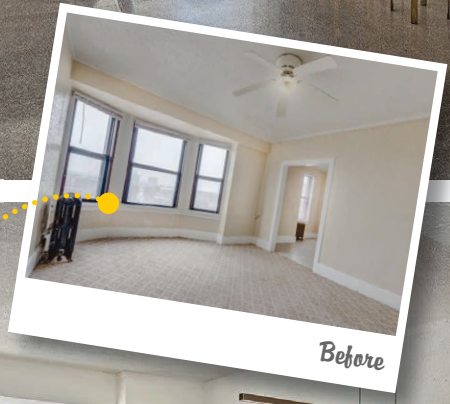
Exterior brick was gently cleaned and tuckpointed. Damaged historic terra-cotta details were repaired or replaced with matching fiber-reinforced polymer castings. The front entry was redesigned based on historic photographs with a new metal canopy emulating the original design. This simplified the façade and exposed the glazed terra-cotta detailing surrounding the entry. The commercial aluminum and glass entry door was replaced with a door and sidelites matching the historic façade, and new streamlined front-porch handrails emphasize the curve of the entry steps. Wall sconces flanking the entry were chosen based on historic photos, and a second front entry (not original to the building) was redesigned with French doors recalling the original window design. Façade lights gently wash the front, and landscaping was redesigned with new sidewalk light bollards.

Former renovations, both interior and exterior, were not sympathetic to the historic character of the building. Consequently, some of the most significant design challenges—and, ultimately, design solutions—came from reversing those changes and taking advantage of the original geometry of the space.

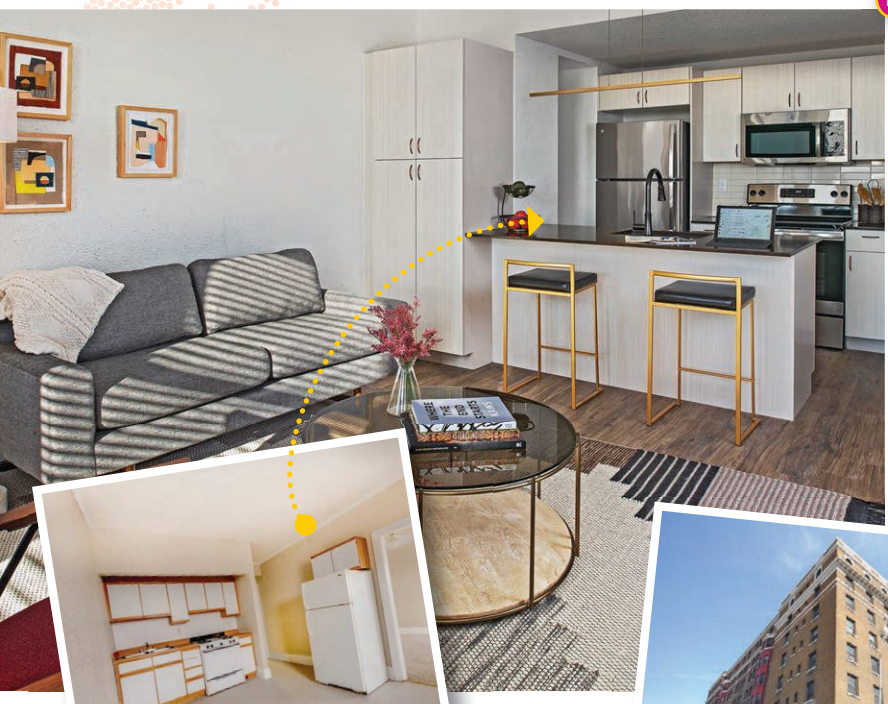
Plumbing didn't extend down into the

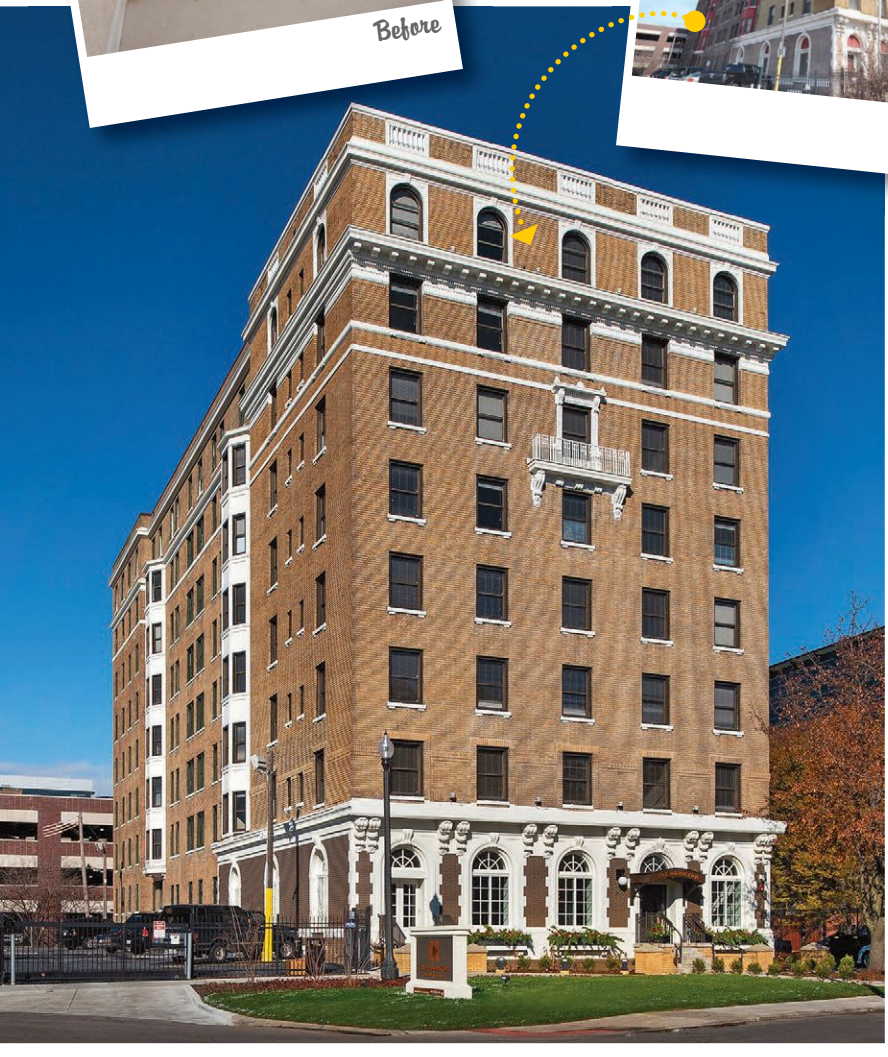


PHOTOS: **JOHN D'ANGELO** unless otherwise noted



THIS VIDEO SHOWCASES HOW THE CITY OF DETROIT WORKED WITH BRODER & SACHSE TO BRING 28 RESIDENTS OF THE FORMER APARTMENT BUILDING BACK TO THE HAMILTON.





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DEVELOPER // Broder & Sachse, Detroit, brodersachse.com
EXTERIOR RESTORATION // RAM Construction Services, Livonia, Mich., ramservices.com
INTERIOR CONSTRUCTION // Turner Brooks, Madison Heights, Mich., turnerbrooks.com, and Manic Contracting Inc., Clinton Township, Mich., maniccoinc.com
PLUMBING // Jermor Plumbing & Heating Inc., Detroit, www.jermor.com
ELECTRICAL // Rich Osterman Electric Co., Clinton Township, www.richostermanelectric.com
LANDSCAPING // Teddy's Lawn & Landscape, Livonia, teddyslandscape.com

original ballroom area and determining where to insert proper plumbing stacks was tricky. Several discoveries—some welcome and others unwelcome—were made throughout the demolition process, and subsequent design changes were needed as those issues revealed themselves. Adding new common areas and amenities was a priority, and creating space for those elements and identifying how to accommodate them from a logistical standpoint (such as venting for the fireplace in the meeting room) was also a challenge. Ultimately, opening the first floor by knocking down walls and removing dropped ceilings proved to solve several issues and provide the required space to create the common-room resident amenities.

Amid a dynamic urban renaissance, demand for quality residential options in downtown Detroit is high, especially in a popular neighborhood like Midtown. The building was intended to appeal to long-time Detroiters and newcomers to the city alike. To accommodate residents who had lived in the building prior to the rehabilitation, the firm worked closely with the city of Detroit throughout the redevelopment process to ensure that civic needs were addressed and the goals of the city and the immediate community (most notably, the existing residents of 40 Davenport) were met in a mutually beneficial manner.

Broder & Sachse developed an entirely new model for responsibly rehabilitating an already occupied building with assistance from Detroit's Department of Housing and Revitalization. The development team enlisted the United Community Housing Coalition, Detroit, to execute its inclusionary housing program, supplying resources for qualified residents to temporarily relocate to appropriate units in other properties during the rehabilitation while maintaining their current rental rate.

The firm not only helped with the process of finding interim accommodations, but supported qualified residents with financial assistance for incurred expenses, including moving fees, security deposits and any differences in rental fees. Those residents then had the choice to return to The Hamilton after renovations were completed, maintaining their legacy rental rates for as long as they choose to lease in the building. The

firm's collaborative and constructive relationship with the city of Detroit was instrumental in building community trust and goodwill and in ultimately securing municipal support for valuable grants and tax abatements.

New and returning residents were welcomed into The Hamilton with design upgrades, including kitchens, bathrooms, appliances, fixtures and finishes, unique open floor plans, ceiling fans, abundant closet space, dramatic high ceilings, and walk-in showers with glass doors and custom vanities. Trash chutes were surgically added on every floor, and the addition of an exterior ramp and replacement of the original freight elevator cab ensured wheelchair accessibility.

One of the truly distinctive elements of The Hamilton is the way the property was updated in a historically sensitive manner while still creating an abundance of community spaces and high-end amenities not previously available. Because the original layout had little space for modern amenities, a first-floor maintenance room and underutilized basement were activated for tenant use with the creation of a fitness center and wellness studio. Other community spaces added include a mail and parcel center with secure package pickup, toilet rooms, laundry lounge, areas for bike storage and repair, a study room, and a pet grooming and washing salon.

Perhaps the best amenity of all is the Midtown location: The Hamilton is convenient to downtown Detroit with easy access to the highway and just minutes from Wayne State University, College for Creative Studies, Detroit Medical Center and Henry Ford Health System. Residents can walk to sports stadiums, theaters, restaurants and shopping.

Remarkably, the underlying historical character was preserved—and, in some cases, enhanced—while transforming The Hamilton into an appealing and amenity-rich modern multifamily residential property. Residents enjoy an exceptional range of amenities unlike any other Midtown location. Along with its historically significant and unmistakably distinctive period architectural detail, the combination of outstanding location, striking city views, curated lifestyle options, unmatched amenities and engaging community spaces makes The Hamilton experience one of a kind.

Materials

BATHROOM SCONCES, PET SALON LIGHTING AND LEDS // Lithonia Lighting, lithonia.acuitybrands.com
LED EXIT SIGN AND EMERGENCY BATTERY EXIT SIGN // Eaton, www.eaton.com
KITCHEN AND ADA SINKS // Elkay, www.elkay.com
SHOWER SHELVES // Corian from Dupont, www.corian.com
PUBLIC RESTROOM SINK AND GRAB BARS // Kohler, www.us.kohler.com
ACOUSTICAL CEILING TILES // USG, www.usg.com
PLASTIC LAMINATE // Formica, www.formica.com
RUBBER BASEBOARDS // Tarkett, commercial.tarkett.com/en_US/brand/johnsonite
RESILIENT FLOORING // Mohawk, www.mohawkflooring.com
REVEAL STRIP // Fry Reglet, fryreglet.com
KITCHEN COUNTERTOPS // Wilsonart, www.wilsonart.com

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Winner

ADDITION Winner

FOUND OBJECT

A 1970s Manufacturing Relic in Silicon Valley Is Reimagined as Office Space with an Addition that Makes It Suitable for Today's Tech Titans

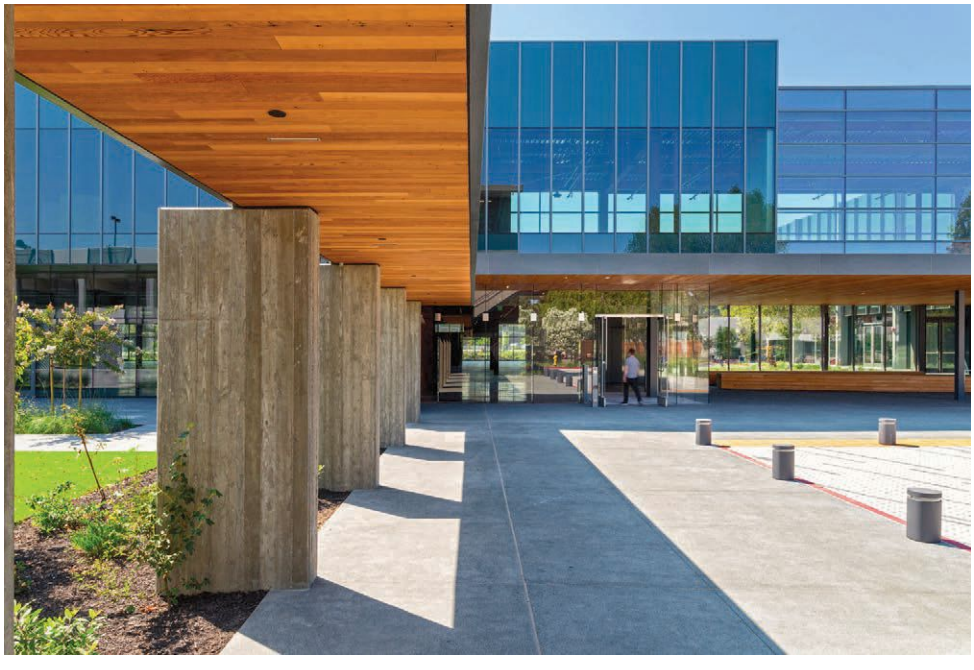
The current hypercompetitive business climate has tech entrepreneurs and startups angling for every advantage—and the right workspace can make all the difference. A former manufacturing building and its sea of parking were relics from 1970s Silicon Valley that needed to be brought into the 21st century to be relevant for today's generation of tech titans. Instead of demolishing the buildings to construct a formulaic center-core mid-rise, the team at Gensler's San Francisco office understood its value with high-bay, open spaces and already large floorplates. It was a found object to be improved, not removed.

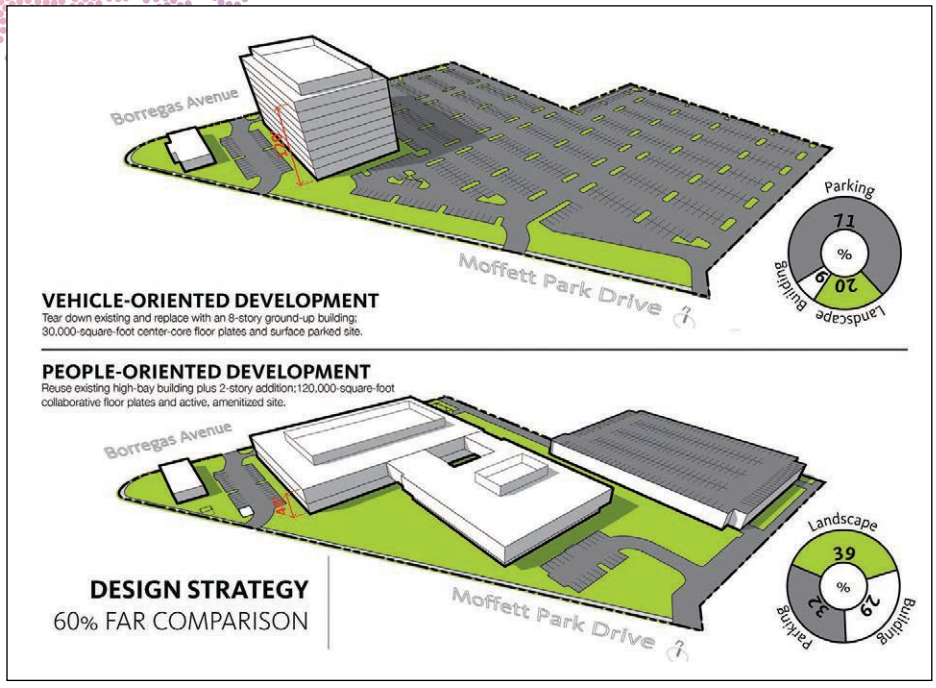
The repositioning strategy centered around the strengths of the building and its site: creating massive open floors craved by creative companies, expanding outdoor spaces to capitalize on the mild climate and providing the amenities demanded by today's market. The addition connects to the existing building with two bridges, enclosing a central courtyard and forming the building lobbies off the entry court. Inside, open stairs connect the two levels and invite light into the building; the glazed exterior connects tenants to the larger site. Outside, the team prioritized landscape spaces with the parking pushed to the edges of the site, allowing the garage and addition to work together to define exterior zones for recreation and informal work settings.

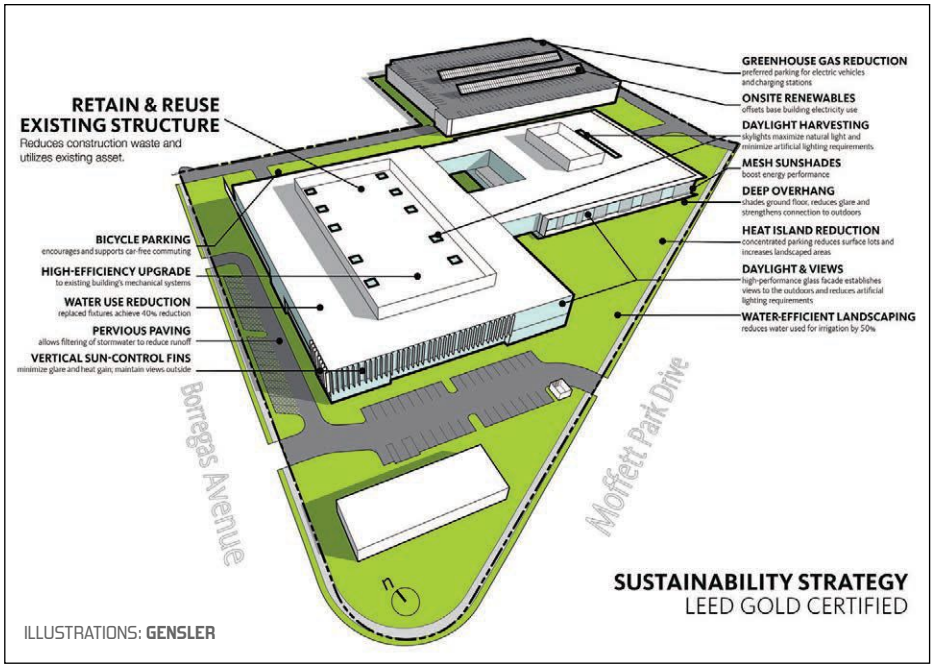
By examining the solution holistically from the site level, the design recovers green space and provides outdoor work and social areas while implementing a

PHOTOS: **JASPER SANIDAD**


Before
Before







ILLUSTRATIONS: **GENSLER**

sustainability strategy attractive to tech clients. The transformation invigorates the site and building to capture the intrinsic value, realizing a bold and successful repositioning vision. In fact, Google took notice and purchased the property prior to completion.

Retrofit Team

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ARCHITECT AND LIGHTING DESIGNER // Gensler, San Francisco, www.gensler.com/offices/san-francisco

STRUCTURAL ENGINEER // SEI, Santa Clara, Calif., www.structuralengineersinc.com

MEP ENGINEER // Taylor Engineering, Alameda, Calif., www.taylor-engineering.com

GENERAL CONTRACTOR // South Bay Construction, Campbell, Calif., www.sbci.com

DEVELOPER // Four Corners Properties, Los Altos, Calif., www.fourcornersproperties.com

CIVIL ENGINEER // HMH, San Jose, Calif., www.hmhca.com

LANDSCAPE ARCHITECT // SWA, San Francisco, www.swagroup.com

Materials

EXPANDED METAL MESH // Apex-01 from Amico, amicoglobal.com

RECLAIMED REDWOOD // Mission Bell, missionbell.com

GREEN WALL // Greenscreen, greenscreen.com

CURTAINWALL // Walters & Wolf, waltersandwolf.com

GLAZING // OptiWhite and Crystal Gray from Viracon, www.viracon.com

LIGHTING // Bega, www.bega-us.com

EXTERIOR LIGHTING // Laser Blade from iGuzzini, www.iguzzini.com

TUBE LIGHTING // Flex Tube from Acclaim Lighting, www.acclaimlighting.com

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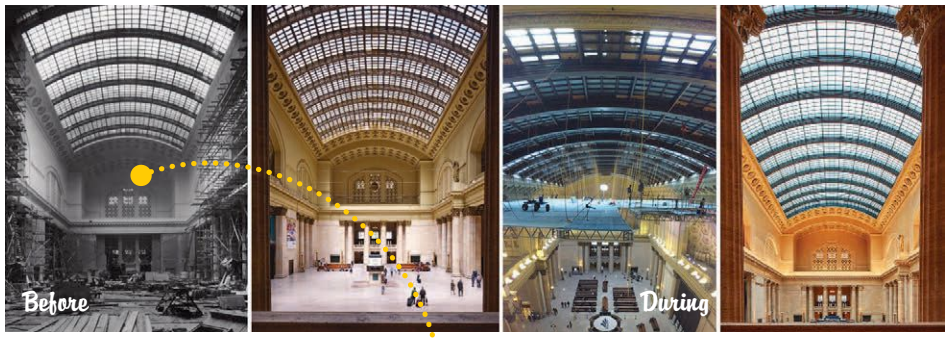

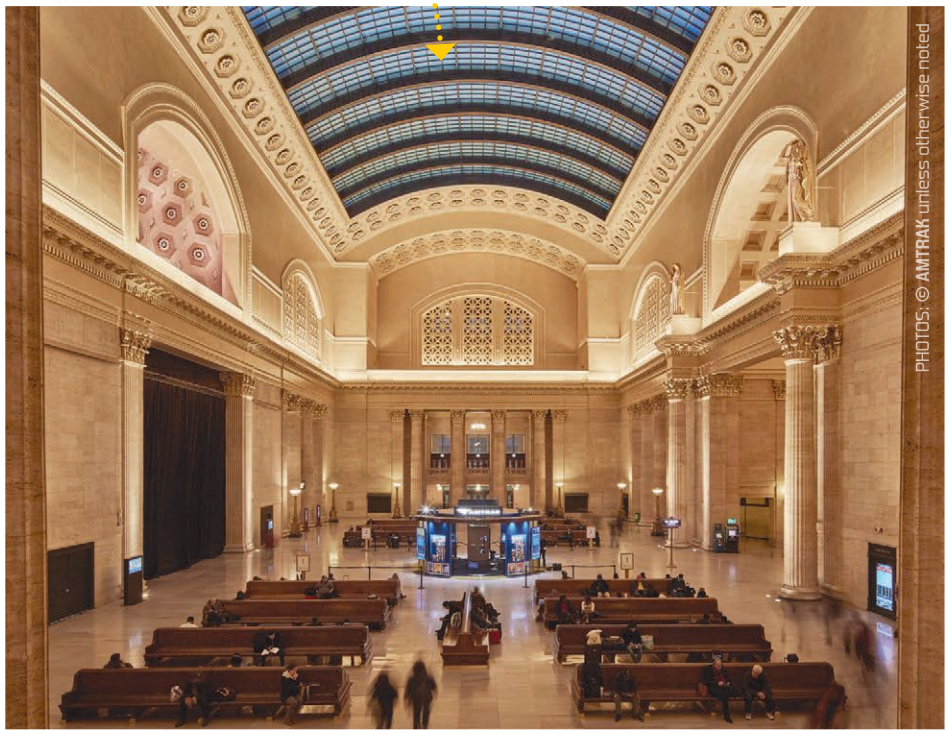

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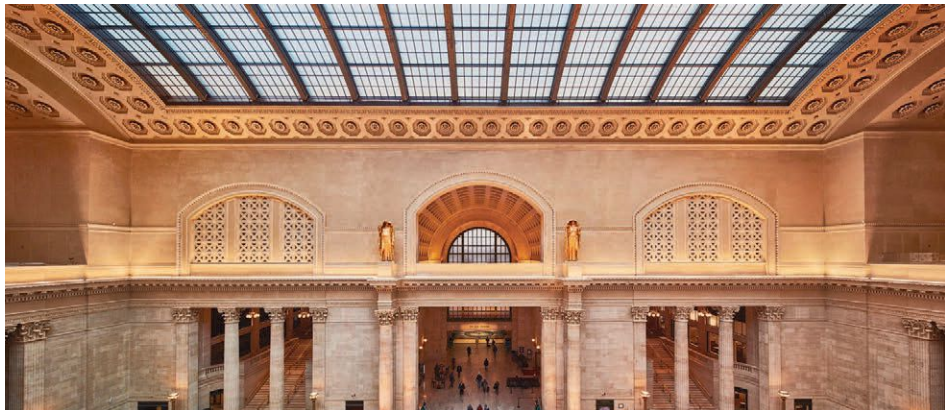

Chicago Union Station became a designated landmark in 2002 and was listed by AIA Illinois as one of 200 Illinois Great Places. Designed by noted architecture firm Graham, Anderson, Probst & White and completed in 1925, Chicago Union Station had numerous structural maintenance challenges. For decades, the station's expansive skylight presented inherent water infiltration and drainage challenges. Previous patch repairs altered the appearance and decreased the amount of natural light in the space.

Chicago-based Goettsch Partners was hired to investigate and assess the existing conditions and design and construct a new watertight skylight over the original system while also fully restoring deteriorated finishes. In addition, the project team's renovation work at Chicago Union Station sought to maximize the reuse of existing materials and infrastructure, preserve the historic integrity and investments made by prior generations, and significantly reduce energy consumption.

THE NOT-SO-GREAT HALL

The station's ornate Beaux-Arts main waiting room, the Great Hall, is one of the most historic and memorable public spaces in the U.S. with its 219-foot-long vaulted skylight and connecting lobbies and stairwells. In the 1920s, technology in the Great Hall's 18,000-square-foot skylight was pushed beyond its technical capacity. Over time, extensive deterioration and leaks developed in the original skylight, and plasterwork and painting showed signs of decay, including two figural sculptures by noted artist Henry Hering.

While the restoration work was taking place on the upper portions of the Great Hall and skylight, approximately 130,000 Metra and Amtrak daily commuters passed through the grand public space directly below. A creative team of logistics and scaffold experts devised innovative

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Retrofit Team

ARCHITECT // Goettsch Partners, Chicago, www.gpchicago.com

STRUCTURAL ENGINEER // Klein & Hoffman, Chicago, www.kleinandhoffman.com

MEP ENGINEER // ESD, Chicago, www.esdglobal.com

LIGHTING DESIGNER // CharterSills and Associates, Chicago, www.chartersills.com

GENERAL CONTRACTOR // Berglund Construction, Chicago, www.berglundco.com

CONSTRUCTION ENGINEERING // Simpson Gumpertz & Heger, Chicago, www.sgh.com

SKYLIGHT STRUCTURAL STEEL // Corsetti Structural Steel, Joliet, Ill., www.corsettisteel.com

SKYLIGHT NEW/HISTORIC FABRICATION/INSTALLATION // Super Sky Products Enterprises, Mequon, Wis., www.supersky.com

ROOFING // Knickerbocker Roofing & Paving Co., Harvey, Ill., www.knickroof.com

Materials

GLAZING FOR HISTORIC AND NEW SKYLIGHT // Pattern 516 Texture Inner Lite Laminated to 1/4-inch Clear Tempered (historic) and 1 1/4-inch Laminate IGU with Neutral 50 Low-E Coating on No. 2 Surface (new) from Oldcastle BuildingEnvelope, obe.com

ROOFING // G410 PVC Membrane from Sarnafil, usa.sika.com/sarnafil

LIQUID-APPLIED ROOFING // Sika Sikalastic, usa.sika.com

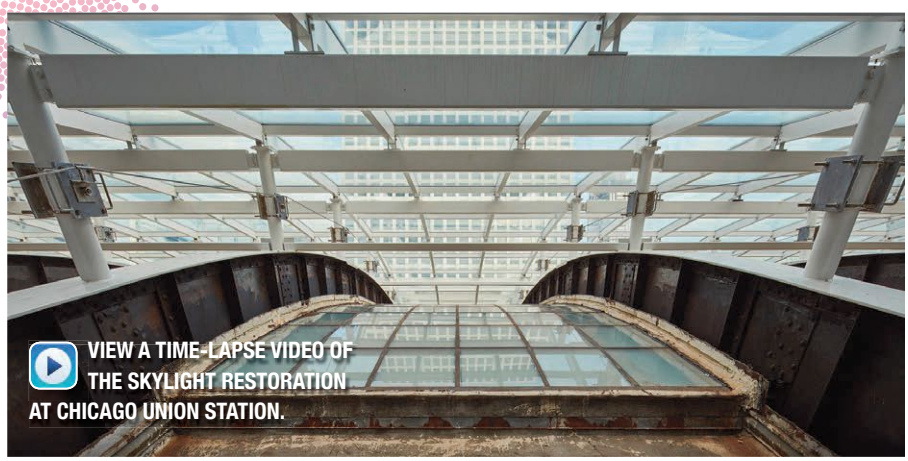
QUICK DECK/SCAFFOLDING // BrandSafway, brandsafway.com

FIXTURE RESTORATION/ REPRODUCTION // Archistoric, www.archistoric.com

GREAT HALL LIGHTING // Elliptipar from The Lighting Quotient, www.thelightingquotient.com

COVE LIGHTING // Luminii, www.luminii.com

THEATRICAL LIGHTING AND CONTROLS // ETC, www.etcconnect.com



solutions to achieve the desired repairs with minimal disruption below. The team created a unique 24,000-square-foot work deck hung from the skylight girders to facilitate the installation of the new skylight, restore the historic skylight, and restore the magnificent ornamental plaster and historic lighting. The team eliminated the use of scaffolding that would have taken up valuable space on the floor.

Early planning, developed utilizing 3D models, was key to this project's success. Meticulous attention to detail was paid to every element, both exterior and interior, with extensive quality-control programs to uphold the standards of excellence established by the project team. The project presented many unique challenges, including replicating the historic finishes, original plaster details and glazing; repairs to the travertine utilizing salvaged original elements from previous repair projects; replacement of 2,052 pieces of glass for the existing skylight; and the addition of the new skylight consisting of 858 new panes of clear, high-efficiency glass, positioned 5-feet above the historic skylight.

ENERGY ANALYSIS

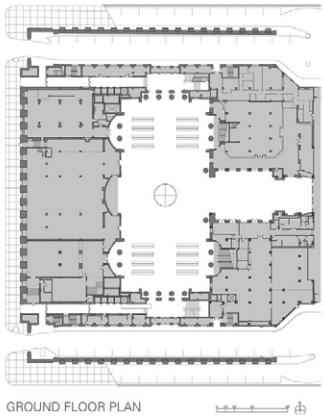
The energy analysis evaluated the potential impact of the addition of a new skylight structure in conjunction with the existing skylight. The analysis consisted of building a 3D model of the existing Great Hall conditions, including the performance parameters of the envelope, the internal gains, and the HVAC system and using it as the baseline for simulating different design scenarios. The variables that were investigated were the annual heating energy, space temperature of the volume between the existing skylight replacement and the new skylight structure, and the solar heat gain into the Great Hall.

The annual heating energy results for the entire Great Hall showed a 13 percent savings with the combination of replacing the existing monolithic skylight with double glazing. Another added benefit of the combination of the new glazing, girder caps and new skylight structure is a reduction in solar heat gain of up to 29 percent annually, which resulted in a reduction in cooling-load demand. The final variable that was tested was the heat conduction at the new skylight; the results showed a 67 percent savings in heat conduction because of the improvements in thermal resistance and the reduction in outdoor air infiltration.

Pre-existing lighting was a mix of historic 1920s incandescent fixtures with some upgrades and early 2000s induction fixtures surface-mounted on the top of the Great Hall cornices. The added induction fixture locations were not historically appropriate, and fixtures were not controlled. Historic fixtures were restored, rewired and upgraded to dimmable LED, and the surface-mounted cornice lights were replaced by asymmetrical reflector LED fixtures mounted within the cove. A control system was connected to a dimming day/night scene selection with daylight-sensor controls to reduce the lighting intensity when appropriate, achieving an overall 60 percent reduction in wattage from 1.9 watts per square foot to 0.76 watts per square foot.

COMMUNITY CONNECTIVITY

With completion of the project, the original skylight has been restored and is protected by the addition of a modern exterior skylight that eliminates water leakage and reduces maintenance and ongoing operational costs. The interior finishes were meticulously restored to their original appearance, breathing life back into the historic Great Hall. Following the completion of the full 42-month restoration, the thousands of passengers that pass through the nation's third-busiest metropolitan transportation station daily can once again experience the beauty of the space as it was originally intended.


GROUND FLOOR PLAN

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EXTERIOR Winner

TESTING, TESTING

Laboratory and Field Tests Determine How to Restore a 1903 School's Façade

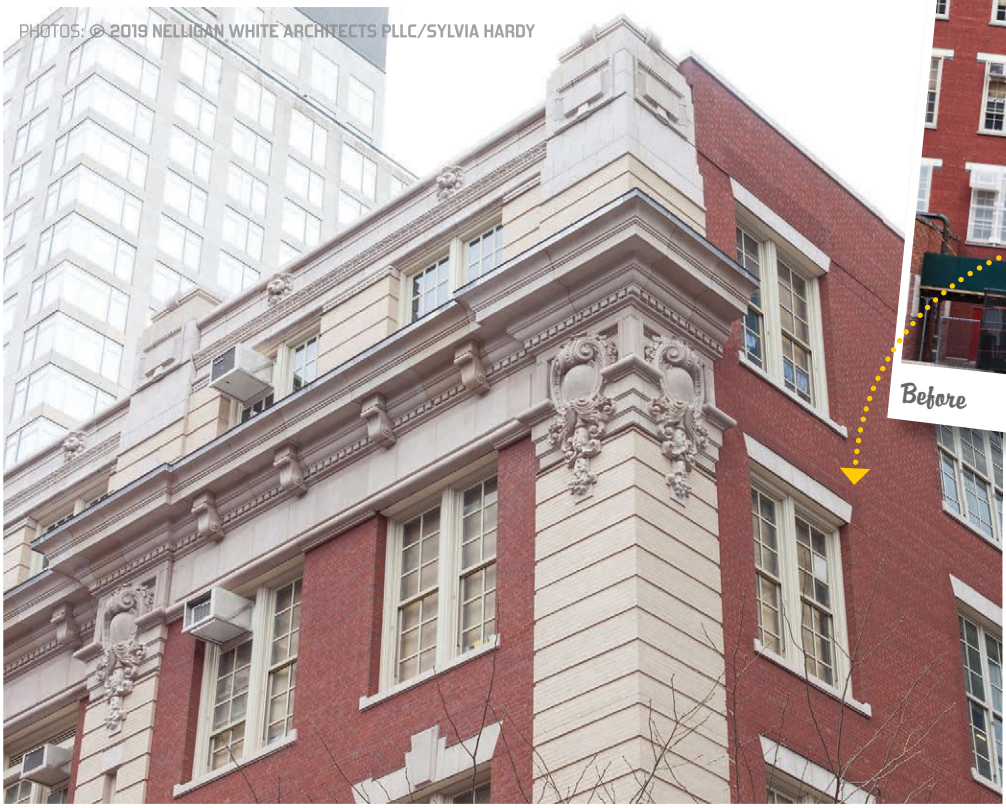
PS 183 Manhattan is a 5-story building encompassing 49,000 square feet. The school was built in 1903 and currently serves more than 500 students in kindergarten through fifth grade.

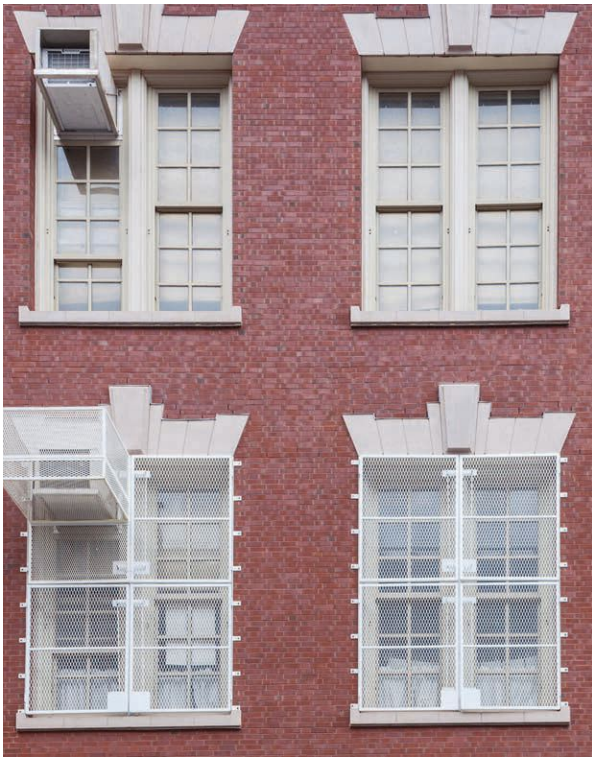
As part of the investigatory work for this project, New York-based Nelligan White Architects PLLC carefully observed, recorded, and mapped exterior and interior damage at the school. Exterior and interior exploratory probes and spray tests were conducted. Laboratory testing of face brick, face-brick mortar, backup brick and backup-brick mortar for compressive strength, absorption, and chemical composition was requested. Based on the firm's findings, the team repaired and replaced bastion caps, parapets, face brick, and terra-cotta elements running from the top of the windows of the fourth floor and continuing to the top level.

The preservation goals for this project included the removal of alterations that had occurred during the course of the building's history, which have changed the historic character of the property. Nelligan White Architects recommended the restoration of the structural and watertight integrity of the building enclosure, particularly the street façade, parapets and roof.

Because the original distinctive features had been removed or altered, replacement of missing features was substantiated by documentary, physical or pictorial evidence. All considerations were in accordance with the Secretary of the Interior's Standards for Rehabilitation.

PHOTOS: © 2019 NELLIGAN WHITE ARCHITECTS PLLC/SYLVIA HARDY





Retrofit Team

METAMORPHOSIS AWARD WINNER!

ARCHITECT // Nelligan White Architects PLLC, New York, nelliganwhite.com

STRUCTURAL ENGINEER // Gilsanz Murray Steficek, New York, www.gmsllp.com

MEP ENGINEER // Clifford Dias Consulting Engineers, New York, www.diaseng.com

GENERAL CONTRACTOR // LoSardo General Contractors Inc., Brooklyn, N.Y., losardo.net

ARCHITECTURAL PRECAST CONCRETE // Davide Kucera Inc., Gardiner, N.Y., www.dkiconcrete.com

Materials

WINDOWS AND ACCESSORIES // Graham Architectural Products, www.grahamwindows.com

MORTARTIGHT THRU-WALL FLASHING (PROTECTED MEMBRANE) // LITSCO, www.litsco.com

RETROFIT MAGAZINE
METAMORPHOSIS AWARDS
Winner

EXTERIOR *Winner*

NEW FACE

A Historic Manhattan School Receives a 21st-century Façade that Looks Like the Original but Performs Better

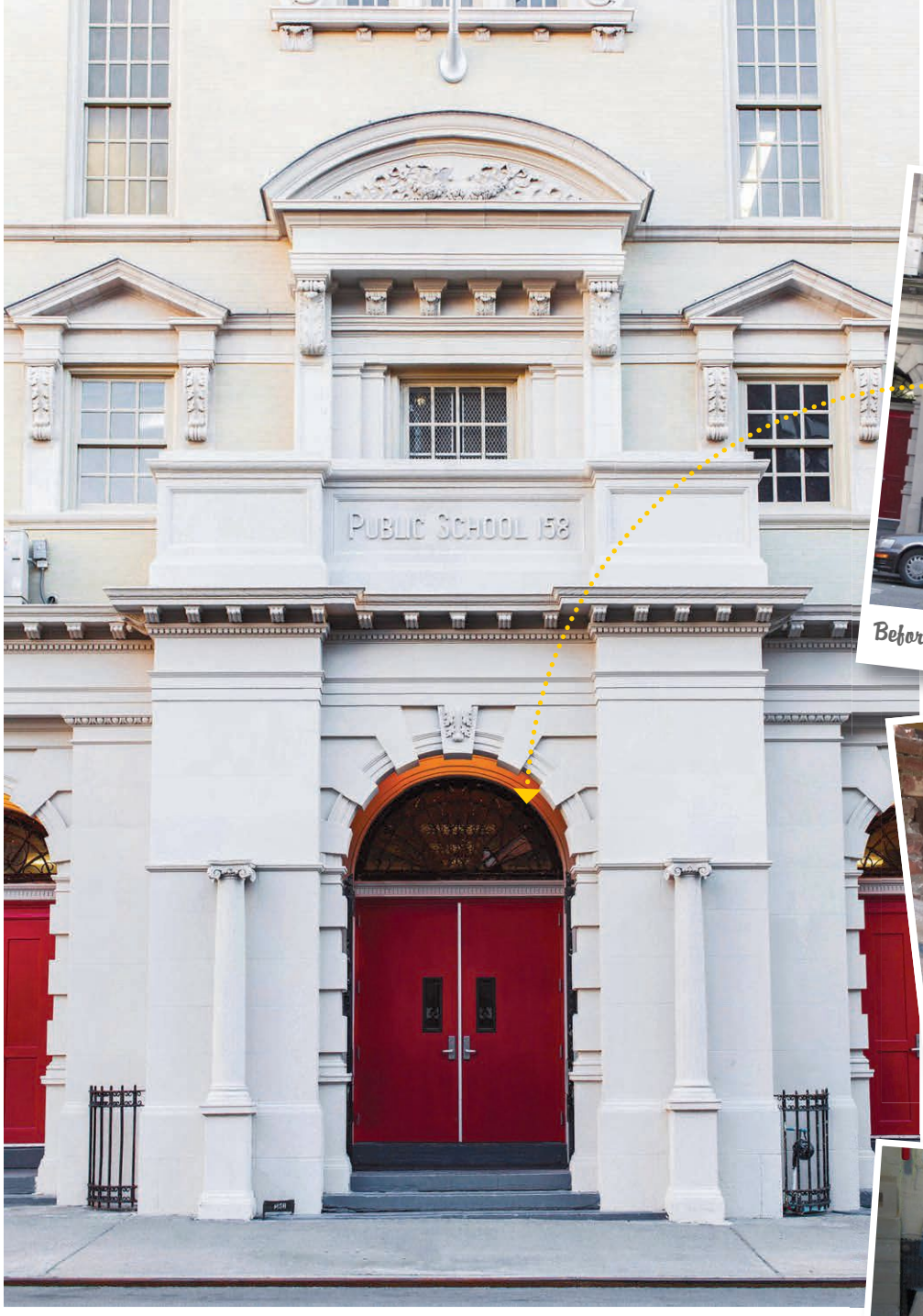
The Bayard Taylor School (PS 158) has been welcoming and educating students on Manhattan's Upper East Side since the 1890s. Designed by C.B.J. Snyder, the school is one of hundreds of school buildings that organize and delineate New York City neighborhoods.

After a century of patchwork repairs and deferred maintenance along with a fateful decision to remove, rather than repair, a monumental projecting cornice that originally graced the building, the Bayard Taylor School's façade was so seriously deteriorated it spread to the interior finishes. New York-based Nelligan White Architects PLLC was commissioned by the New York City School Construction Authority to document the extent of deterioration and develop a plan for restoration.

Throughout the building, Nelligan White Architects' team observed water penetration and building-wide damage to interior finishes caused by a combination of modern masonry repair failures with the deterioration of the backup masonry and mortar that work as a "skin" to protect the building. Additionally, the removal of the original projecting cornice because of cost constraints resulted in the unintended consequence of accelerating masonry deterioration. Once all the damage had been recorded and mapped, the team recommended full replacement of the masonry along with stabilization and repair of all backup masonry.

All face brick was removed and replaced with new brick that replicated the original brick from the 1890s. Behind this new brick, a vapor barrier was applied and a narrow-cavity drainage plane was installed to create a protective barrier. A replica of the original cornice was installed using modern glass-fiber-reinforced concrete. The team also replaced the roof and cleaned up selected original stonework that remained. The result is the restoration of this beautiful, Beaux-Arts-style school that will be resilient for generations to come.

PHOTOS: ©2019 NELLIGAN WHITE ARCHITECTS PLLC/SYLVIA HARDY



Before

Demolition

Details

Retrofit Team

METAMORPHOSIS AWARD WINNER!

ARCHITECT // Nelligan White Architects PLLC, New York, nelliganwhite.com
STRUCTURAL ENGINEER // Gilsanz Murray Steficek, New York, www.gmsllp.com
MEP ENGINEER // Clifford Dias Consulting Engineers, New York, www.diaseng.com
GENERAL CONTRACTOR // Adams European Construction Inc., Brooklyn, N.Y., www.adamseuro.com
ARCHITECTURAL PRECAST CONCRETE // David Kucera Inc., Gardiner, N.Y., www.dkiconcrete.com

Materials

WINDOWS AND ACCESSORIES // Graham Architectural Products, www.grahamwindows.com
FACE BRICK // Glen-Gery, www.glengery.com

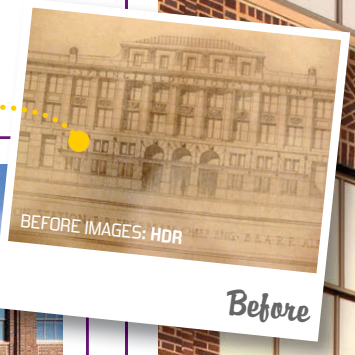
RETROFIT MAGAZINE
METAMORPHOSIS AWARDS
Winner

HISTORIC Winner

COMING BACK TO LIFE

Vacant for 40 years, the Historic Springfield Union Station Now Is a Gateway to the Future

WRITTEN BY | **ROBERT NIEMINEN**



PHOTOS: © 2017 DAN SCHWALM, COURTESY OF HDR Unless otherwise noted.

The late architecture critic Ada Louise Huxtable once observed, "Nothing was more up-to-date when it was built, or is more obsolete today, than the railroad station." While it's true that the rail industry in the U.S. experienced steady decline with the rise of interstate development and car ownership in the 1950s, with many stations closing down as a result, some of these historic buildings are being modernized and coming back to life as vital parts of their communities.

A shining example of this revitalization effort is the newly renovated Springfield Union Station, in Springfield, Mass., a once bustling transportation center left forgotten for 40 years that has since been given new life and purpose thanks to the team at HDR's Boston office. As a Metamorphosis Awards winner in the Historic category, Union Station has once again become a center of the community and an extension of the public realm, paving the way for the future of the city and its residents.

SALVAGING A PIECE OF HISTORY FROZEN IN TIME

Constructed in 1926, the depression-era Union Station served as a major crossroads of the Northeast and was a prominent building in downtown Springfield. Its 11 tracks and the adjacent Baggage Building supported the arrival and departure of more than 90 trains per day with seating to accommodate 650 travelers, as well as restaurants, newsstands, barber shops and other amenities. Eventually, Union Station closed its doors in the late 1970s as rail use declined.

The project team at HDR and preservation specialists worked toward a shared vision for the renovation to adaptively reuse and revitalize the historic structure and spur long-term development.

THE PEOPLE WHO BROUGHT SPRINGFIELD UNION STATION BACK TO LIFE TELL ITS STORY VIA VIDEO.

Retrofit Team

METAMORPHOSIS AWARD WINNER!

ARCHITECT // HDR, Boston, hdrinc.com

PRESERVATION ARCHITECT // John Milner Architects, Chadds Ford, Mass., johnmilnerarchitects.com

STRUCTURAL ENGINEER // Souza True & Partners Inc., Watertown, Mass., souzatrue.com

MECHANICAL AND ELECTRICAL ENGINEER // Fitzemeyer & Tocci Associates Inc., Woburn, Mass., f-t.com

CONSTRUCTION MANAGER // Daniel O'Connell's Sons Inc., Holyoke, Mass., www.oconnells.com

CLIENT'S PROGRAM MANAGER // Skanska USA, Boston, www.usa.skanska.com

LANDSCAPE ARCHITECT // Shadley Associates P.C., Lexington, Mass., shadleyassociates.com

CIVIL ENGINEER // Bryant Associates, Boston, www.bryant-engrs.com

PARKING GARAGE CONSULTANT // Walker Consultants, Boston, walkerconsultants.com

Materials

COUNTERTOPS // Zodiaq (Corian) Quartz from Dupont, www.zodiaq.com

INTERIOR GLAZING // Ipswich Bay Glass, www.ibglass.com, and McGrory Glass, mcgrory.com

PORCELAIN TILE // Crossville, www.crossvilleinc.com

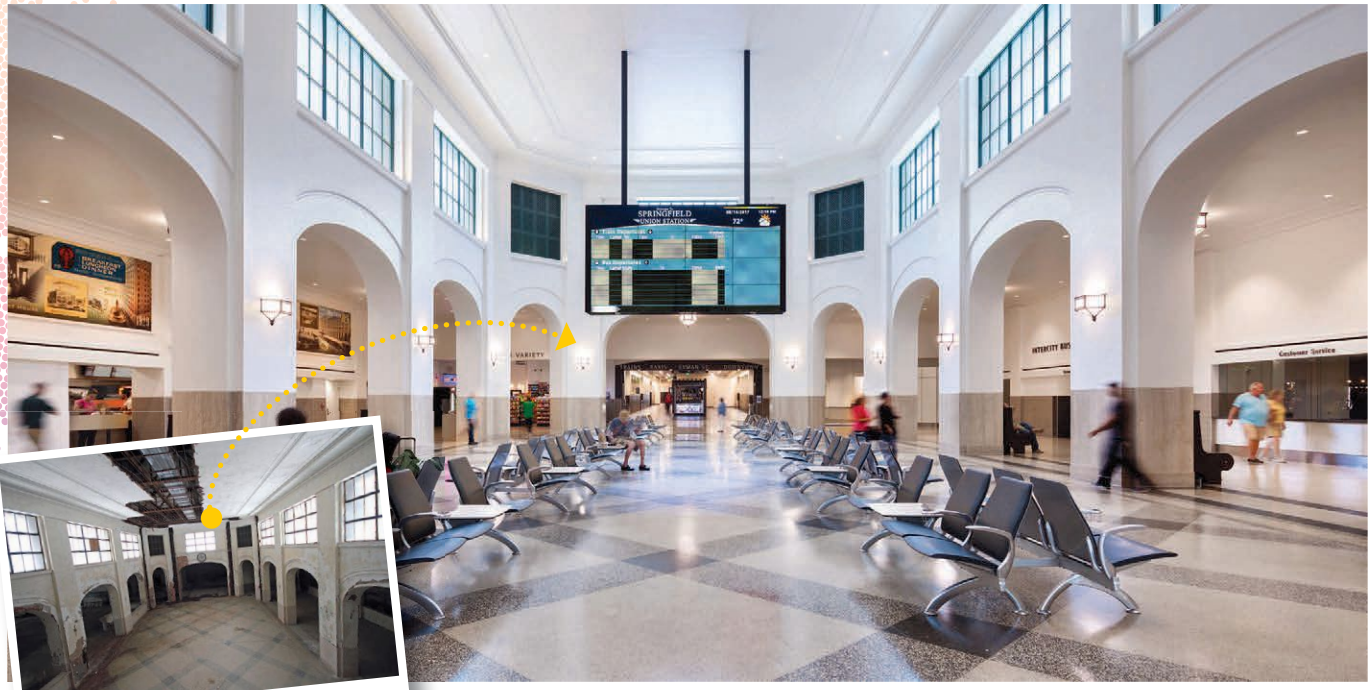
PERFORATED METAL CEILING TILE WITH ACOUSTICAL FLEECE BACKER // Metalworks Vector from USG, www.usg.com

BRICK // Carolina Ceramics Brick Co., www.carolinaceramics.com, and Endicott, endicott.com

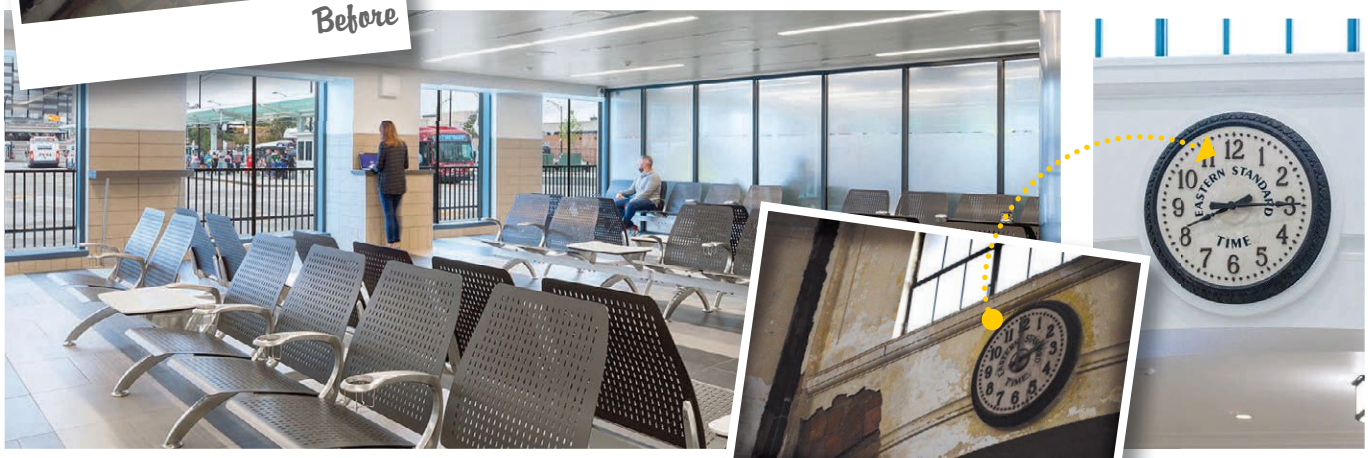
GLASS-FIBER-REINFORCED CONCRETE CLADDING // GFRC Cladding, gfrccladding.com

METAL PANEL RAINSCREEN // Morin from Kingspan, www.kingspan.com/us/en-us/about-kingspan/morin

BACKLIT PERFORATED ALUMINUM SCREEN PANEL // Bunting Architectural Metals, www.buntingarchitecturalmetals.com



Before



Before

Before

"It looked like it had just been abandoned," recalls Megan Doyle Mele, interior designer at HDR. "There was old office furniture—desks, papers that were left—just like people walked out and never came back."

Joe Mamayek, AIA, LEED AP, design principal at HDR, described the existing conditions in the building "like memories that were frozen within the space."

While Union Station sat in decay, Rep. Richard Neal (D-Mass.) made it his mission to see this building come back to life and once again hold an important place within the community. Neal, along with other elected officials, local citizens, and the Springfield Redevelopment Authority, agreed to transform Union Station into a modern, multi-modal transportation hub and an investment in infrastructure.

CHALLENGES TO PRESERVATION AND MODERNIZATION

After interior and exterior assessments, the HDR team, along with assistance from a preservation architect, developed a strategic intervention plan based on a tiered system of architectural and historical significance. From the evaluation it was decided the exterior façade, train platforms, canopies, and interior spaces of the main concourse held the greatest architectural and historical significance. The exterior brickwork was stabilized and repaired, new energy-efficient windows similar to the originals were installed, and exterior lighting was modernized.

Having fallen into neglect over the years, a leaking roof led to extensive water damage. The unsalvageable plaster arches, walls and ceiling needed to be completely replaced. The team recorded and replicated the extensive plaster molding details that adorned the arches and ceiling, and the original light fixtures were replicated and relocated to their previous locations. Even the station's iconic clock was restored to working condition and placed back in its rightful place—as though the 40 years it sat in neglect had not even passed.

"Within the main concourse we were able to salvage some of the historic pieces within the space, including the steel frames around the entry doors, as well as the historic light fixtures," Mele says. "And then some of the historic artifacts that we were able to keep and refurbish were the original clock within the concourse."

To complement and simultaneously distinguish itself from the existing design language, a material palette of porcelain tile, metal and glass was selected. "[We] embraced a contemporary approach, avoiding imitating the past or possibly erring on historicism," Mamayek notes. "Design solutions were 'distinctive' yet respectful of the historic character of place, including massing, proportions, scale, color, materiality and details of the campus."

To showcase the rich history of Union Station, the design team collaborated with the client and the Springfield Museum to incorporate a series of wall murals and artifacts that speak to Union Station's past while looking ahead to the future. In addition to restoring and preserving the building's history, the program also required the modernization of amenities. To that end, new security technology and customer-service counters were installed within the concourse.

Finally, the once heavily used Baggage Building and an old parking structure were to give way for the construction of a new parking garage and open-air bus terminal. The south foundation wall of the Baggage Building was originally constructed to support the Springfield Railroad Terminal, causing significant complication to the removal process. To overcome the challenge, innovative soil nails were installed to support the massive wall throughout the demolition.

RESTORING CIVIC PRIDE

To ensure the project would not only bring forth a renovated Union Station, but also self-sustaining economic and real-estate development, a team of market economists, transit specialists, and architects provided planning, advisory services and real-estate feasibility studies. The tangible synergies of the new multi-modal transportation hub qualify Union Station as a Transit Oriented Development (TOD). This classification defines a type of urban development that capitalizes on its access to public transportation based on proximity to housing, office and retail amenities. TOD promotes urban growth, walkable communities and an increased ease of public transportation access.

The newly renovated and modernized multi-modal Springfield Union Station provides 120,250 square feet of main concourse, a refurbished pedestrian tunnel, modern 27-bay bus terminal and 377-space parking structure. The station centralizes and provides connections to train services, as well as ground transportation, convenient pedestrian access and sufficient parking.

More importantly, however, it has also re-instilled a sense of civic pride within the community it serves. "You start to see the community really feel a sense of pride of highlighting this building that is now brought back to its original beauty, and they're proud to have it in their community," Mele observes. True to the vision of Rep. Neal, this building is now a vibrant part of the Springfield community once again—a fact more significant than simply rescuing an aging structure from decay.

"On the opening night, what was more evident than anything else, more important than the bricks and mortar of the building, was actually seeing the community come back into this building and re-experience a space, which they couldn't do for 40 years," Mamayek says.

RETROFIT MAGAZINE
METAMORPHOSIS AWARDS
Winner

HISTORIC Winner

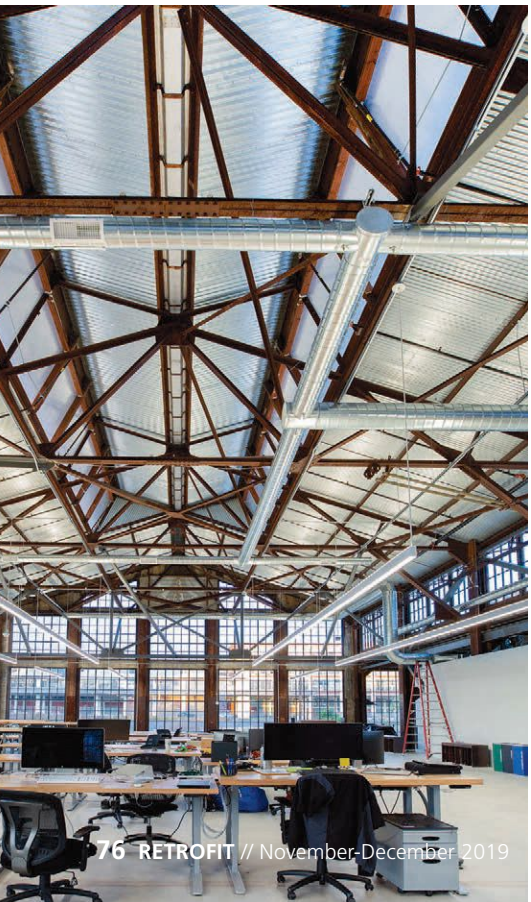
UBER ADVANCED

Historic Pier 70 in San Francisco Once Launched State-of-the-Art Ships; Today, It Develops Futuristic Transportation Modes

WRITTEN BY | **CHRISTINA KOCH**

When Kent Royle began his tenure with Marcy Wong Donn Logan Architects, Berkeley, Calif., 22 years ago, he couldn't have anticipated the types of buildings for which he would serve as project architect—nor could he imagine the unique, high-tech intellectual property and goods that would be conjured inside these buildings. Pier 70 in San Francisco, which consists of approximately 300,000 square feet of historic waterfront buildings once used to build steel-hull ships by Union Iron Works and then Bethlehem Shipbuilding Corp., is case in point.

Royle's firm entered its work on 120,000 square feet of Pier 70—Buildings 113 through 116—into ***retrofit***'s inaugural Metamorphosis Awards program and won in the Historic category. The design team, in close collaboration with James Madsen, Will Johnson and Eddie Orton of Orton Development Inc. (ODI), Emeryville, Calif., carefully transformed these dilapidated pier buildings into the Uber Advanced Technology Group Research and Development Center while maintaining the historic fabric of the structures, which earned accolades from the awards judges. A division of the same Uber that brought us ride-sharing, Uber ATG focuses on advances in transportation, including self-driving vehicles and even flying cars. Its new digs in Pier 70 not only are a beautiful testament to the buildings' illustrious past but also the perfect home for Uber's pioneering future.



WHY RETROFIT?

Working with ODI and Historic Preservation Consultant Mark Hulbert, Marcy Wong Donn Logan Architects has earned a reputation in the San Francisco Bay area for inventive restoration of immense historic properties. These firms teamed up on the 517,000-square-foot Ford Motor Co. Assembly Plant renovation in Richmond, Calif. The plant's Oil House became the Rosie the Riveter Visitor Center featured in ***retrofit***'s September-October 2014 issue, page 26, or bit.ly/2nfUCgG. "We spent probably eight years working with ODI and Mark Hulbert on that project through tenant improvements, all the design and entitlements phases, so by the time the Pier 70 project came up we made a very good team," Royle recalls. "The Ford building had many of the challenges this project did, so it was a very collaborative effort from the beginning."

Among Pier 70's challenges were the sheer size—and consequently cost—of bringing the buildings back to life. "On Pier 70, if you spend a dollar a square foot, every dollar a square foot is a third of a million dollars!" Royle notes. "You have to be very strategic in how you approach these projects because the cost can spiral out of control if you're not maximizing the value and leveraging everything to get a space to do multiple things."

So why would Uber ATG be interested in spending this kind of money to retrofit late 19th-, early 20th-century buildings in disrepair—one of which was red-tagged for fear of seismic collapse by the city? According to Royle, the decision was made because of Pier 70's proximity to the talent pool. Although nearby Silicon Valley still is home to the likes of Google and Apple, Millennials are seeking more of an urban experience than can be found in Silicon Valley. "In the last 10 years, the talent pool of young workers has been living in San Francisco and the companies in the Silicon Valley were busing people down," Royle notes. "However, more startups are attracted to San Francisco because that's where the concentration of talent is. As a consequence, real-estate availability and prices spiked. There's an extremely tight, competitive market for leasing, and there weren't a lot of opportunities for this type and size of property."

Uber ATG is in good company in San Francisco's southeast waterfront, which is experiencing a renaissance of sorts. In addition to a new hospital complex in the area, the Golden State Warriors stadium recently opened nearby. Despite the new construction, the Port of San Francisco, which owns the piers, is keen on preserving key pieces of the waterfront history. "The Pier 70 area had this beautifully intact historic core. The buildings were really spectacular, but they had been deteriorating for years and were falling into extreme disrepair," Royle explains. "Pier 70 creates a gateway to an area in which extensive redevelopment is happening but the Port of San Francisco wanted the historic buildings to really set the tone for all the new development there."

ODI and the Port of San Francisco partnered to bring Pier 70's core and shell back to a condition in which a tenant could do its own improvements, and, Royle says, that work was well underway when Uber ATG picked buildings 113 to 116 for its research and development center.

CHALLENGES AND OPPORTUNITIES

When Royle and the design team were in the first stages of planning, they weren't sure whether Pier 70's buildings would have six

PHOTOS: BILLY HUSTACE PHOTOGRAPHY unless otherwise noted

BEFORE PHOTOS: MARCY WONG DONN LOGAN ARCHITECTS

Before

tenants or one. Regardless, the port's historic reviewer required the redesigned buildings be experienced spatially in the same way as the originals. "For example, they want you to sort of perceive the huge volumes of these buildings, which is kind of a challenge when you have multiple-tenant buildings," Royle remarks. "Uber has taken about half of Building 113 and then all of 114, 115, 116. Building 113 alone takes up basically two city blocks; it was two brick warehouses that were built in the 19th century, connected with a concrete building. The concrete connector piece we're using as a public atrium, but then we had to come up with a way to demise this 50-foot-high open space on either side of the public atrium as you walk in."

The design team proposed several ways to demise Building 113 to the Port of San Francisco; State Historic Preservation Officer; and, ultimately, the National Park Service in Washington, D.C., which had to approve the plans because federal tax credits were involved. "As part of the review process, historic reviewers were adamant that the demising walls in these areas had to be fully transparent," Royle recalls. "It's a challenge to make a 50-foot-high glass wall fully transparent. We probably redesigned this wall numerous times to find the most beautiful but affordable way to demise the space. In the end, ODI hired a glazing contractor onto their staff to help come up with a way of attaching the glass that probably cost a third of what the original full-glass demising wall was projected to cost."

In addition, the team had to make openings in the glass wall tall and wide enough for large lifts to drive through to complete routine maintenance in the building. "We had to install a specialty sliding door that was developed for car dealerships," Royle explains. "The frameless glass doors allow people to enter, but those two double-door sections—one slides to the left and one slides to the right—create about a 14-foot-wide by 14-foot-high opening for access by lifts and trucks."

To maintain the large, open volumes, the team crafted enclosed rooms with glass and tucked these spaces under second-floor decks. In addition, much of the new structure, required for seismic bracing, is hidden behind the existing structure, which was left untouched.

When Uber ATG moved in at the beginning of 2018, a few items required fine-tuning. For example, exhaust fans are currently being removed and replaced with quieter fans that include acoustic dampening.

In addition, Buildings 113 and 114 rely on a radiant heating system embedded in the polished concrete floors. Because of San Francisco's moderate climate, the team intended to naturally cool and ventilate the facility. "The comfort studies showed it could work, but it's turned out that how Uber needs to use the building is different than what the mechanical engineer had originally planned in terms of opening all the windows," Royle mentions. "If you're a high-tech, advanced-technology company, visual privacy and potential industrial espionage are considerations. Having the windows open is not realistic."

Two-inch foam insulation has been added to the roof, which Royle states has minimized the radiant heat. Currently, air conditioning is being added throughout the offices to cool them.

To maintain Pier 70's shipbuilding legacy, industrial artifacts, such as cranes, have been seismically braced in place. On the exterior of Building 113, ODI had the name of a previous tenant, Pacific Coast Steel Corporation, repainted on the building.

As factories of the 19th and early 20th centuries, the buildings were well daylit, so the design team accentuated natural daylight. Perimeter windows have been restored where possible and replicated with custom windows where deteriorated. Original ventilation louvers throughout the facility's roof structure were replaced with glazed panels to bring as much light inside as possible.

UBER GRATIFICATION

Royle first looked at Building 113 in 2003 as a possible place for a National Park

Retrofit Team

METAMORPHOSIS AWARD WINNER!

DEVELOPER // Orton Development Inc., Emeryville, Calif., www.ortondevelopment.com

ARCHITECT // Marcy Wong Donn Logan Architects, Berkeley, Calif., wonglogan.com

GENERAL CONTRACTOR // Orton Development; Nibbi Brothers, San Francisco, www.nibbi.com; and Novo Construction, San Francisco, www.novoconstruction.com

STRUCTURAL ENGINEER // Nabih Youssef Associates, San Francisco, www.nyase.com

CIVIL ENGINEER // Sherwood Design Associates, San Francisco, www.sherwoodengineers.com

MECHANICAL ENGINEER // Engineering 350, San Francisco, www.engineering350.com

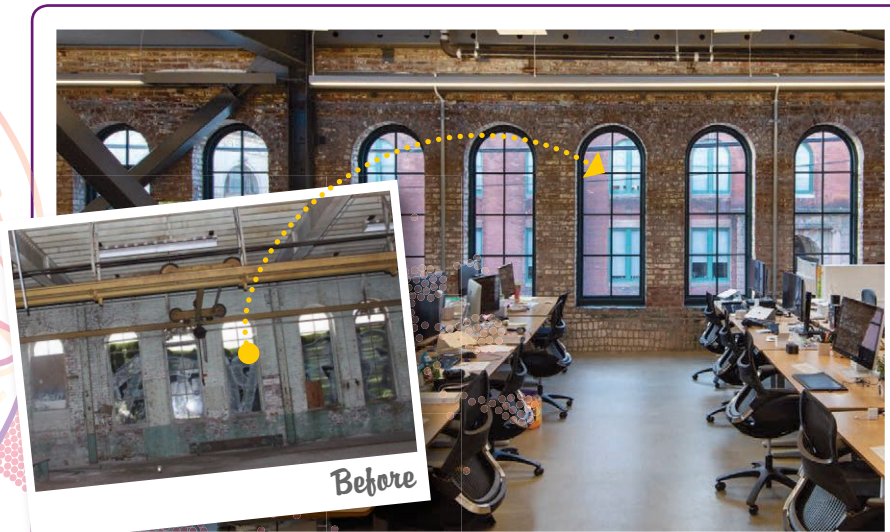
HISTORIC ARCHITECTURE CONSULTANT // Mark Hulbert Preservation Architecture, Oakland, Calif., www.preservationarchitecture.com

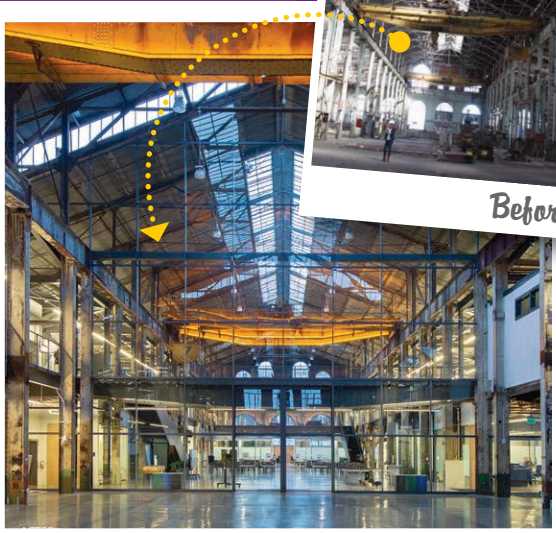
CODE CONSULTANT // ARS, San Francisco, www.arscode.com

FIRE, LIFE SAFETY CONSULTANT // The Fire Consultants Inc., Walnut Creek, Calif., www.thefireconsultants.com

LIGHTING DESIGNER // Architecture & Light, San Francisco, www.architectureandlight.com

LANDSCAPE ARCHITECT // GLS Landscape, San Francisco, glsarch.com





Materials

BIKE RACK // Ultra Space Saver from Dero, www.dero.com
FAN // Powerfoil 8 from Big Ass Fans, www.bigasssolutions.com
OFFICE PARTITION, GLASS WALL SYSTEM, DETEX BATTERY ALARM, BLUMCRAFT HARDWARE AND ELEPHANT DOORS // C.R. Laurence Co. Inc., www.crlaurence.com
DOORS FOR LARGE OPENINGS // Fleetwood, www.fleetwoodusa.com
HISTORIC WINDOW REPLACEMENT // Winco, www.wincowindow.com
POLYCARBONATE PARTITION // Plazit Polygal, www.plazit-polygal.com
LAVATORIES, WATER CLOSETS // Toto, www.totousa.com
BATHROOM TILE // Graniti Fiandre, www.granitifiandre.com
HIGH-BAY LED LIGHTING // Lithonia Lighting, lithonia.acuitybrands.com
SUSPENDED LINEAR LED // Fluxwerx, www.fluxwerx.com
SUSPENDED CYLINDER DOWNLIGHT // Lindsley Lighting, www.lindsleylighting.com
TAPE LED AMBER LIGHT AT CRANE // Aion LED, www.aionled.com
RECESSED LINEAR LED DOWNLIGHT // Finelite, www.finelite.com
MX ADJUSTABLE ROUND DOWNLIGHT // Intense Lighting, www.intenselighting.com
LED SURFACE UTILITY STRIP // Philips Daybrite, www.lighting.philips.com
WALL-MOUNTED LED // Axis Twin Beam, www.axislighting.com
UNDER-CABINET LED STRIP // Luminii Easy Link, www.luminii.com
INTERIOR PAINT, WALLS // Benjamin Moore, www.benjaminmoore.com
INTERIOR PAINT, STEEL // Kelly Moore, www.kellymoore.com
CARPET TILE // New Basics from Mohawk, www.mohawkflooring.com

Service archive facility. "At that time, you could see it was a beautiful building, but it was kind of crumbling," he recalls. "It had only deteriorated more when we got invited to look at this with ODI. It also had been vandalized and stripped and had numerous roof leaks that were really crumbling the interior brick. It just was sad to see beautiful old buildings continue to deteriorate. It's gratifying to bring them back to a bit of their former glory and having them used in a way that is really vibrant."

When Uber ATG's space opened, San Francisco Heritage, a non-profit whose mission is to preserve and enhance San Francisco's unique architectural and cultural identity, hosted its annual party within the public spaces. This gave experienced preservationists, who may have the most critical eyes, an up-close view. "In San Francisco there's nothing that is not controversial—and that's probably an understatement," Royle remarks. "But these renovations were done in a way that kept so much of the existing buildings intact and recognizable that it was very warmly embraced by the preservation community and the community at large."

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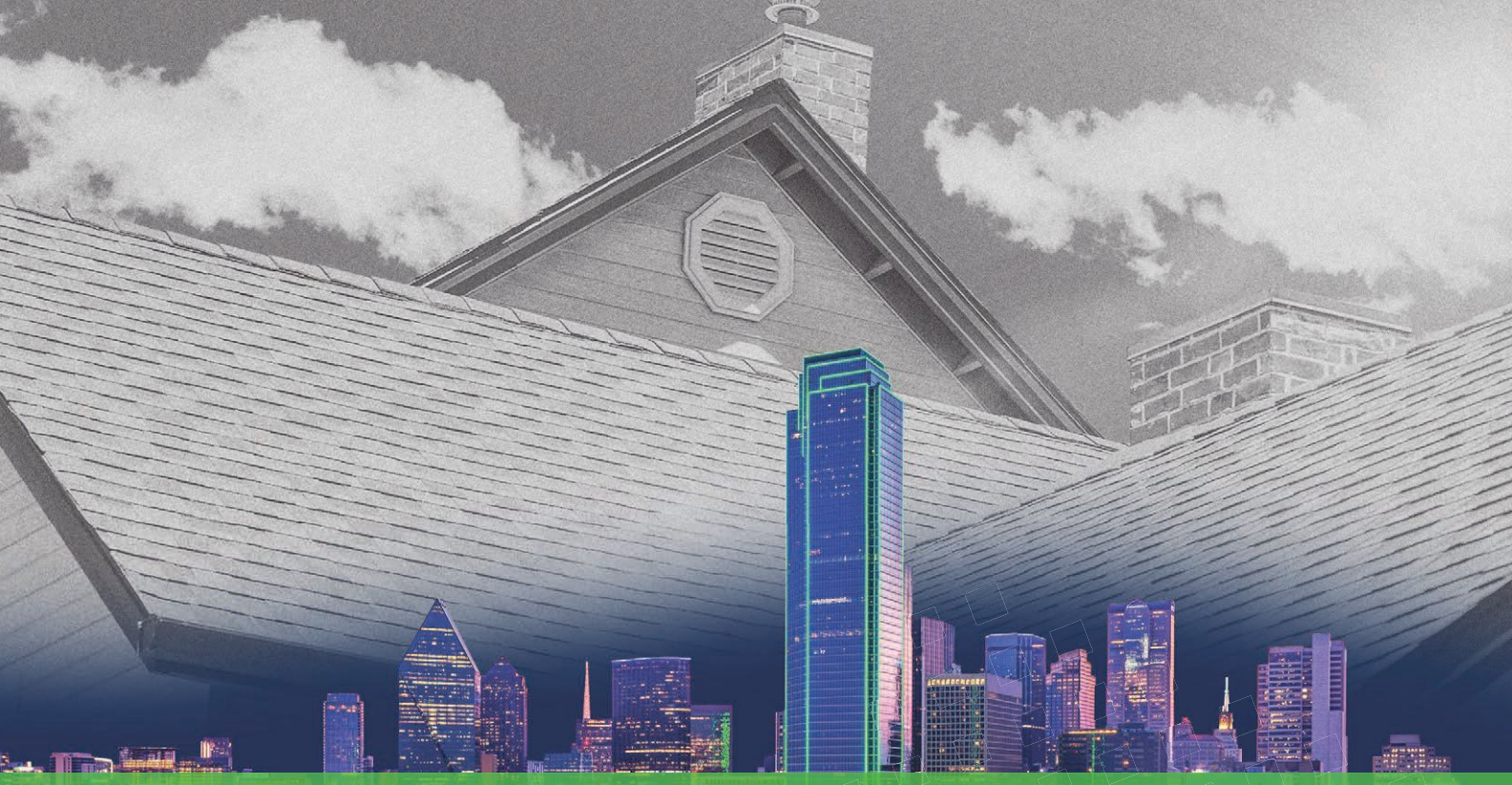

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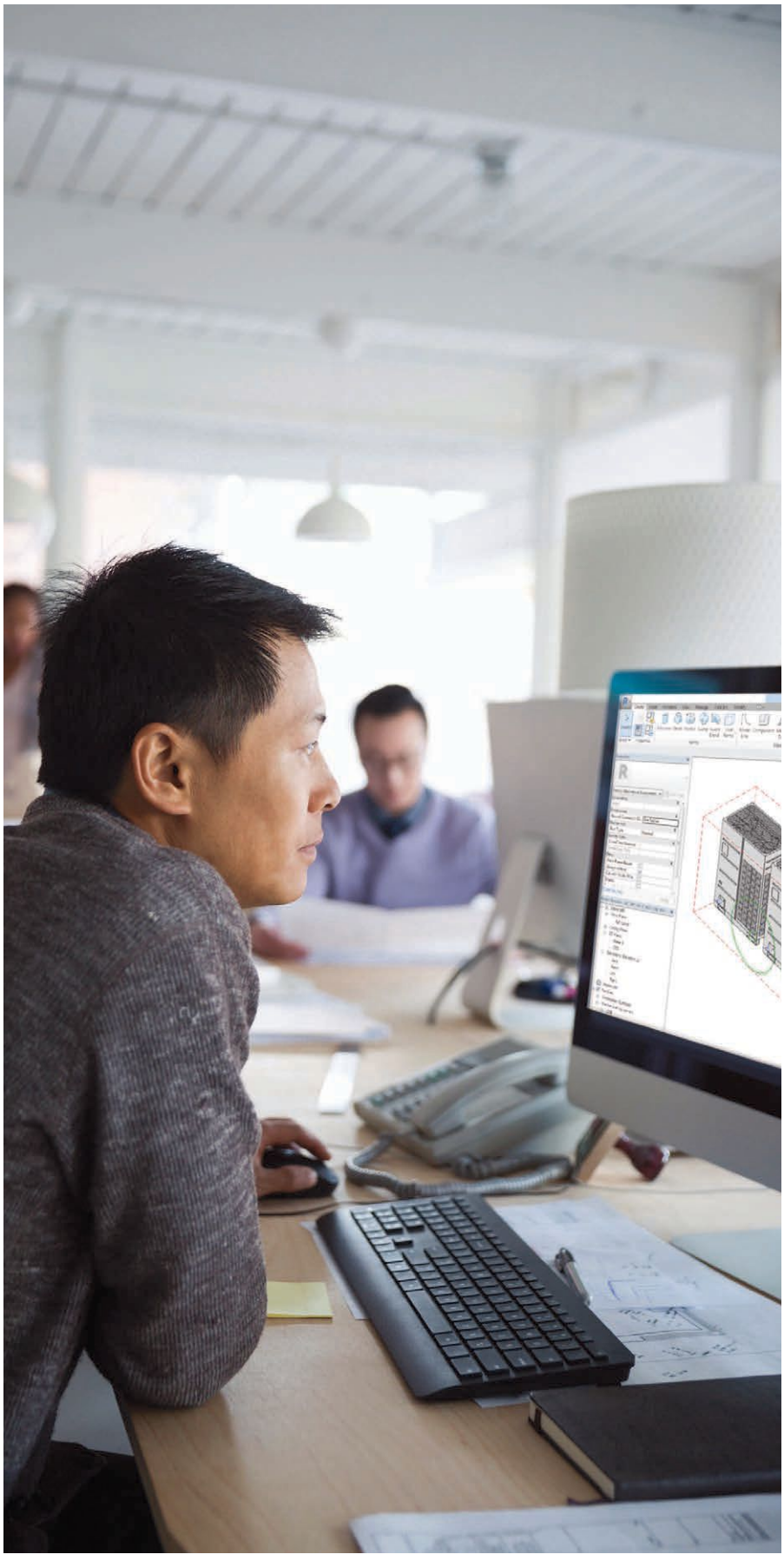

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