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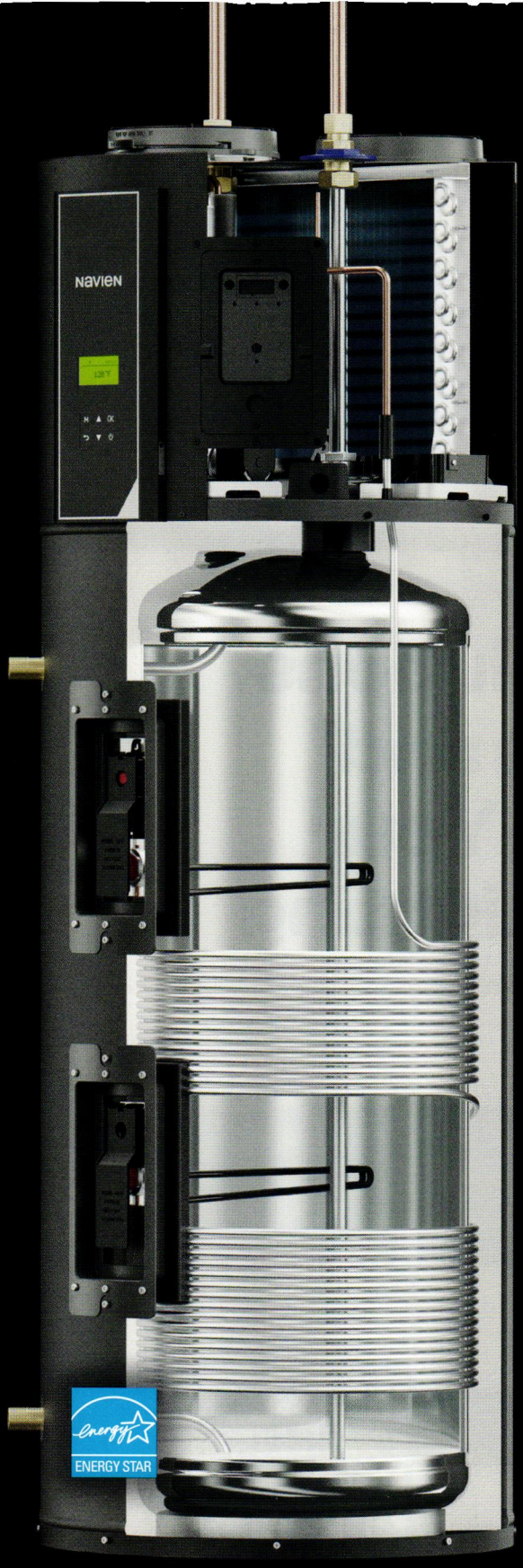

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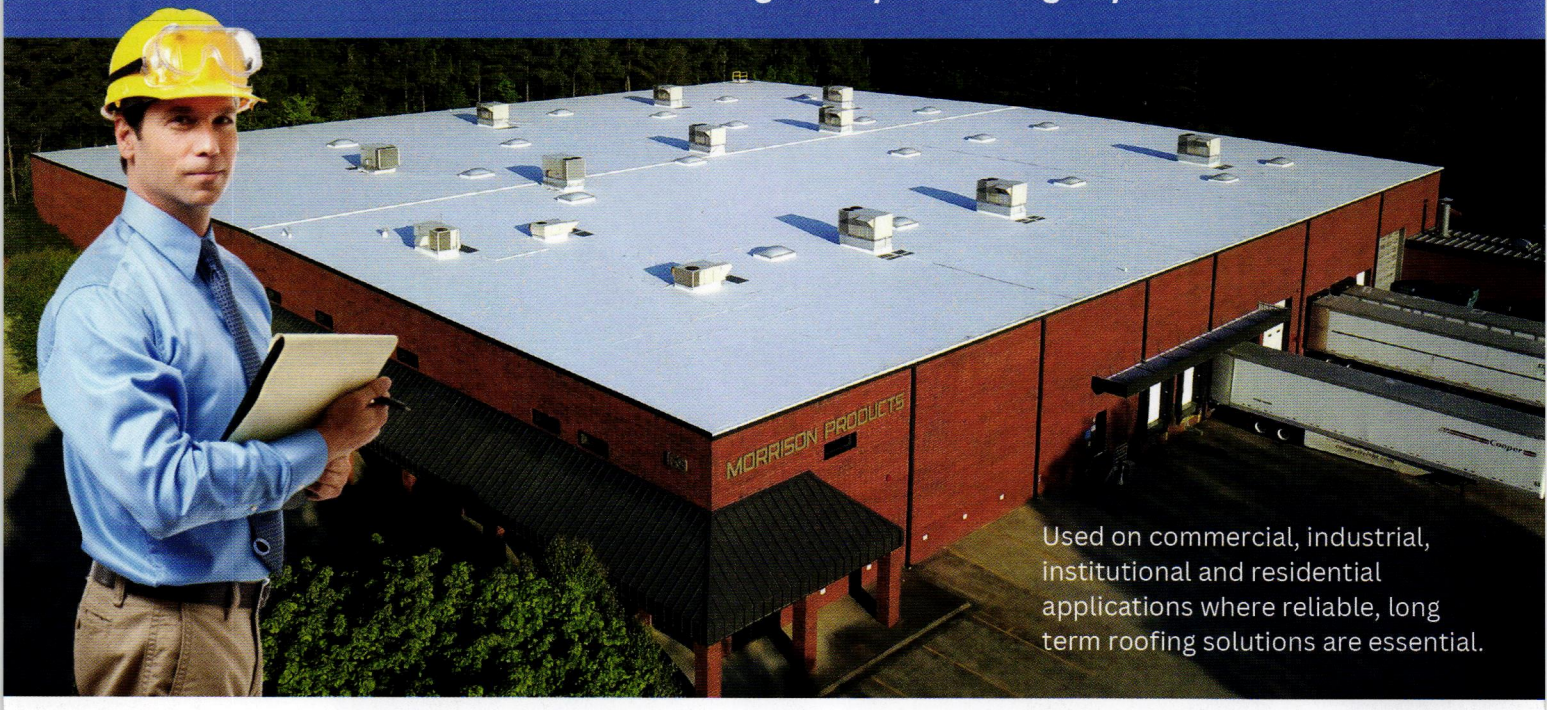

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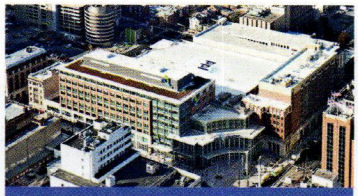

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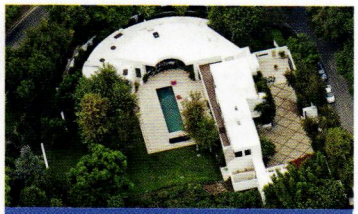

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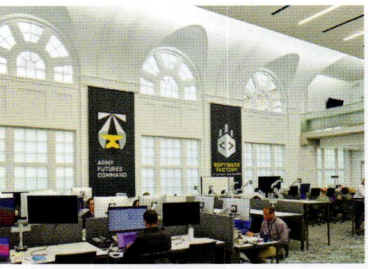

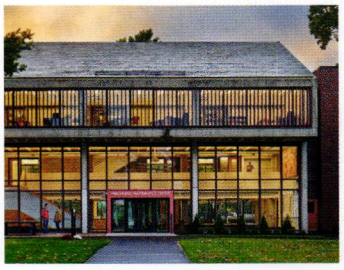

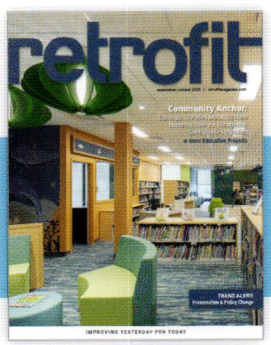

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Nicholas Venezia

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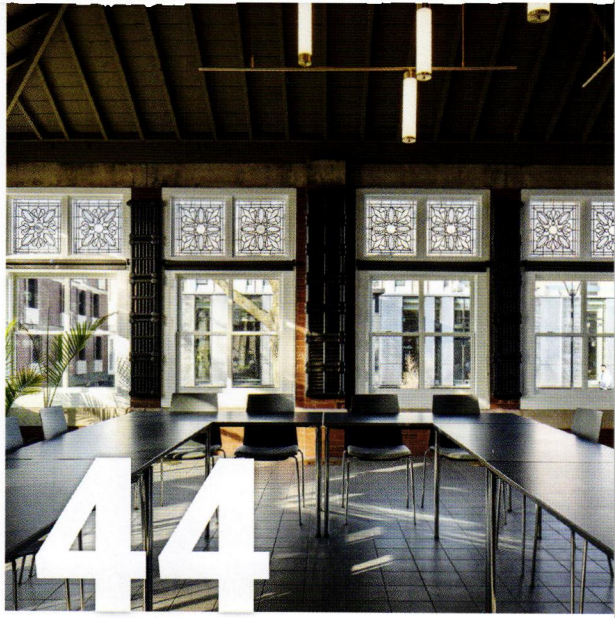

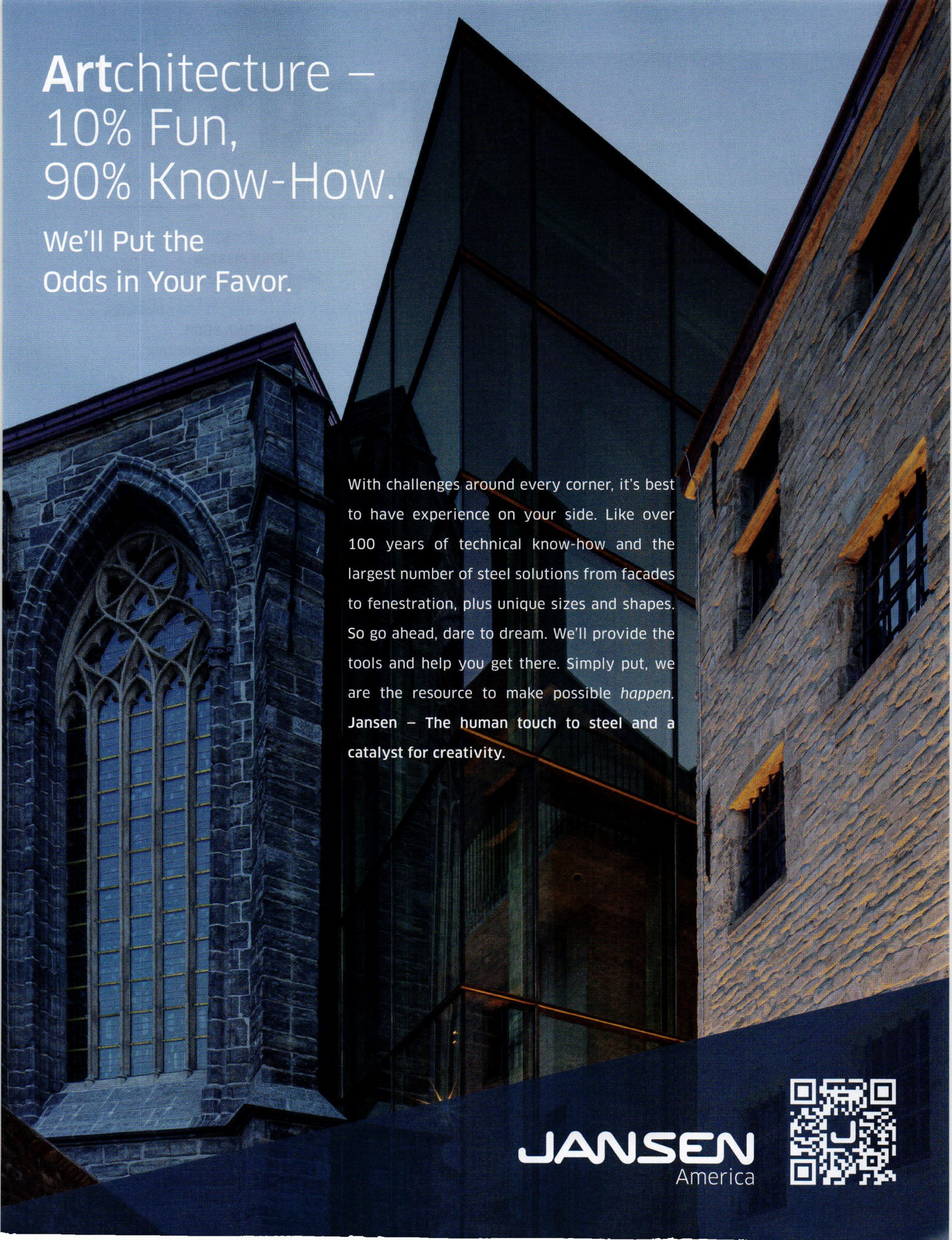
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Back to College

Both sets of my grandparents—ironically, members of the Silent Generation—went kicking and screaming into assisted-living and senior-care facilities. My Boomer parents claim they will not be so difficult because of the struggles they had with my grandparents, but my cousins already report fighting with their parents about next steps for necessary care.

As the first member of both sides of my family to graduate from college, I've not-so-secretly relished the idea of senior living. I always have imagined it will be just like college: living with my peers, unit doors open, laughing in the wee hours of the morning (this time we'll rise early instead of going to bed so late), playing memory games (with adult beverages?) and flirting with the attractive gentleman who lives down the hall (my husband says this is OK!).

Robert A.M. Stern Architects (RAMSA) just made my dreams a literal reality with The Newbury of Brookline, Brookline, Mass., a precedent-setting, 159-residence senior-living community, combining independent and assisted living with memory care, on the former campus of Newbury College, a liberal arts institution that shuttered in 2019.

The transformation is very complementary to its residential neighborhood; seniors aren't adding to congested commutes, but they are going for walks, visiting restaurants and parks, and participating in their community. In addition, as Sargent C. Gardiner, AIA, a RAMSA partner, points out in the article—"Transformation", page 52—"adapting these spaces, as opposed to starting from scratch, allows for the preservation of what's valuable, from historic structures to old-growth trees and gardens, while adding new buildings that boast modern functionality."

I was so thrilled when this project was sent to me, I asked whether I could reserve my "dorm" room now for the not-so-distant future. I also asked my husband what he thought about retiring in Massachusetts instead of our plan to head south. He simply wondered whether his college roomies would want to live with him again. I guess I'll be flirting with the hubs when he lives down the hall!

What do you think of shuttered college campuses becoming senior-living facilities? Have you seen this anywhere else in the country? If so, please tell me where; I'd selfishly love to see more of these projects if they exist—maybe my husband and I can retire in the South, after all!

CHRISTINA KOCH
Associate Publisher/Editorial Director
retrofit

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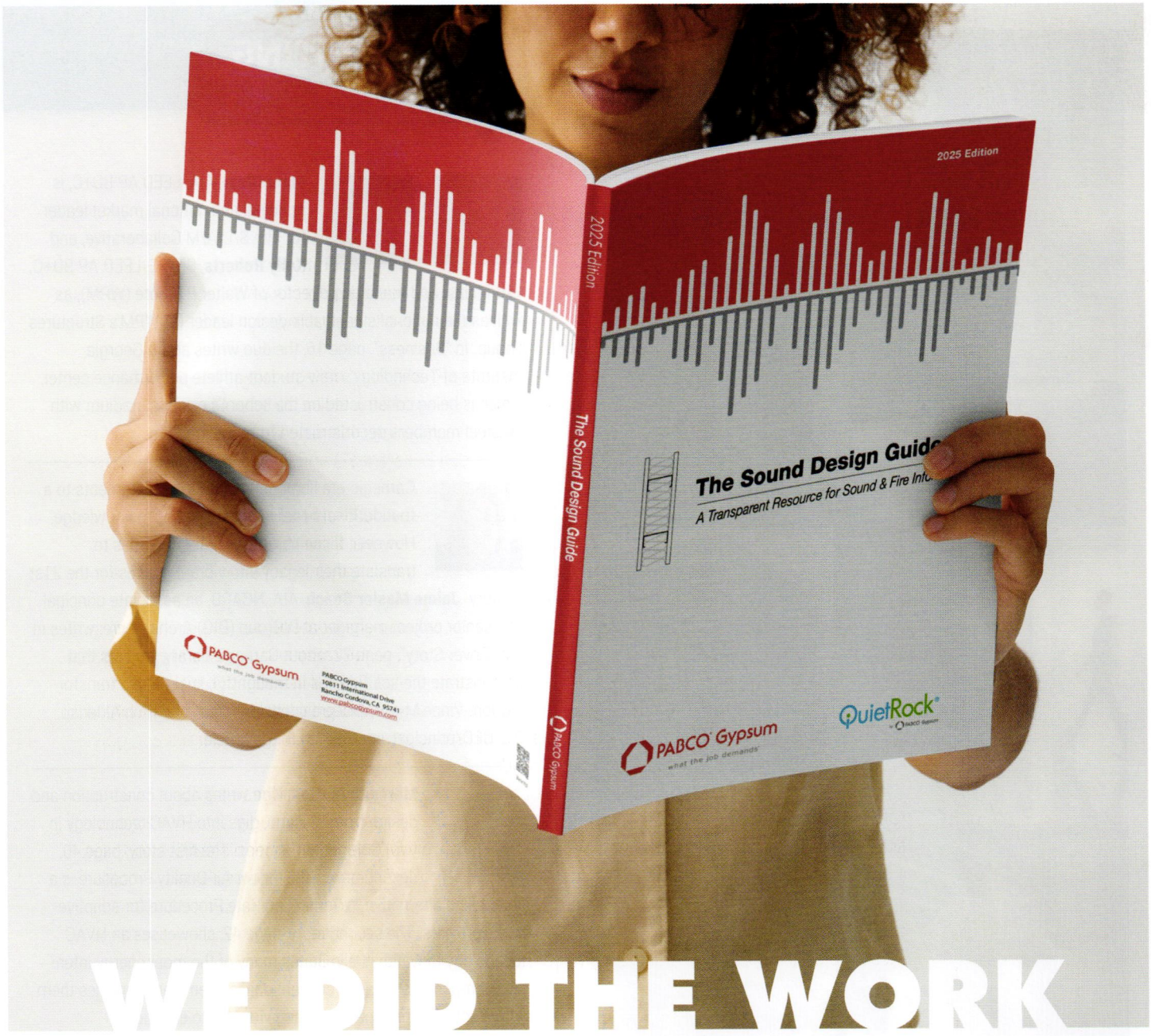

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CONTRIBUTING WRITERS


Marc Clear, AIA, LEED AP BD+C, is principal and national market leader for The S/L/A/M Collaborative, and **Kelly Roberts**, PE, SE, LEED AP BD+C, is principal and managing director of Walter P Moore (WPM), as well as the national sustainable design leader for WPM's Structures Group. In "Business", page 16, the duo writes about Georgia Institute of Technology's new student-athlete performance center, which is being constructed on the school's existing stadium with 20 steel members deconstructed from the stadium.

Carnegie-era libraries are enduring testaments to a foundational belief in public access to knowledge. However, these libraries require upgrades to translate their legacy into vibrant spaces for the 21st century. **Jaime Masler Beach**, AIA, NCARB, an associate principal and senior project manager at DIGroup (DIG) Architecture, writes in our "Cover Story", page 22, about Carnegie library projects that demonstrate the solution lies in thoughtful, sustainable transformation. Vince Myers, DIG president/principal, and Rich Alderiso, DIG CEO/principal, contributed to the article.

Meredith Morton, who writes about construction and design from Chicago, digs into HVAC technology in two "Component" stories. The first story, page 40, describes why the Indoor Air Quality Procedure is a compelling alternative to Ventilation Rate Procedure for adaptive-reuse projects. The second story, page 42, showcases an HVAC technology to watch: It eliminates many of the most energy-intensive components found in conventional systems and replaces them with a solution that operates using virtually no electricity.

Alissa Wehmueller, IIDA, LEED AP, WELL AP, is director of Interior Design and a principal at Helix Architecture + Design. In "Historic", page 44, Wehmueller describes Kansas City Art Institute's Vanderslice Hall, an admissions office and welcome center that was formerly a civic leader's mansion.

In "Transformation", page 52, **Sargent C. Gardiner**, AIA, a partner at Robert A.M. Stern Architects, showcases The Newbury of Brookline, Brookline, Mass., a 159-residence senior-living community on the former campus of Newbury College—a liberal arts institution that shuttered in 2019. The precedent-setting project demonstrates how legacy spaces of higher education offer the perfect grounds to build intergenerational neighborhoods that preserve local history and encourage long-term social harmony.

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Structural Steel Reuse

Georgia Institute of Technology Demonstrates a Sustainable, Cost-neutral Circularity Solution

By Marc Clear, AIA, LEED AP BD+C, and Kelly Roberts, PE, SE, LEED AP BD+C

Reusing materials is rarely the first instinct when planning new construction. But in today's economic and environmental landscape, that mindset is starting to shift. Rising material costs and increased tariffs—particularly on imported steel and aluminum—are increasingly compelling reasons to consider repurposing materials, such as windows, wood, doors—and even structural steel.

The financial benefits of material reuse are difficult to ignore. In June, tariffs on certain imported metals doubled to 50 percent. Meanwhile, construction costs have surged at an annualized rate of 6 percent through the first five months of 2025, according to the Associated Builders and Contractors, driven largely by rapid price increases for tariff-affected products. Reclaiming and reusing materials is not just a sustainability benefit, but it can be a fiscal one, as well.

Circularity in Motion at Georgia Tech's Fanning Center

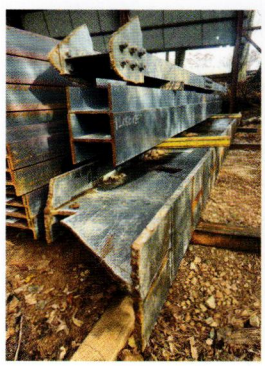
The Georgia Institute of Technology's major construction project at the Bobby Dodd Stadium presented a unique opportunity to integrate material circularity into a large-scale athletic facility. The Thomas A. Fanning Student-Athlete Performance Center—a 100,000-square-foot facility that broke ground in early 2024—is designed to support student athlete health, wellness, academic success and performance. Building it required partial demolition of the football stadium's structure.

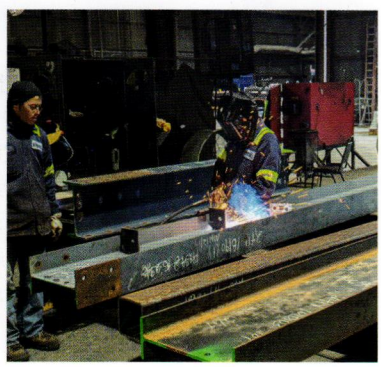
To make room for the new building, which is being constructed on the northeast corner of the stadium, several bays of the existing stadium were removed. During pre-demolition site visits, the structural engineer identified an opportunity to salvage and repurpose about 20 steel members that were slated for demolition—an approach that would preserve material value while reducing environmental impact.

While many of the original steel members were bolted in place more than 20 years ago, wear and age made disassembly by unbolting impractical. Instead, the team torch-cut the ends of the members, preserving the bulk of each member. In all, approximately 25 tons of steel were deconstructed, salvaged and transported to a fabrication shop less than 10 miles from campus. There, the steel was refabricated for

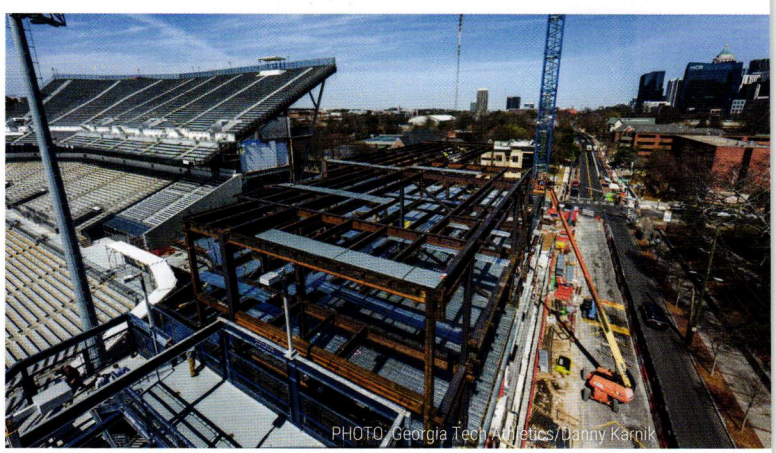
PHOTOS: Walter P Moore unless otherwise noted

The structural engineer identified 20 steel members for reuse.





About 25 tons of steel was refabricated for the Fanning Center.



This reuse effort avoided about 25,000 kilograms of CO2 emissions.

reuse in the new building and then returned to the site where the pieces were seamlessly reintegrated into the structure.

Designed by The S/L/A/M Collaborative with Walter P Moore as structural engineer and DPR Construction as construction manager, the Fanning Center shows how thoughtful planning can turn material reuse into a sustainable, cost-neutral solution, preserving valuable resources and providing a real-world case study.

Although this type of material reuse is yet to be incorporated on a wide scale, the learning curve will flatten—and the economics will improve—as more demolition contractors, engineers and fabricators gain experience with reuse.

Economics of Steel Reuse

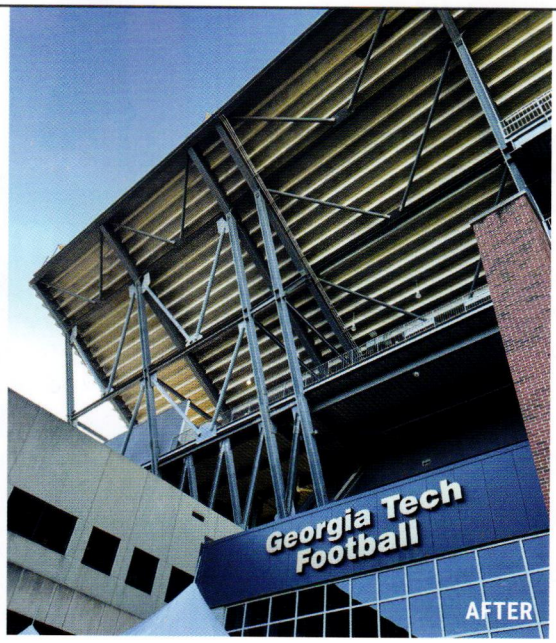
Structural steel is rarely used after demolition, primarily because beams are often damaged or unsuitable for reintegration. Deconstruction, transportation and refurbishment also introduce logistic and labor costs. In Georgia Tech's case, the proximity of the steel fabricator and the practicality of reusing large steel members made reuse not only feasible, but a zero-cost solution that made economic and environmental sense.

Although this type of material reuse is yet to be incorporated on a wide scale, the learning curve will flatten—and the economics will improve—as more demolition contractors, engineers and fabricators gain experience with reuse.

Market trends may also accelerate adoption. With the launch of LEED v5, the U.S. Green Building Council is placing more emphasis on circularity. Projects that reuse materials—specifically structural elements—can potentially earn more LEED points, reducing the cost per point and increasing the value of sustainable certifications. Other incentives and policies, such as embodied carbon regulations, could further support wider adoption of reuse strategies.

Circularity on a Broader Scale

The Georgia Tech steel reuse project followed simple logic: If perfectly good steel already exists onsite, why fabricate more? Of course, not all buildings have structural components



A key factor that made steel reuse possible at Georgia Tech was that the beams were not integrally cast into concrete slabs, making deconstruction and refabrication easier.

suitable for reuse. Still, there are plenty of circular opportunities beyond steel: from wood framing and mass timber to architectural finishes and fixtures.

Changing industry culture to value reused materials is key. In many cases, used materials are not only sufficient—they are better than new ones. And there is a whole ecosystem of building reuse centers and salvage networks across the country. Tapping into these underutilized programs can unlock access to valuable building components and shrink a project's environmental footprint.

Georgia Tech's reuse effort avoided approximately 25,000 kilograms of CO_2 emissions—equivalent to some 60,000 miles driven by an average gas-powered vehicle—without adding any extra cost to the project.

Building with the Future in Mind

When not reused, demolished steel is typically recycled, melted and recast—a circular but highly energy-intensive process. Reuse, by contrast, conserves far more embodied energy. But doing so requires forethought and early coordination among design, demolition and construction teams.

A key factor that made steel reuse possible at Georgia Tech was that the beams were not integrally cast into concrete slabs, making deconstruction and refabrication easier. Plus, the steel was visible and accessible—a major advantage. Among building typologies, stadiums, warehouses and other large-volume facilities often present ideal conditions for this type of reuse.

To further the conversation, the industry must start thinking more about designing buildings with future reuse in mind. That means using bolted systems over welding to connect materials, separating materials cleanly and designing for deconstruction as much as construction. Simply put: How can we design buildings to be taken apart in the future? Mass timber is another promising area. Discussions are already under way about ways to salvage and reuse cross-laminated timber panels used in buildings today. Again, bolted connections and material protection will be key.

The path to broader steel reuse will likely require carrots and sticks. Incentives, like LEED certification, can encourage voluntary adoption, while carbon limits and policy mandates can help encourage the integration of reuse into standard practice. Given the right conditions, the Georgia Tech project offers a replicable model and demonstrates that reusing steel is not just a sustainability feature, but a smart business decision, too.

Retrofit Team

Architect: The S/L/A/M Collaborative, slamcoll.com

Structural Engineer: Walter P Moore, www.walterpmoore.com

Construction Manager: DPR Construction, www.dpr.com

Steel Fabricator: Steel LLC, www.steelincga.com

Demolition Contractor: Green Circle Demolition, www.greencircledemolition.com

Pathways to Practice

NCARB Is Expanding Access to the Architecture Profession and Protecting HSW in the Existing Built Environment

Nearly two years ago, the National Council of Architectural Registration Boards (NCARB) announced Pathways to Practice, a large-scale effort to reimagine what it looks like to become a licensed architect. But how—and why—is NCARB refreshing the licensure process, and what does that mean for licensed practitioners and the existing built environment? ***retrofit*** sat down with NCARB Chief Programs Officer Jared Zurn, AIA, NCARB, CAE, to find out.

r: What is Pathways to Practice, and how is NCARB ensuring that the future of licensure is tied to the needs of real-world practice?

JZ: The architecture profession is constantly evolving, and it's essential that the path to becoming a licensed architect evolves with it. Over the past several years, NCARB has been working to update our current licensure programs and develop the next iteration of the licensure process through our Pathways to Practice initiative. Through Pathways to Practice, NCARB is committed to maintaining multiple pathways to architectural licensure that include options for a variety of educational backgrounds and career paths.

Jared Zurn

This is a massive undertaking for NCARB, and it's driven by two key considerations: First, making the path to licensure more accessible, flexible and fair for individuals of all backgrounds. Second, ensuring that our licensure model can adapt to the regulatory and public protection needs of the future as practice evolves.

But NCARB isn't developing the future of licensure in a vacuum—Pathways to Practice is based on data from thousands of practicing architects. In 2021-22, NCARB conducted the *Analysis of Practice*, an industry-wide study aimed at understanding the current and near-future practice of architecture. Nearly 20,000 professionals across the built environment participated in the *Analysis of Practice*, offering their insights into the variety of ways architecture is practiced across the United States.

After analyzing the study's findings, NCARB's expert volunteers developed a document that will serve as the foundation for future licensure programs. Their work was validated through an additional large-scale survey from nearly 5,000 licensed practitioners in 2023-24 before finalizing the *Competency Standard*. The output defines the competencies needed at the point of licensure as an architect: the *NCARB Competency Standard for Architects*.

r: What is the *NCARB Competency Standard for Architects*, and how does it tie into NCARB's Pathways to Practice effort?

JZ: It's essential that NCARB—and our member licensing boards—can verify that all candidates for licensure meet the level of competency needed to protect the health, safety and welfare of the public. The *NCARB Competency Standard for Architects* provides a transparent expectation to all licensure candidates as to what it takes to be ready to safely practice architecture. The *Competency Standard* establishes 16 knowledge areas, skills, abilities and behaviors—called competencies—that describe the capabilities necessary at the point of initial licensure as an architect.

As NCARB works to envision the future of licensure, the *NCARB Competency Standard for Architects* provides a shared expectation of competency that all our programs and services can work toward.

r: How does the NCARB *Competency Standard for Architects* address the importance of ensuring architects are skilled at properly addressing the challenges of updating existing buildings?

JZ: Addressing existing buildings, whether through adaptive reuse or renovation with the same use as originally designed, manifests across several of the competencies. There is no single competency that can address the complexity of working to retrofit or renovate a building. For this reason, practitioners will see several competencies where retrofit skills and abilities are identified.

One of the 16 core competencies outlined in the standard is "Evaluate existing project conditions." This competency ensures that architects at the point of initial licensure can thoroughly analyze the current state of a building, including its structure, systems and context. Going beyond just understanding the existing building, the competency also outlines the need for architects to be able to consider the budget, schedule, constraints, and risks associated with updating or adapting existing buildings.

"One of the 16 core competencies outlined in the standard is 'Evaluate existing project conditions.' This competency ensures that architects at the point of initial licensure can thoroughly analyze the current state of a building, including its structure, systems and context."

—Jared Zurn, AIA, NCARB, CAE, chief programs officer, NCARB

The *Competency Standard* also addresses the need for architects to be able to understand historic precedents, learn from them and use this knowledge to support effective updates to existing buildings. Additionally, the *Competency Standard* outlines that architects must understand how proposed updates fit within broader regulatory and community contexts.

To address the technical challenges that may come from retrofitting an existing structure, the standard also requires architects to be able to integrate building systems into project design. This involves coordinating new and existing systems, which is crucial when working with existing structures.

By embedding these competencies into the licensure process going forward, NCARB is focused on ensuring architects are prepared to protect the public's health, safety and welfare—not only in new construction, but also in the adaptation and improvement of existing buildings.

The *NCARB Competency Standard* explicitly addresses the need for architects to be skilled in evaluating and updating existing buildings, making it a core requirement for licensure and ongoing professional practice.

Editor's Note: Stay tuned for more with NCARB, including a detailed dive into the competencies, specifically those that align with existing buildings, in ***retrofit***'s January-February 2026 issue.

PHOTOS: Nicholas Venezia unless otherwise noted

Community Anchor

Carnegie Libraries Maintain Their Enduring Role via Thoughtful, Sustainable Upgrades

By Jaime Masler Beach, AIA, NCARB

In an era defined by evolving community needs and rapid technological advancement, Carnegie-era libraries stand as enduring testaments to a foundational belief in public access to knowledge and self-improvement. Funded largely by industrialist Andrew Carnegie from the late-19th to the early-20th centuries, these nearly 1,700 structures across the U.S. represent a pivotal moment in our nation's history for broadening educational access and fostering civic engagement.

Carnegie's vision was revolutionary for his time: Communities received construction funds only if they provided the land and committed to operational support, fostering deep local ownership. More than book repositories, these libraries became engines of social mobility, places where immigrants learned English, the working-class accessed literature and children discovered reading. The vast majority of the libraries were envisioned with classic, modest and enduring

To capture the coastal vibe of Long Branch, N.J., DIG's graphics team developed a custom aquatic theme inspired by the region's native wildlife, vegetation and textures.

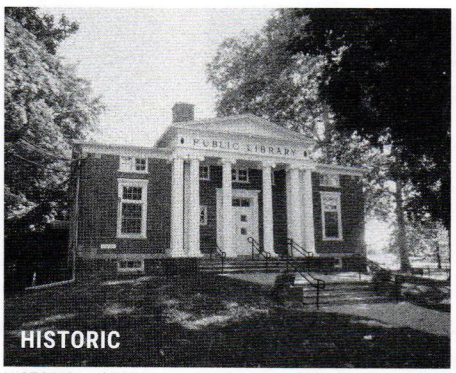
design features. Designed with Beaux-Arts, Neoclassical or Renaissance-Revival grandeur, their imposing façades, soaring ceilings and meticulously crafted details signaled their importance as civic anchors.

Bridging the Past and Present: A Transformative Approach

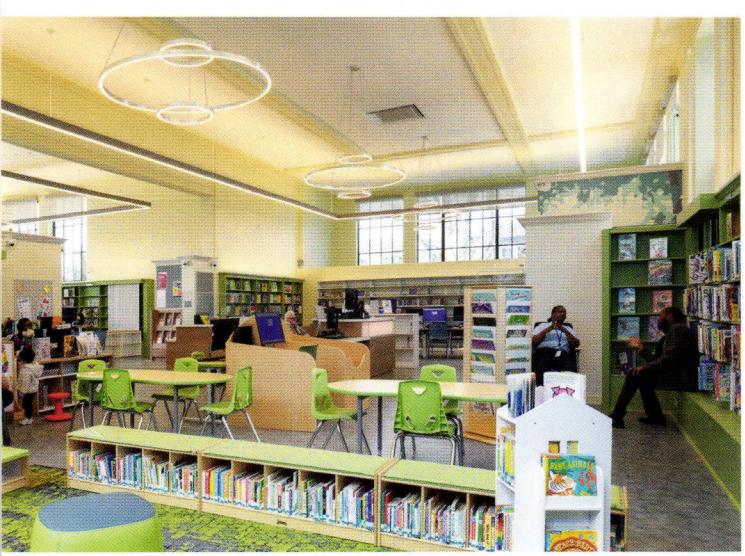
Today, these cherished buildings face a crossroads. How do we honor their profound legacy and distinctive architecture while simultaneously safeguarding them as vibrant, essential community resources for generations to come? The team at DIGroup (DIG) Architecture believes the solution lies not in static preservation—freezing a building in time—but in thoughtful, sustainable transformation.

Of course, the 21st century vastly differs from Carnegie's time. Modern libraries are dynamic digital hubs, cultural centers, community living rooms and educational laboratories. They offer internet access, computer literacy, makerspaces, job-search assistance, early childhood programs and so much more.

For these architectural treasures to continue their vital community function, they must evolve. Merely restoring them to their original state, while historically accurate, often fails to meet contemporary functional and programming needs. The challenge and opportunity is a transformative architectural intervention that breathes new life into these historic structures while respecting their rich heritage.



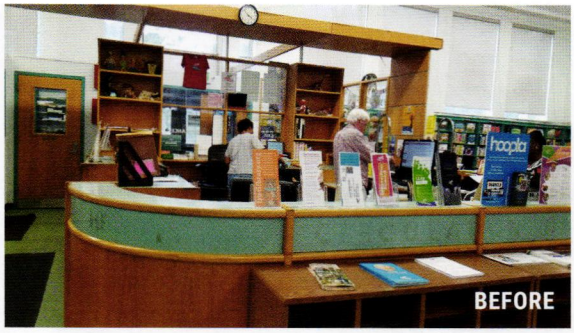
HISTORIC and BEFORE PHOTOS: courtesy DIG / Jaime Masler Beach

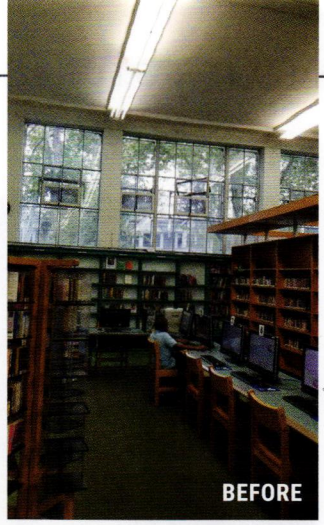


Initially focused on infrastructure upgrades, the Cobbs Creek/Blanche A. Nixon Library project expanded to include restoration of the building's historic character after original drawings were discovered.

From Stacks to Spaces by the Sea

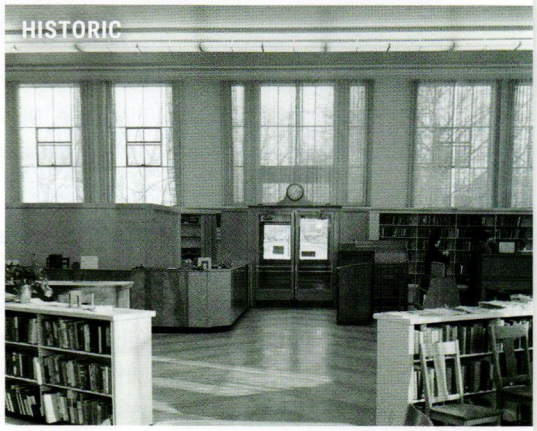
A compelling example of this commitment is the Long Branch Free Public Library (circa 1916). The last New Jersey Carnegie library to receive donation funds, this building once known as "Carnegie by the Sea" underwent several additions—one notably covering much of the original Carnegie wing—before its recent DIG-led transformation. The ambitious goal was to reconnect with its heritage by honoring original design elements, in lieu of a historic preservation.





BEFORE PHOTOS: courtesy DIG / Matt Funk

HISTORIC PHOTOS: courtesy Philadelphia Free Public Library



The comprehensive renovation meticulously restored original architectural details, such as clerestory windows and classic millwork, ensuring the library's heritage endured as a visible and celebrated part of its identity. Simultaneously, modern upgrades were introduced: fully accessible entrances and pathways, updated HVAC systems and lighting for energy efficiency, and flexible furniture solutions supporting diverse programming. Interior spaces were reconfigured for open, collaborative areas, a dedicated teen section and technologically advanced study pods.

To capture Long Branch's unique sense of place, DIG's environmental graphics team developed a custom aquatic theme inspired by the region's native wildlife, vegetation and textures. In the adult section, these design elements were applied with subtlety to preserve the Carnegie-era atmosphere while the children's area features a more vibrant and playful approach designed to create a visually inviting environment.

After reopening last spring, the library has re-emerged as a modern community hub.

Urban Carnegies Go Beyond the Books

DIG's library and community space portfolio is expansive. Working in cooperation with the City of Philadelphia's REBUILD program, the free library of Philadelphia's Cobb's Creek/Blanche A. Nixon (circa 1925) and Paschalville (circa 1914) branches further exemplify DIG's transformative approach. These beloved Carnegie libraries, which have been serving their respective communities for a century, also grappled with the limitations of their original designs.

Confined to their existing footprints, the focus was on reimagining spaces while understanding library flow, end-user demographics, staff requirements and safety—all within a warm and welcoming environment. As part of the process, DIG also conducted community engagement sessions to better support the formulation of designs that would fulfill local needs.

Although the Cobb's Creek and Paschalville Carnegie projects were distinctive in nature, there was a shared goal of building upon their past—not erasing it—and keeping them accessible, relevant and inspiring community centers.

HISTORIC PHOTO: courtesy Philadelphia Free Public Library

BEFORE PHOTO: courtesy DIG / Matt Funk

Built in 1925, the Cobbs Creek/Blanche A. Nixon Library's reimagined site improves accessibility and introduces space for outdoor gatherings.

At West Philadelphia's Cobb's Creek branch, renovations prioritized honoring the original design while upgrading its building features and systems. This included a sensitive rehabilitation of the exterior façade; comprehensive ADA improvements (ramp, accessible restrooms, LULA elevator); new lighting, windows and interior finishes; along with redesigned outdoor spaces featuring an amphitheater and play area. These efforts enhanced accessibility and community engagement, standing out as a neighborhood pillar thanks to its unique stucco, terra-cotta and metal/glass façade.

For the Paschalville Library, situated in Southwest Philadelphia, the transformation focused on a holistic rehabilitation. Key efforts involved integrating more efficient MEP systems; restoring the building's envelope to prevent water intrusion; and bringing back prominent features, like an interior skylight. New ADA access (ramp, stairs, LULA elevator) and interior renovations also were implemented, allowing the library to serve as a modern, accessible community hub while celebrating its original architectural grandeur.

Although the Cobb's Creek and Paschalville Carnegie projects were distinctive in nature, there was a shared goal of building upon their past—not erasing it—and keeping them accessible, relevant and inspiring community centers. By integrating modern amenities and sustainable practices within the existing architectural framework, DIG ensured these libraries would meet present demands and seamlessly pivot to address future requirements.

Sustainability through Revitalization

Beyond aesthetics and functionality, these transformations also are deeply rooted in principles of sustainability. Revitalizing an existing building, especially one of such historic significance, is inherently a sustainable act. It reduces the need for new construction, minimizes waste and preserves the embodied energy already present in the original materials.

By integrating energy-efficient systems, improving insulation and incorporating modern glazing, the long-term environmental performance of these buildings is enhanced, reducing operational costs and carbon footprint. This commitment to sustainability extends the libraries' lifespans, ensuring they remain valuable community assets for another century or more.

Architects for Change

Carnegie-era libraries are more than just architectural relics; they are living testaments to the power of knowledge, community and civic pride. They are rightfully revered for their role of yesteryear in shaping minds and fostering progress. To ensure their future, we must embrace a vision that moves beyond mere preservation to thoughtful transformation.

As Architects for Change—the founding axiom at DIG, an MBE/SBE/DBE-certified firm—the team possesses a unique ability to harness the power of these magnificent buildings for the next generation. By doing so, they continue their vital role as cornerstones of our communities—places where heritage is celebrated, knowledge is accessible and the future is built, one story, one byte, one connection at a time. It is a commitment not just to architecture, but to the enduring spirit of learning and community.

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PHOTO: Kinetics Noise Control

W.W. Lewis Middle School

Sulphur, La.

Retrofit Team

Architect: Mougeot Architecture, www.mougeotarchitecture.com

Manufacturer's Representative: Elements Specialty Designer Resources, elementssdr.com

Materials

After Hurricane Laura hit Sulphur, La., in 2020, the W.W. Lewis Middle School experienced significant infrastructure damage, particularly in the auditorium. The school enlisted the help of Mougeot Architecture to lead the restoration project, which faced several challenges. In addition to the hurricane's aftermath, the school had outdated infrastructure dating back to the 1950s and needed acoustic enhancements. Because of the severity of the damage, the roof needed a complete renovation, requiring collaboration between the school board and FEMA.

The architects, along with Adele Rios from Elements Specialty Designer Resources, selected and used a range of Kinetics Noise Control products to address the auditorium's specific acoustic challenges. These products included Ovation Acoustical Reflectors/Diffusers, Alto 8 Acoustical Wood Absorbers and VersaTune Fabric Wrapped Acoustical Panels.

To accommodate Alto 8 Acoustical Wood Absorbers, structural modifications were made, and outdated panels were replaced with VersaTune Fabric Wrapped Acoustical Panels. Throughout the project, the team found that fabric-wrapped alternatives were more cost-effective than the original components while surpassing their performance. VersaTune also accounts for the inherent high-frequency absorption provided by the Alto 8 Acoustical Wood Absorbers, as well as the carpeting and seating, ensuring optimal sound clarity and aesthetic integration.

Seamless communication with the general contractor, coupled with meticulously detailed engineered drawings from Kinetics Noise Control, facilitated a streamlined and efficient installation process. Kinetics Noise Control's team considered the specific aesthetic and design requirements and incorporated them into the available product selections. For example, to ensure the acoustical solutions' wood finish matched the seating in the auditorium, the stain was customized to match the existing wood.

The project was successfully completed in August 2023.

Acoustic Solutions: Kinetics Noise Control, kineticsnoise.com

Scripps Ocean-Atmosphere Research Simulator (SOARS) Lab

University of California San Diego, La Jolla

Retrofit Team

Architect: CRB, www.crbgroup.com

Daylighting Distributor and Installer: Sun West Distributors Inc., (760) 432-0729

Materials

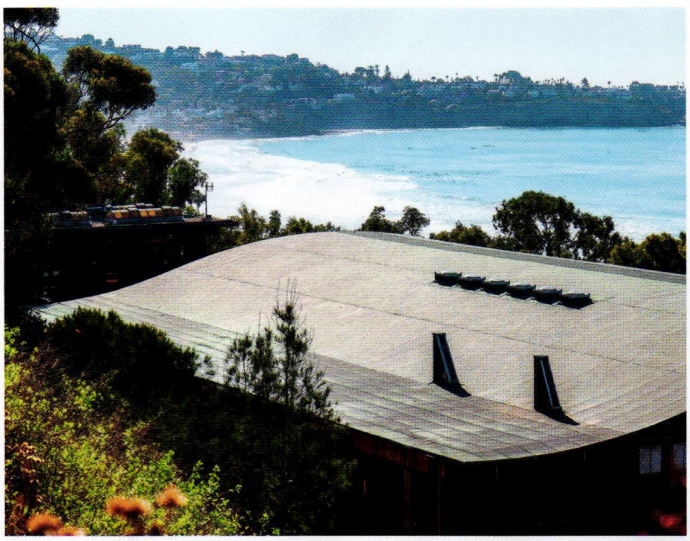
Renowned as one of the oldest, largest and most influential centers for global science research and education, SOARS is dedicated to unraveling the mysteries of our oceans, Earth and atmosphere with a focus on addressing our most pressing environmental challenges. To study the interconnected ocean and atmosphere, scientists were awarded a National Science Foundation grant to build a first-of-its-kind ocean simulator. The simulator is the only one in the world that allows for the replication of ocean, atmosphere and biology in one instrument.

The pursuit of this groundbreaking innovation posed a formidable challenge for the scientists involved: They needed to control the sunlight that entered the laboratory to replicate the conditions of real oceans for the controlled growth of algae for various testing and scientific studies. Moreover, the laboratory's uniquely curved, copper fleece-backed roof required a daylighting system that could bring natural daylight into the space while integrating efficiently into the roof system.

CRB turned to Solatube Tubular Daylighting Devices (TDDs). Leveraging the power of the proprietary Solatube Design Calculator, which uses photometry combined with weather data to predict daylight distribution accurately, and in close collaboration with the scientists, the architecture team carefully determined the precise physical parameters of daylight required for successful algae growth and other crucial scientific experiments.

The design team crafted a custom curb that seamlessly integrated the Solatube TDDs into the facility's existing curvature. This custom curb not only supported the TDDs, but also ensured waterproofing for the existing roof. Sun West Distributors installed the Solatube M74 DS SkyVault Series with Daylight Dimmers, which lets the laboratory control the natural daylight streaming into the space.

M74 DS SkyVault Series with Daylight Dimmers: Solatube, solatube.com



PHOTOS: Solatube

PHOTOS: Dror Baldinger and Lars Frazer

Austin Community College (ACC) Rio Grande Campus

Austin, Texas

Retrofit Team

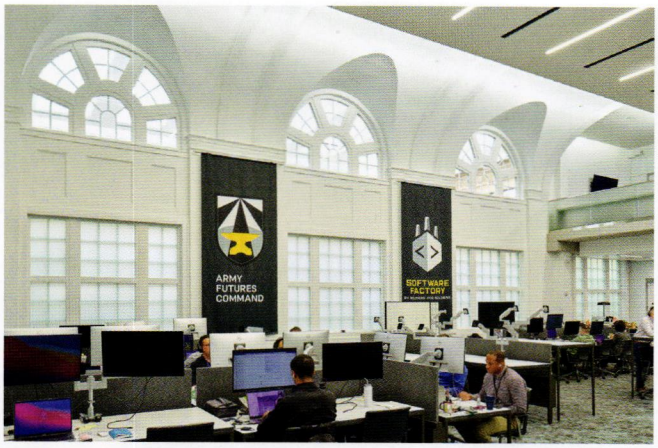
Architect, Interior Design: Studio8 Architects, studio8architects.com
Design Architect: Overland Partners, www.overlandpartners.com
Collaborators: Architexas, architexas.com and Hutson Gallagher, hutsongallagher.com

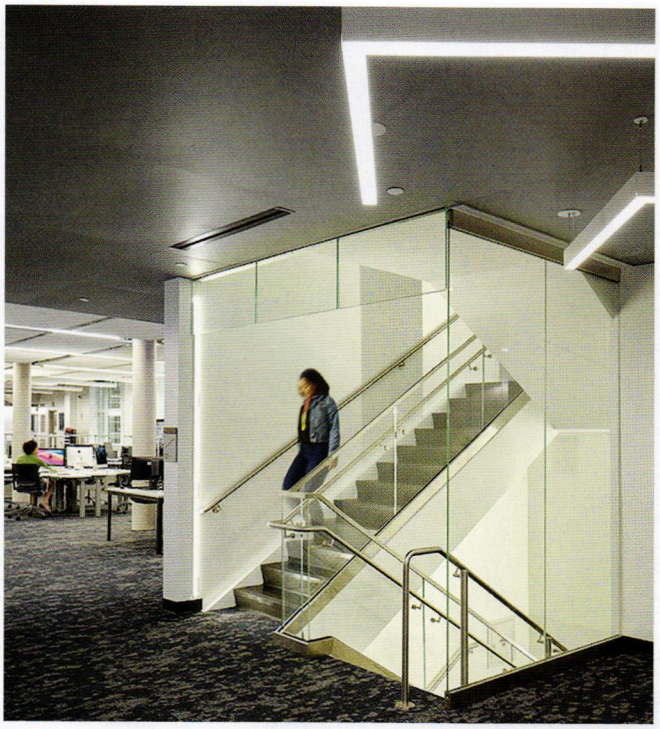
The Retrofit

Nestled in Austin's urban core, ACC's historic Rio Grande Campus represents an educational legacy, having served the community for more than a century. The overarching challenge was to transform the building into a state-of-the-art learning hub that enhances occupant wellbeing and comfort through sustainable building practices while preserving its historical integrity.

The building, constructed in two phases in 1916 and 1926, revealed unexpected differences in materials. The 1916 structure features durable double-wythe mass masonry walls while the 1926 addition used hollow clay tile with a brick veneer, likely a cost-saving measure. Removing windows exposed open clay tile cores at the jambs, complicating the anchorage for new windows. To address this, a forensic engineer recommended replacing sections of clay tile at the jambs with reinforced CMU while preserving the exterior brick veneer, ensuring structurally sound supports for the new windows.

Exploratory demolition uncovered further surprises. Original 1916 drawings suggested load-bearing masonry walls and wood framing, but the building had a concrete frame with "leave-in-place" metal pan joist forming. This discovery allowed for the removal of all interior walls, enabling a new, efficient floor plan to support the updated educational program.





Amid the construction process, remnants of the building's history emerged: old chalkboards with lessons still written; a forgotten student mural; and artifacts, like ornamental railing sections and auditorium seats. Although not all items could be salvaged, the design incorporates a history niche, displaying these elements alongside historic photos and the original school clock.

The building's south side was excavated to the basement level to provide enhanced handicap accessibility and create a substantial sunken court with terraced seating for programmed events and student gatherings.

Two existing exterior courtyards were enclosed to create sheltered light courts; one is used as a commons area for studying and relaxing, and the other is a flexible space that can be configured for group gatherings. The architects selected a lightweight ethylene tetrafluoroethylene, or ETFE, roof that provides shelter from the elements, controls daylight and spans the opening without the need for any major structures.

The renovation transformed an unused auditorium into the Army Futures Command's Software Factory. Building on the college's computer science and IT programs, the facility offers specialized training in emerging technologies, like data science and AI.

The centerpiece of the campus is a vertically oriented, three-level, 168-seat ACCelerator learning lab that is integrated with the campus library. The building's perimeter includes six science labs for physics and geology, general biology and anatomy, general and organic chemistry, as well as classrooms, offices, student services and student life. Classroom furniture supports active learning with mobile tables and chairs that adapt to group activities, interactive sessions and traditional lectures.

New materials incorporate reused, recycled and regional content, and the project reduced construction and demolition waste by at least 75 percent. A central utility plant serves the building and provides 30 percent HVAC efficiency over baseline. Tapping into the City of Austin's recycled water line will save some 200,000 gallons of water per year. In addition, the new landscaping uses no potable water for irrigation.

PHOTOS: Chuck Collier Schmidt

Bigfork Library

Bigfork, Mont.

Retrofit Team

Architect; Interior Designer; Civil, Structural, Mechanical and Electrical Engineer; Landscape Architect; and Lighting Designer: Cushing Terrell, cushingterrell.com

General Contractor: Martel Construction, www.martelconstruction.com

Acoustical Engineer: Big Sky Acoustics, www.bigskyacoustics.com

Materials

The following is a sampling of materials used in the project:

- Carpet and Ecoworx PVC-free Resilient Flooring: Shaw Contract, www.shawcontract.com/en-us
- Door Hardware: ASSA ABLOY, www.assaabloy.com/group/en
- Paints and Coatings: Sherwin-Williams, www.sherwin-williams.com
- Custom Mobile with 3Form Varia Resin: LightArt, lightart.com
- High-pressure Laminate: Wilsonart, www.wilsonart.com
- Acoustic Ceiling: SonaSpray from International Cellulose Corp., www.spray-on.com/sonaspray

The Retrofit

Occupying a former 6,000-square-foot church recreation hall, the design features architectural forms to metaphorically reference the concept of connecting people to resources, technology and opportunities for lifelong education. In addition to completely reworking the interior, the design includes a new entry sequence, ample windows for daylight and views, and exterior finishes and features that create visual interest and draw people in.

Spaces leverage light—qualities such as shadows, light-dark and dappled light—to visually sculpt architectural forms and suggest a sense of discovery and curiosity, likened to when a forest opens to reveal a river crossing. A large, flexible space accommodates events. Multiple meeting rooms, communal outdoor areas and reworked parking also were part of the project's scope.

One of just 12 projects worldwide designated as a Design for Freedom pilot project (www.designforfreedom.org/home/pilot-projects), this community library has become a physical symbol of ethical building design and a shared commitment to eliminate forced labor in the building-materials supply chain through rigorous research and partnerships between designers and product manufacturers.

The project was funded by the ImagineIF Library Foundation, an organization dedicated to ensuring libraries in Flathead County can offer programs and services that go beyond the basic, fulfilling the missions of the libraries and enriching their communities.

PHOTOS: Paúl Rivera, courtesy Beyer Blinder Belle Architects and Planners

The Center for Jewish History

New York

Retrofit Team

Architect: Beyer Blinder Belle (BBB) Architects and Planners, www.beyerblinderbelle.com

The Retrofit

The Center for Jewish History, one of the world's foremost institutions dedicated to the preservation and study of Jewish culture, has unveiled a refreshed public face, 25 years after the center first opened its doors. As the center's public engagement and cultural programming continue to grow, these enhancements improve the arrival experience for a growing number of visitors—reflected in record attendance for the recent world premiere of *Anne Frank The Exhibition*—and position the center for its next 25 years.

The BBB project included three components: a redesigned entry lobby, the opening of Ruth's Bookstore, and new interior and exterior graphic elements designed by LVCK—A Beyer Blinder Belle Studio.

The center's main entrance was shifted to the western side of the 16th Street façade to accommodate the new bookstore and improve security and check-in for exhibitions. The existing black terrazzo flooring and Michele Oka Doner's inlaid aluminum and bronze artwork, *Biblical Species*, provided cues for the updated color and material palette. A new stone and metal reception desk complements the space while a coffered ceiling of gray felt tiles adds a contemporary rhythm and enhances acoustic performance.

Located at the eastern end of the lobby, Ruth's Bookstore supports the center's mission through a curated collection of books for public perusal and purchase. Ash wood shelving and display tables create a light and welcoming retail space while integrated LVCK-designed signage contributes to the center's new graphic identity.

LVCK also designed a new entry kiosk that stands perpendicular to the building along 16th Street. Constructed of powder-coated aluminum, it is lit from within to draw attention to the relocated entry—and to evoke the illumination that comes from scholarship and deep engagement with Jewish history and culture.

Inquiry Collaborative, Cate School

Carpinteria, Calif.

Retrofit Team

Architect: Blackbird Architects, bbird.com

Furniture Solutions Provider: Tangram Interiors, www.tangraminteriors.com

The Retrofit

A former historic dining hall—a 2-story, 16,000-square-foot building—now includes media and technology studios, classrooms, a ceramics studio, study pods, offices, a double-height terraced reading and lecture space, and the school's library collection.

Working closely with Tangram Interiors' education-focused furniture team and Blackbird Architects, Cate School brought a bold vision to life: a flexible, inspiring learning environment that supports academic discovery and collaborative exploration. The design process centered around versatility, comfort and a sense of belonging. The team selected elements that encourage students to use the space in their own way—modular furniture, warm lighting, bold color palettes and inviting textures that give the Inquiry CoLab an unmistakable energy.

As Tristin Kranenburg, Tangram Interiors' sales director, explains: "We weren't just designing furniture layouts—we were helping to shape how students experience academic inquiry. Every design choice had to answer a single question: Will this environment support and inspire learning?"

The finished space includes:

- Flexible seating zones for everything from solo study to casual group meetups.
- A dedicated AV and digital media lab that's always buzzing.
- Warm, tactile materials that echo the natural beauty of Cate School's coastal campus.

PHOTOS: Tangram Interiors

PHOTOS: Robert Benson Photography unless otherwise noted

Farokhzad Mathematics Center at Milton Academy

Milton, Mass.

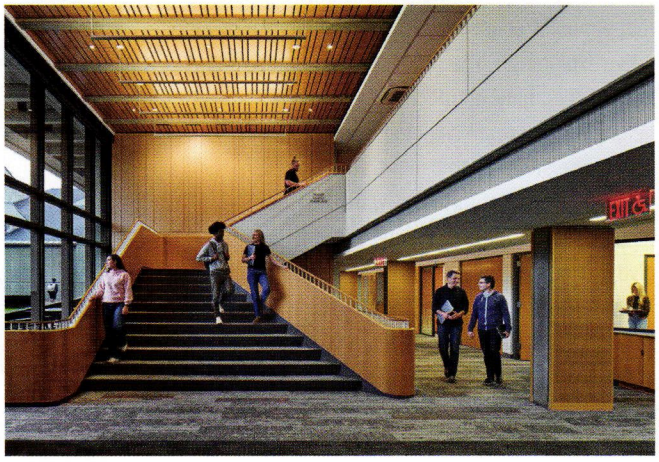
Retrofit Team

Architect: ARC, www.arcusa.com

The Retrofit

This transformation of a 4-story, concrete Brutalist building into a vibrant, revitalized home for mathematics exemplifies the opportunities of adaptive reuse. Design elements at the Farokhzad Mathematics Center prioritize user wellbeing and biophilia, encouraging exploration and discovery of math and nature. The integration of 20 flexible classrooms fosters an interactive, engaging educational experience for grades 7-12. A large assembly space for school gatherings, events, math lectures and flexible social study spaces promotes STEM learning and creates a vibrant hub for the entire campus community.

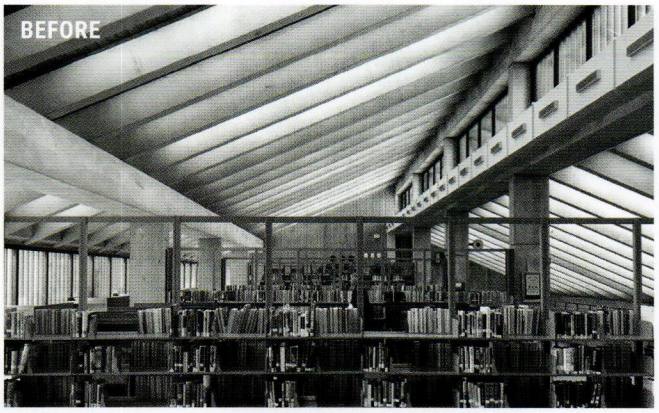
Through several years of testing furniture and writing surfaces in model classrooms, the school's mantra became "every wall and surface must be a whiteboard." In addition to each classroom wall being a whiteboard surface, tables and desks fit together in different combinations, are easily movable, fit all different sizes of students and feature dry-erase surfaces.



Interdisciplinary connection and collaboration are exemplified through thoughtful relationships between classroom and break-out spaces varying in size, scale and level of enclosure.

Improved occupant comfort was achieved through flexible lighting controls, enhanced acoustics and glare-reduction strategies.

Supporting occupant physical health was a key consideration. The design encourages movement with a centrally located stairway. A new entryway bridges two quads together, enhancing walkability and making it easier for pedestrians to circulate between different parts of campus. This new thoroughfare not only connects the STEM programs, but also invites interaction among all campus users, turning the building into a hub for learning and gathering.



BEFORE PHOTOS: courtesy ARC

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Breathe Easier

The Indoor Air Quality Procedure Is a Compelling Alternative to Ventilation Rate Procedure for Adaptive Reuse

By Meredith Morton

Updating HVAC systems in adaptive reuse or historic renovation projects is rarely straightforward. It's not just a matter of improving performance but preserving balance. Air quality must be modernized without compromising the architectural integrity or aesthetic of the original space. In buildings where floor plans weren't designed with mechanical infrastructure in mind and ductwork must navigate around low ceilings, dense materials or historically significant features, traditional ventilation strategies can quickly become disruptive, expensive and inefficient.

Fortunately, a more adaptable approach is gaining traction. The Indoor Air Quality Procedure (IAQP) presents a compelling alternative to the conventional Ventilation Rate Procedure (VRP), which has long depended on large volumes of outdoor air to meet prescribed standards. Although effective in modern new construction, VRP often proves impractical in renovation scenarios, especially in vintage or repurposed spaces where square footage, energy loads and financial resources are tightly constrained.

Why VRP Isn't Built for Buildings You're Rebuilding

VRP assumes mechanical freedom and unlimited ducting potential, making it a poor fit for buildings constructed before today's prescriptive high-volume strategies. Introducing high volumes of outside air in these settings can require significant infrastructure updates: expanded ducts, energy recovery ventilators and larger HVAC units. In buildings with brick walls, ornate ceilings or spatial constraints, these requirements can erode the very character a renovation aims to preserve.

What IAQP offers instead is a shift in mindset. Rather than diluting indoor contaminants with outdoor air, IAQP prioritizes in-space air cleaning to meet target thresholds. For facility managers and contractors, that means fewer intrusive alterations, smaller mechanical loads and preserved architectural detail. This approach enables legacy buildings to meet or exceed current IAQ expectations without ripping out walls or retrofitting massive return systems. It also allows for zoning and flexibility, perfect for properties where usage changes throughout the day or for those where one room may be heavily occupied while others remain dormant.

That flexibility doesn't just serve design, it serves performance and cost, as well. By reducing the demand for conditioned outdoor air, IAQP can downsize HVAC load significantly. A recent IAQP-based redesign for a large church, for instance, allowed the building team to reduce HVAC capacity by 75 tons, yielding a capital savings of $172,000—all while maintaining healthy air for congregants. For any renovation, those are real numbers with real implications.

A Cost-saving Strategy that Supports Preservation

Most facility budgets are tight. In adaptive reuse, you're often working within strict cost boundaries, limited timelines and historic oversight. Every system decision has a ripple effect, and HVAC is one of the most disruptive and expensive elements to tackle. IAQP gives you room to maneuver.

By minimizing reliance on outside air, IAQP not only lowers operating energy use in hot or cold climates, but also reduces the equipment size needed to achieve results. This benefits aging structures that can't easily accommodate expanded equipment pads, duct chases or ventilation shafts. Smaller systems also reduce installation time and preserve more usable square footage which is critical in projects where every inch counts.

In regions with poor outdoor air quality, the argument becomes even stronger. When wildfires, pollution or industrial emissions taint the "fresh" air coming in, traditional VRP designs condition dirty air. IAQP flips that equation, allowing buildings to filter and recirculate cleaner indoor air instead of pulling in harmful pollutants from outside.

Rather than diluting indoor contaminants with outdoor air, IAQP prioritizes in-space air cleaning to meet target thresholds.

A Designer's Tool for Clean Air

IAQP gives architects and mechanical engineers a tool that works with design intentions. Clean, quiet and often invisible to the end-user, IAQP-based systems maintain the look and feel of vintage interiors while meeting the health standards of modern occupancy.

Moreover, IAQP supports measurable outcomes. Teams can validate IAQ performance based on particle counts, VOC thresholds and carbon-dioxide levels, rather than relying solely on air-volume assumptions. That data-driven closed-loop measurement helps contractors, facilities professionals and building owners make informed decisions during the life of the building. For a deeper look at how this works within updated ASHRAE 62.1 guidance, professionals now have clear frameworks for design flexibility that aligns with modern standards.

Modern Renovation Needs Modern Ventilation Thinking

Ventilation is about moving projects forward, not just moving air. For facilities professionals working in older buildings or contractors tasked with breathing new life into old walls, IAQP isn't simply an alternative, it's a design enabler.

When the goal is to honor history while upgrading performance, IAQP strikes that balance. It protects budget and design in equal measure and allows teams to preserve the past without compromising the present. Perhaps most importantly, it ensures that the buildings we're bringing back to life are not only functional, but breathable. For projects looking to verify outcomes and optimize performance, IAQP also enables measurable indoor quality, offering greater transparency and confidence from retrofit to re-occupancy.

Cool Retrofit

A Heat-transfer System Will Mitigate HVAC's Biggest Inefficiencies

By Meredith Morton

PHOTOS: Marsteco

When it comes to building a sustainable energy future, there are two sides to the equation: generation and demand. While most of the attention has been placed on producing more clean power, there's an equally powerful opportunity in reducing consumption—particularly in HVAC systems, which remain among the largest energy consumers on the planet.

Globally, HVAC systems consume approximately 14,000 terawatt-hours (TWh) of energy per year, accounting for 12 percent of worldwide final energy use. In the U.S., HVAC systems' share climbs even higher, to more than 13 percent, according to the U.S. Energy Information Administration (EIA). The climate impact is just as substantial: HVAC is responsible for an estimated 5 gigatons of CO2 emissions annually, or more than 10 percent of global energy-related emissions.

With rising energy costs, growing grid volatility and mounting pressure to meet aggressive sustainability goals, building operators are increasingly reevaluating the efficiency of their mechanical systems. Although traditional upgrades have helped reduce energy use at the margins, a new wave of innovation is shifting the focus from "How can we use less power to operate cooling systems?" to a more fundamental question: "Is there a better way to cool altogether?"

A New Approach to HVAC Efficiency

One emerging technology may offer a compelling alternative. Developed by David Sattler, a mechanical engineer with more than 30 years' experience in thermodynamics and heat transfer, this green cooling system takes a fundamentally different approach. It eliminates many of the most energy-intensive components found in conventional HVAC systems and replaces them with a solution that operates using virtually no electricity.

Instead of relying on conventional condensers or chillers, the system applies a directed electromagnetic field—what Sattler refers to as a "force field"—to a pipe or plate within the HVAC system. This field facilitates heat transfer much like refrigerants in an air conditioner or water in a cooling tower but at a significantly higher, even exponential rate.

"Right now, our goal is to make existing air conditioners dramatically more efficient by targeting their most wasteful components," Sattler says.

In testing, the green air-conditioning system achieved a Coefficient of Performance (COP) up to 10 times higher than conventional systems. A typical commercial air-conditioning system might operate with a COP of 3 or 4. A COP of 40 represents a game-changing jump in efficiency.

Easy Retrofit

Importantly, this is not a "rip-and-replace" solution. The system is designed to retrofit into existing HVAC infrastructure, providing a complementary cooling step that relieves pressure on compressors and improves overall system efficiency.

"We can replace the condenser altogether or simply add our system upstream to offload some of the thermal load," Sattler explains. "Either way, it significantly reduces energy demands and lowers operating costs."

The potential savings are substantial, especially for facility operators facing escalating utility bills. According to Sattler, integrating the system into an existing HVAC setup could reduce energy consumption by 50 percent or more with a projected payback period of just three to five years.

For large commercial campuses or facilities where chillers and cooling towers dominate the energy profile, such

as hospitals, universities and data centers, the potential value is even greater. In hospitals, for example, where recirculated air is restricted in surgical suites, chilled water systems often run continuously. Reducing the load on those systems could mean millions of dollars in savings over the lifetime of the equipment.

At the macro level, the implications are hard to ignore. A 50 percent reduction in HVAC energy use in the U.S. alone would eliminate an estimated 1,350 TWh of annual demand—roughly equivalent to the power consumption of more than 100 million American homes. Globally, a similar reduction could free up around 7,000 TWh and cut CO2 emissions by 2 to 3 gigatons per year—more than the entire annual carbon footprint of India.

"It is not just for cooling," Sattler adds. "By reversing the polarity on our system, we can generate heat, so you don't need two machines. You just turn the switch, and you have a heat pump."

No Refrigerants, Pumps, Emissions

Another key benefit of the green HVAC system (under development by Marstecs, marstecs.com) is that it requires no refrigerants. As the HVAC industry continues its decades-long shift away from harmful substances, like R-22 and HFCs, refrigerant management remains costly and complex. This technology bypasses that entirely.

"Refrigerants leak. Compressors fail. Fans draw power. These are all points of inefficiency and failure," Sattler says. "By focusing on pure thermal transfer—no pumps, no pressure cycles—we eliminate many of the headaches facility teams deal with every day."

The system operates using only milliwatts of energy to activate the heat transfer process and, because it does not rely on a closed electrical circuit or conventional mechanical systems, its electrical load is virtually undetectable. This feature further enhances building-wide energy efficiency and simplifies the path to meeting sustainability targets.

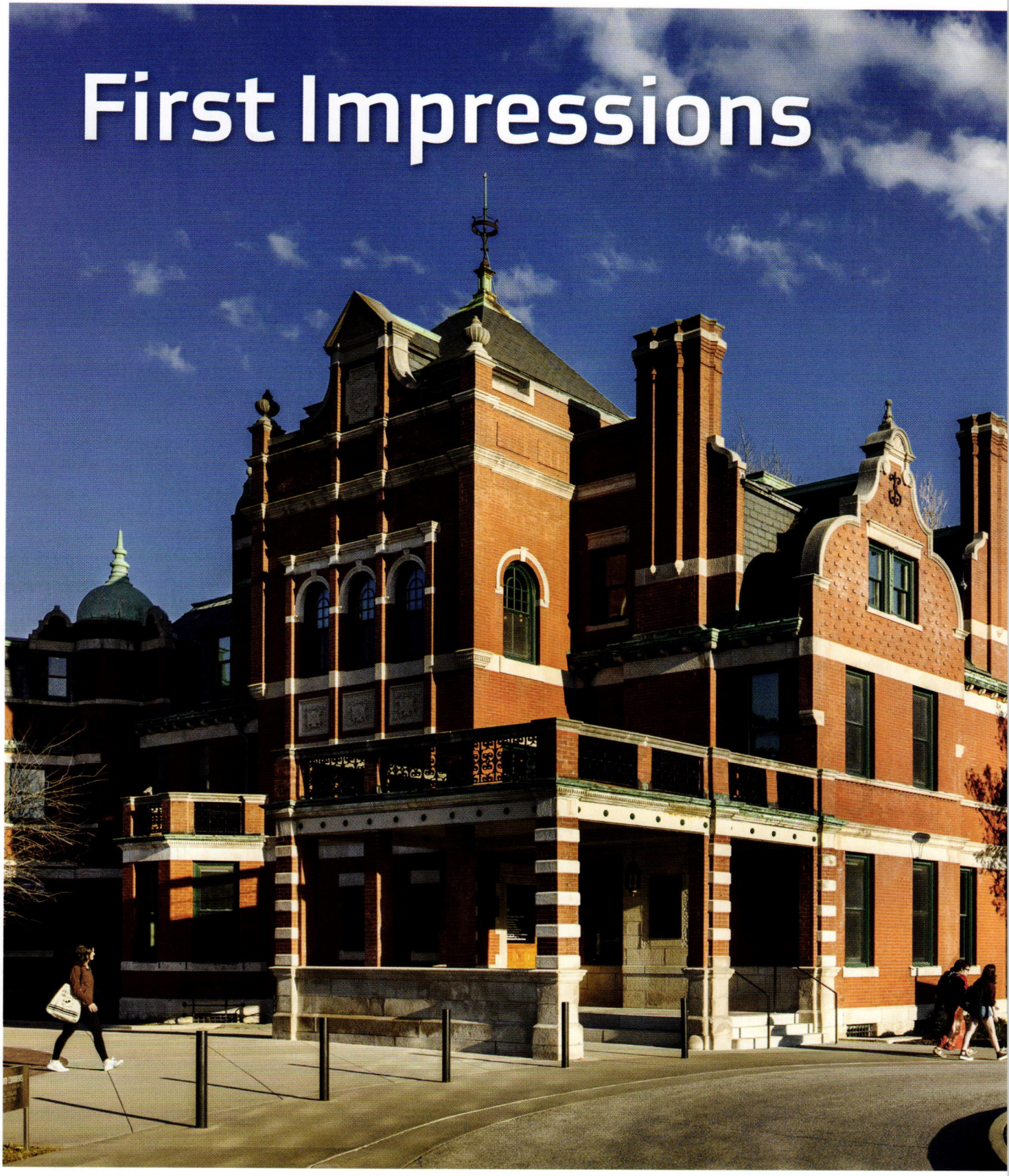
Cooling without Compromise

Although the current focus is squarely on retrofit applications, Sattler isn't shy about the long-term potential. With further refinement, the same technology could eventually replace entire HVAC systems, eliminating compressors, condensers and refrigerants entirely.

The team is currently building a new, full-scale system in New York with plans for independent third-party testing at institutions, such as Texas A&M and national laboratories. If the data holds, the implications could be significant—not just for green building design, but for how cooling is approached across the planet.

"The next great green energy revolution may not come from generating more power," Sattler concludes. "It may come from requiring less of it in the first place."

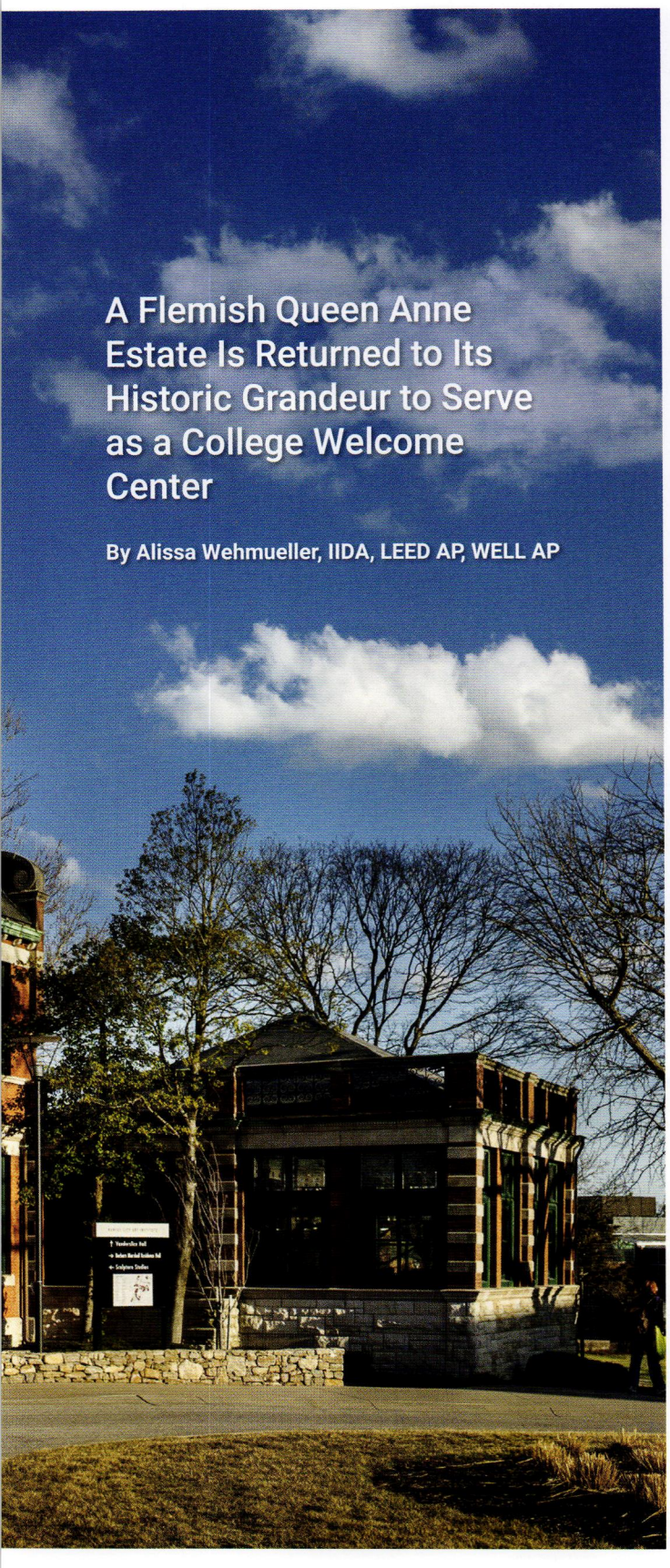
First Impressions



PHOTOS: Nate Sheets unless otherwise noted

A Flemish Queen Anne Estate Is Returned to Its Historic Grandeur to Serve as a College Welcome Center

By Alissa Wehmueller, IIDA, LEED AP, WELL AP



The gateway to Missouri's picturesque Kansas City Art Institute (KCAI) campus, Vanderslice Hall serves as the college's admissions office and de facto welcome center. It is usually the first place prospective students and their families connect with KCAI in person.

The building was originally known as Marburg, a 3-story, 26-room mansion completed in 1895. Architecture firm Van Brunt & Howe designed the home with some of the most ornate details of the era for successful mining engineer and Kansas City civic leader August R. Meyer. After Meyer's death in 1905, his family remained on the lavishly landscaped 8-acre estate until 1927, when KCAI trustee Howard Vanderslice purchased the property from Meyer's widow for $140,000. Vanderslice promptly donated the mansion and grounds to the college, establishing a permanent campus after 43 years of KCAI operating from rented spaces throughout the city.

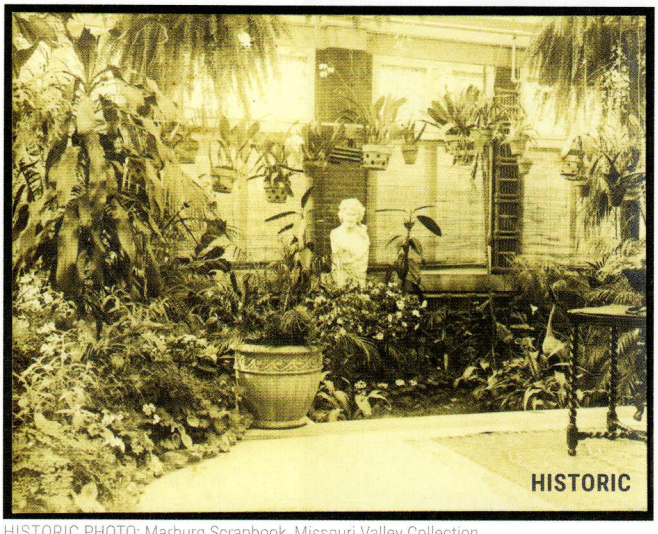
Renamed Vanderslice Hall, the former mansion quickly became KCAI's centerpiece. The first classes were held there in 1928. In 1930, a community space, now known as Epperson Auditorium, was added to accommodate presentations and lectures. This addition was designed by Kansas City firm Wright and Wright, best known as the architects of the Nelson-Atkins Museum of Art, which opened in 1933 across the street from KCAI. Reflecting its historical significance, Vanderslice Hall was added to the National Register of Historic Places in 1975.

As a result of its 2017 master plan, KCAI leaders strategically set out to increase enrollment and elevate the campus experience for prospective and current students. Updating Vanderslice Hall was a high priority because of the building's essential role in recruitment, particularly as the first stop on campus tours and the place where prospective students share their portfolios and meet with admissions staff. Recognizing

HISTORIC PHOTO: Marburg Scrapbook, Missouri Valley Collection (Kansas City Public Library)

Designed by architecture firm Van Brunt & Howe, the 1895 mansion was purchased in 1927 and donated to the Kansas City Art Institute, forming the base for a permanent campus for the art school.

BEFORE/DURING PHOTOS: Helix Architecture + Design



HISTORIC PHOTO: Marburg Scrapbook, Missouri Valley Collection (Kansas City Public Library)

Renovation of the Fernery uncovered ornate glass and historic brick behind the previous office conversion. The Fernery now serves as a popular meeting space for KCAI alumni, donors and administrators.

the importance of first impressions, KCAI committed to restoring Vanderslice Hall to its original architectural grandeur.

Historic Modernization

For nearly a century, Vanderslice Hall has anchored KCAI's campus. Over the years, the building has fulfilled a multitude of uses as KCAI grew and its needs evolved. Approximately 30 years ago, portions of Vanderslice Hall's first floor were converted into office space for the admissions staff. Many of the original ornate details were covered by drop ceilings and sheetrock office walls.

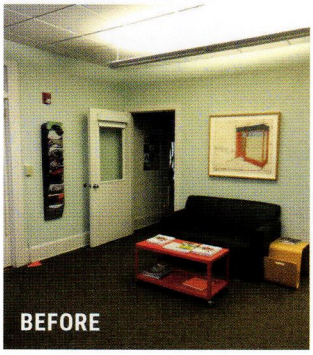
Inspired by the ornate details of Marburg's original Flemish Queen Anne design, KCAI and Helix Architecture + Design sought to create a balance between restoration and function, returning 3,245 square feet of the first floor to its original rhythm and feeling while creating an efficient workplace for the admissions team. The efforts focused on making a memorable first impression in the Grand Hall, returning the Library to an inviting communal area after decades as office space and highlighting the Fernery's ornate glass to create a signature meeting place. (In the early days of the building, the Fernery was used for growing and displaying ferns.)

Demolition of the outdated offices revealed stately rooms that had been entombed for more than 30 years.

Helix Architecture + Design implemented a four-tiered restoration strategy based on best practices from its previous preservation projects:

1. The team completed extensive repairs, including to plaster and woodwork, refinishing paneled doors and radiators, and addressing stone and brick rehabilitation.
2. A disciplined approach limited replications to items and components for which robust photographic documentation or surviving portions existed. For example, the library paneled beams, corbels and pilasters were

HISTORIC PHOTO: *THE AMERICAN ARCHITECT*, 1903



Marburg mansion's library subsequently served several non-literary functions at Vanderslice Hall. Helix Architecture + Design referenced historic images and leveraged its expertise in historic Kansas City architecture and design to revive the room to its late 19th-century splendor.

replicated to recreate the original grandness of the space. Door and window trim, plaster cornices and roses, and wall trim were prominent elements replicated from surviving remnants. Additionally, the Sitting Room fireplace mantel was crafted to match the existing photographs and period-accurate patterns.

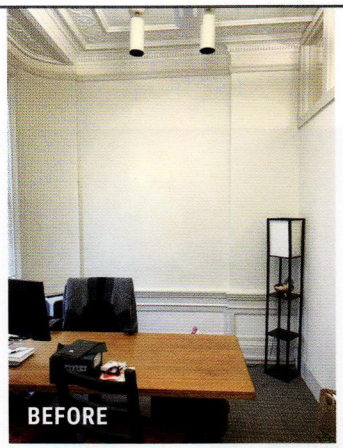
3. When reliable reference material was lacking, Helix Architecture + Design intentionally selected architecturally sympathetic—but identifiably contemporary—equivalents that maintained historic proportions, scale and tone, enhancing the rooms' historic elements. These include the Library mantel, bookcases, Library wall paneling and window trim in the Fernery.
4. Where completely new components were required for functionality or life safety, the team introduced clearly contemporary elements, carefully minimizing disruption to the building's historic fabric wherever possible. For example, the reception pass-through, Fernery media wall, and glass door systems were added to support an intuitive check-in experience for prospective students and their families.

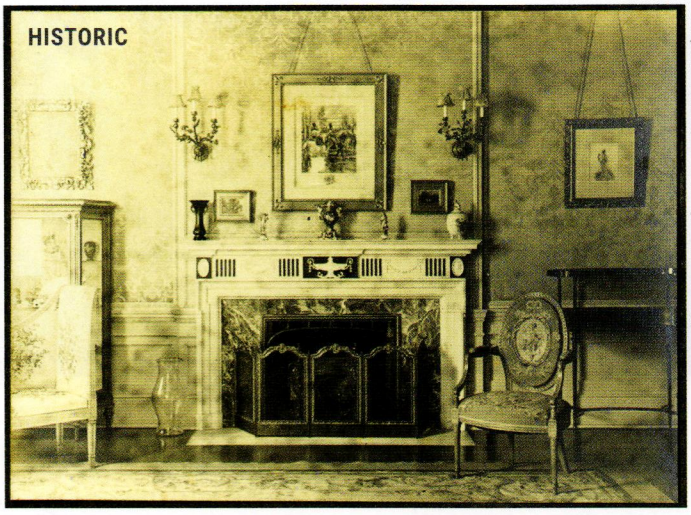
History Revealed

Demolition of the outdated offices revealed stately rooms that had been entombed for more than 30 years. Each room contained unexpected elements that had an impact on the final design, as well as details that echoed the building's original grandeur. The most dramatic revelation happened in the Fernery, where stained-glass windows on three of four walls were uncovered, restoring views across the campus and bathing the room in multicolored light.

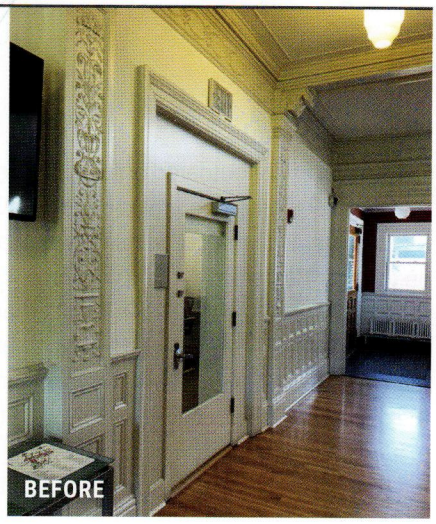
Similarly, careful demolition in the Sitting Room revealed the original firebox and mantel support framing, previously concealed behind drywall. Although limited documentation of the building existed, early photographs helped guide Helix Architecture + Design and fabricators from Square One Studio in reconstructing the mantel's framing, depth and detailing. Referencing historical supply catalogs back to 1883, the team identified period-appropriate woodwork and architectural ornamentation that aligned with the images. They then combined known measurements with the archival photos to determine the correct scale for the mantel's frieze.

The original Sitting Room was recast as workspace during the admissions office's relocation to Vanderslice Hall some 30 years ago. Helix Architecture + Design and general contractor A.L. Huber worked with local craftspeople to carefully uncover and restore the fireplace.


BEFORE


HISTORIC

HISTORIC PHOTO: Marburg Scrapbook, Missouri Valley Collection (Kansas City Public Library)



Vanderslice Hall's Grand Hall is where prospective students and other campus visitors are physically welcomed to KCAI. The existing conditions were a patchwork of previous remodels, and the entrance part of the Grand Hall was updated to match the more period-correct style in another part of the hall (as shown in the "before" photo).

Finishing Touches

The Vanderslice Hall project balanced restoration with modernization. In line with Helix Architecture + Design's sustainability ethos, the design team incorporated high-efficiency mechanical systems, added roof insulation and installed shading devices to improve energy performance. Wherever possible, original materials were preserved to reduce waste.

More broadly, the project demonstrates that even architecturally significant historic buildings can be successfully adapted for contemporary use without compromising their character. This approach reduces the need for new construction—an essential strategy for a more sustainable future.

Vanderslice Hall simultaneously turns back the clock and anticipates the future. By adopting an approach where extant historical details are combined with responsibly replicated ones, this historic preservation alludes to the past while offering thoughtful modern contrasts. Vanderslice Hall now is an approachable historic space for the entire KCAI campus and an alluring gathering place for the Kansas City arts community.

Retrofit Team

Architect and Interior Designer: Helix Architecture + Design, helixus.com

Owner: Kansas City Art Institute, kcai.edu

General Contractor: A.L. Huber, alhuber.com

Structural Engineer: Bob D. Campbell & Co., bdc-engrs.com

MEP/AV/IT Engineer: IMEG, imegcorp.com

Fabricator: Square One Studio, sqonestudio.com

Materials

Office Workstations and Library Conference Table: Watson, www.watsonfurniture.com

Reception Sofa and Lounge Chair, Library Chairs, Fernery Tables and Chairs: Hightower, hightower.design

Task Seating: Humanscale, www.humanscale.com

Glass Door Systems: DIRTT, www.dirtt.com

High-efficiency Mechanical Systems: Mitsubishi Electric, www.mitsubishicomfort.com

Roof System: Johns Manville, www.jm.com, and Versico Roofing Systems, www.versico.com

Shading Devices: Mecho, www.mechoshade.com

Fernery Lighting: Casey Architectural Lighting, www.caseyarchitecturallighting.com

Library Lighting: Inter-lux, www.inter-lux.com

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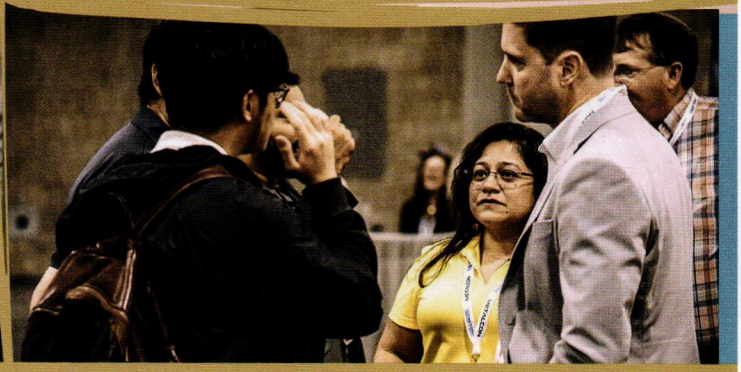

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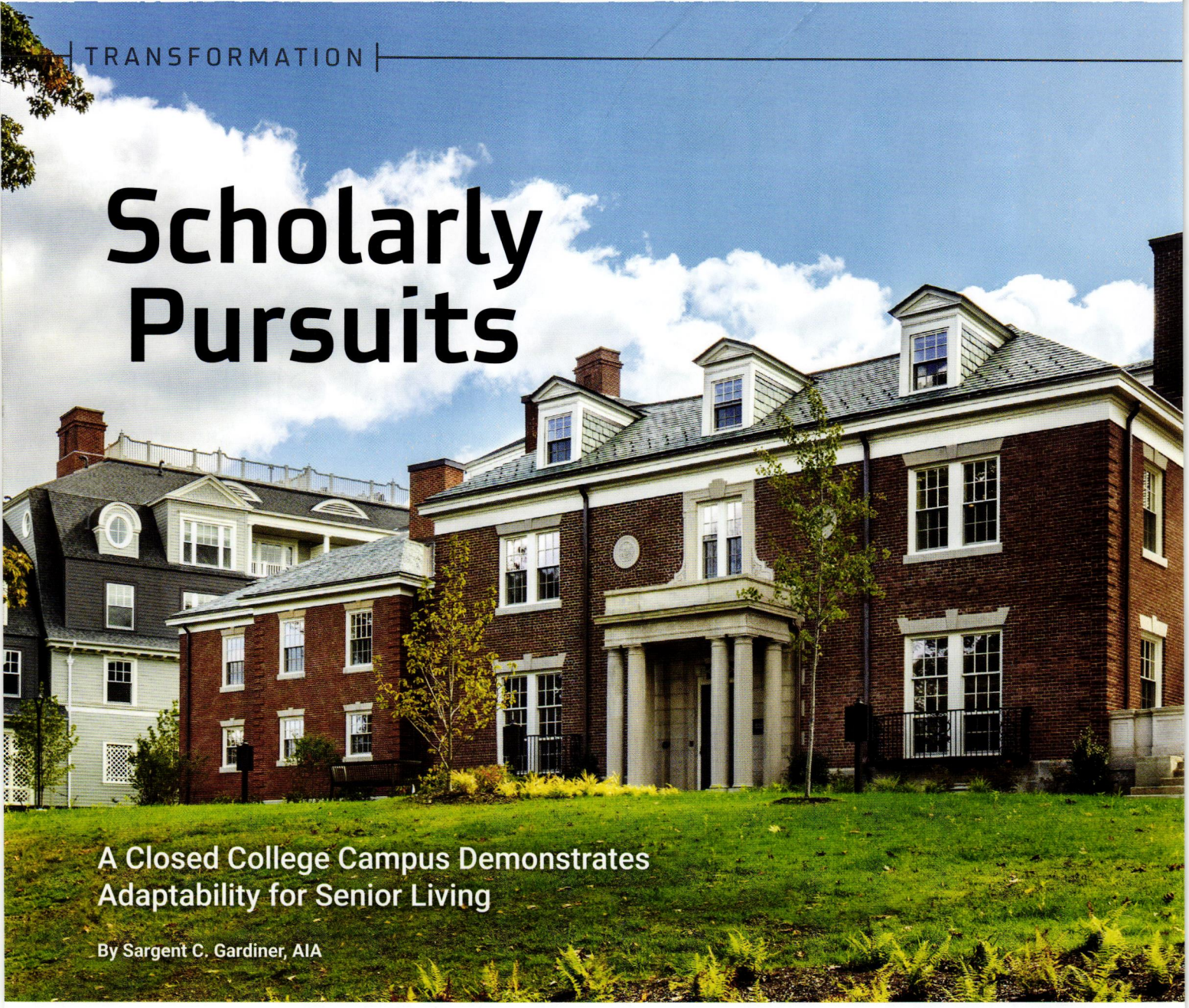


A Closed College Campus Demonstrates Adaptability for Senior Living

By Sargent C. Gardiner, AIA

Today, the U.S. population is undergoing a dramatic transformation, primarily driven by converging demographic and economic trends. People are healthier, wealthier and living longer. A growing subset are also choosing to delay having kids or not to have them at all.

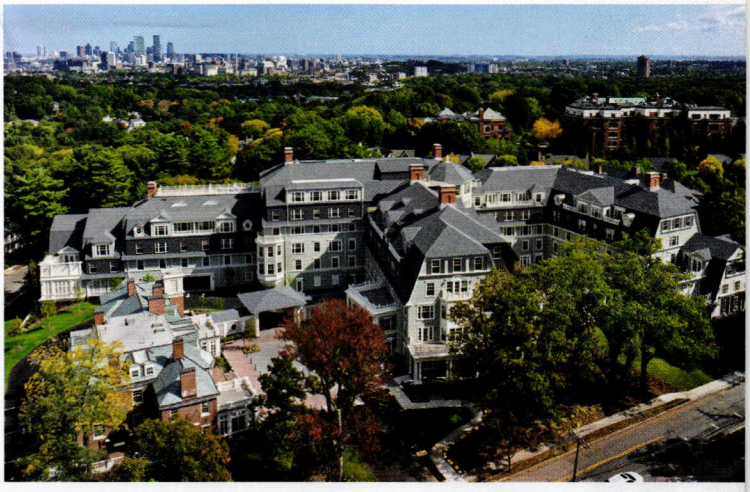
At the same time, America's population is rapidly aging with an estimated 80 million Americans on track to be 65 plus by 2040, roughly double today's numbers. These demographic trends, which will prove transformational to American society, are now rightfully raising questions about where future older adults will live and what kind of environments can best support them.

It's a frank conversation worth having sooner rather than later, particularly as many Americans are looking for something beyond today's conventional, senior-living developments found on the peripheral beltways of urban centers. Although the scale of the challenge is immense, so too is the opportunity to rethink senior living from the ground up—to reframe it, not as isolated and regimented, but as connected, community-oriented and integrated into the fabric of everyday life.

One new approach involves converting shuttered higher-ed campuses into independent and assisted senior-living facilities. The rationale is clear: With national student enrollment in decline, campus environments rich in amenities, open space, and architectural character are increasingly available for new and imaginative uses.

Already, more than 40 colleges have closed since 2020, giving developers the chance to leverage new high-value real estate to address the nation's growing demand for inventive and livable senior housing. Whereas traditional senior living

EXTERIOR PHOTOS: Francis Dzikowski, OTTO



To minimize development impacts on the nearby community, new construction was located over the footprints of the former Newbury College's academic buildings.

facilities typically dot the peripheral beltways of urban centers, leading to car dependence and (in many cases) diminished social opportunities, higher-ed campuses are often centrally located with convenient, built-in amenities, making them compelling candidates for adaptive reuse. The legacy spaces of higher education offer the perfect grounds to build intergenerational neighborhoods that preserve local history and encourage long-term social harmony.

An Example in a Historic Neighborhood

Located in Brookline's charming Fisher Hill neighborhood, designed by famous landscape architect Frederick Law Olmsted, The Newbury of Brookline is a precedent-setting, 159-residence senior-living community combining independent and assisted living with memory care. Once home to Cardinal

BEFORE PHOTOS: courtesy Robert A.M. Stern Architects

INTERIOR PHOTOS: The Newbury of Brookline

The Pheasant Lounge is part of Mitton House, which once served Newbury College. Its adaptive reuse maintains a tangible link to the site's history and introduces stylistic variety to the surrounding single-family homes.

Cushing College and later Newbury College—a small liberal arts-focused institution that shuttered in 2019—the campus has been thoughtfully transformed by RAMSA (Robert A.M. Stern Architects) into a vibrant senior-living development.

Although the obvious choice may have been to convert the campus back into single or multifamily housing, mirroring the surrounding suburbs, the development team realized there was an opportunity to innovate a new model of senior living—one that's capable of meeting the needs of the country's growing senior population while supporting local residents.

When approached thoughtfully, senior living can be surprisingly complementary to residential neighborhoods. Unlike most working-age families, for instance, seniors aren't bound by the pressures of a 9-5 commute or the demands of after-school pick up. They don't increase traffic pressure, crowd public transit or take up critical parking spots during peak commuting hours, yet they remain integrated with the community.

Seniors go for walks, frequent restaurants, visit parks and museums, spend time with friends and family, and engage in a range of activities that add vibrancy to the community and support individual mental health. In this way, senior living can help activate neighborhoods in uniquely beneficial ways, particularly during off-peak hours where they offer a steady, gentle presence that contributes to a safe and welcoming neighborhood rhythm and supports small business.

Although important, location isn't the only reason developers are eyeing former college campuses for senior living.

Architecturally, these sites offer a rare combination of scale, legacy buildings and mature landscapes that can't be easily replicated on a blank slate. Adapting these spaces, as opposed to starting from scratch, allows for the preservation of what's valuable, from historic structures to old-growth trees and gardens, while adding new buildings that boast modern functionality.

The legacy spaces of higher education offer the perfect grounds to build intergenerational neighborhoods that preserve local history and encourage long-term social harmony.

At The Newbury of Brookline, this principle guided each and every design choice, from the structures to the gardens and beyond. For instance, the existing campus Mitton House, a 19th-century mansion that once served as part of the former college, was preserved and reimagined as a central amenity hub for residents. Its adaptive reuse not only maintained a tangible link to the site's history, but also introduced stylistic variety to the surrounding single-family homes.

The site's generous footprint supported the continuation of a green, walkable environment with the new senior-living campus organized around two landscaped courtyards featuring accessible paths, shaded seating areas and preserved mature trees. These outdoor spaces add aesthetic value but also play a key role in supporting mobility, social interaction and overall wellbeing for residents. By preserving these natural features, the design team ensured that everyday access to nature remains a core part of life at The Newbury of Brookline, reinforcing the idea that senior living should be restorative.

Respecting the Past, Shaping the Future

Key to unlocking the value of the former campus and delivering on the vision for The Newbury of Brookline involved a thoughtful development strategy that prioritized environmental sensitivity, neighborhood context and long-term livability.

To minimize development impacts on the nearby community, new construction was located over the footprints of the site's former academic buildings. This reduced the need for extensive grading and limited local environmental disruption.

The long list of amenity spaces at The Newbury of Brookline are intentionally designed to allow seniors to lead rich and spirited lives.

The Newbury of Brookline offers 81 independent-living residences, 38 assisted-living residences and 40 memory-care suites, each crafted to cater to diverse lifestyles and needs.

Importantly, the primary mass of the new building was placed at the deepest portion of the site, allowing its added height to step down gradually toward the perimeter, maintaining a respectful dialogue with the surrounding low-rise neighborhood.

Keeping with the project's community focus, the large parking requirement, often a point of contention in residential infill, is addressed through a combination of structured and landscaped lots that buffer the campus from neighboring homes to the south and east. A tree easement preserves the old-growth trees lining Fisher Avenue, further softening the project's visual impact and protecting the site's natural character. Just as importantly, it ensures residents enjoy direct sightlines of mature greenery and a seamless landscape connection to the adjacent reservoir park.

At its core, The Newbury of Brookline draws inspiration from Fisher Hill's architectural diversity—ranging from late 19th-century estates to early 20th-century revival styles—using that context to guide how the former campus could be respectfully transformed into a place suited for aging in community. By rooting the design in local tradition while adapting it for contemporary senior living, the project seamlessly

Retrofit Team

Design Architect: Robert A.M. Stern Architects, www.ramsa.com

- Paul Whalen, design partner
- Sargent C. Gardiner, project partner
- Tanya Lee, project manager:

Architect of Record: Finegold Alexander Architects, www.faainc.com

Interior Designer: Pembrooke & Ives, www.pembrookeandives.com

MEP Engineer: BLW Engineers Inc., www.blwengineers.com

Structural Engineer: L.A. Fuess Partners, www.lafp.com

Civil Engineer: Horsley Witten Group, horsleywitten.com

Landscape Architect: Verdant Landscape Architecture, www.verdantlandscapearchitecture.com

General Contractor: Dellbrook | JKS, www.dellbrookjks.com

Developer: HYM Investment Group, www.hyminvestments.com

Materials

Exterior Cladding: Hardie Plank Lap Siding from JamesHardie, www.jameshardie.com

Exterior Trim, Columns and Railings: Composite PVC from Cheyenne Company/Decoro Building Products, decoro.com

Exterior Doors and Windows: E-Series from Andersen Windows & Doors, www.andersenwindows.com

Asphalt Shingles: TAMKO Building Products LLC, www.tamko.com

Masonry Watertable: Taylor Clay Products, taylorclaybrick.com

Historic Building Masonry: Glen-Gery, www.glengery.com

integrates into the neighborhood while offering residents a sense of continuity, dignity and belonging.

A careful blend of continuity and reinvention is what makes campus-to-community conversions like The Newbury of Brookline so compelling. They can not only help meet the soaring demand for senior housing, but also demonstrate how aging can be supported in ways that honor history, enrich neighborhoods, and deepen the ties between people and place. We have an opportunity to build a better future for our seniors; we should take it.

A Historic Future

Preservation and Reuse of Historic Building Stock Is Vital to Creating Revitalized, Resilient Communities of Tomorrow

By Jim Schneider

PHOTOS: Vitro Architectural Glass

Boston's Congress Square features exterior roof decks on levels five, 10 and 17, providing beautiful garden-like spaces where tenants can work, meet and take breaks while enjoying fresh air and majestic views of Beantown. While indoors, employees are afforded striking city views through the low-E-coated Starphire Ultra-Clear glass, which is 87 percent less green in color than ordinary clear glass.

Rapid shifts in economics, technology, culture and climate have brought the built environment to a unique crossroads. Even as the global economy cools in the shadow of trade wars and geopolitical instability, the demand for construction continues at a steady, if slowing, pace. Supply chains are disrupted, owners and contractors are forced to rethink their approach to materials and development, and climate change continues to drive the need for efficient, resilient design.

The nature of buildings and how they are used is changing. Office vacancy rates are on the rise while housing shortages intensify. The shift to remote and hybrid work models has fundamentally altered the preservation equation for commercial historic buildings. With office vacancy rates creating new opportunities for conversion, cities are seeing innovative approaches toward commercial-to-residential projects that can revitalize commercial districts by attracting residents with mixed-use communities.

All these factors converge to inspire a reimagining of urban development. Cities are recognizing the value of their existing building stock, inspiring a policy landscape that views historic preservation and adaptive reuse not simply as preservation tactics, but as forward-looking development strategies essential to urban vibrance and resilience. Where preservation once focused mainly on protecting notable structures from demolition, the philosophy today is just as much about maximizing materials and resources to achieve the best result.

"The conversation has shifted to highlight existing buildings as a critical asset to address housing shortages and urban revitalization," explains Stephanie Phillips, head of the Deconstruction & Circular Economy Program at the City of San Antonio Office of Historic Preservation. "I don't think historic character, housing needs and climate goals are competing priorities. They are deeply intertwined within preservation policy."

San Antonio has walked the talk where it comes to preservation and reuse as part of progressive urban fabric. In 2022, San Antonio became the largest municipality on the continent to adopt a deconstruction ordinance, requiring older housing stock to be deconstructed with materials salvaged rather than mechanically demolished. Several historic skyscrapers in the downtown core, including a former office tower and former hospital, are actively being converted into housing, and the number of trained deconstruction contractors has increased by more than 500 percent since the city began offering training in 2019. This evolution reflects a broader recognition that preservation policy must innovate to serve community needs.

"I see our efforts as silo busting, which I believe is essential for truly effective urban policymaking," Phillips says. "It's impossible to tackle affordable housing without considering climate

or to address climate without considering waste. It's all connected, and I think preservations are particularly well-suited to lead efforts related to building material reuse. Preservationists often lament the construction industry's dependency on brand new materials. To break that dependency, we need mechanisms to recover more existing materials for reuse."

Triple Bottom Line

A report released by the Urban Land Institute (ULI) in January 2025, "What's Old Is New: The Business Case for Adaptive Reuse" (bit.ly/4mmYaXy), indicates that adaptive reuse projects are beginning to quietly outperform new construction by delivering faster returns; reduced risk; and potential savings in energy, carbon and materials while catalyzing economic and community revitalization.

"One of the first big decisions a developer makes is whether to demo or to build new. The answer to this question has a huge impact on the project's carbon potential," says Kara Kokernak, senior director of ULI's Randall Lewis Center for Sustainability. "Smart approaches to reusing existing buildings can reduce operational carbon emissions. The environmental benefits of preservation and adaptive reuse rest on avoided embodied carbon emissions."

"There's been a promising push to quantify the carbon impacts of demolition versus retrofit with a standout being the CARE [Carbon Avoided Retrofit Estimator] tool," Phillips explains. "The CARE tool allows users to compare the total carbon impacts of renovating an existing building versus replacing it with a new one through a very user-friendly interface that also accounts for regional differences, including energy grids and climate factors. At the City of San Antonio Office of Historic Preservation, we are considering how to embed calculators, like the CARE Tool, into our design review process to help property owners consider locally specific climate factors in their preservation or retrofit projects." (Visit the CARE tool at www.caretool.org.)

It's helpful to assess reuse projects through the lens of the triple-bottom-line, which takes economic, environmental and social factors into account. Together, these define long-term value beyond traditional ROI calculations. With historic preservation, market differentiation can be an important driver in the increasingly competitive realm of commercial real estate.

Projects like Boston's Congress Square demonstrate how preserving ornate interiors and architectural character can appeal to tenants and buyers seeking spaces with unique identity and connectivity. Completed in 2018, this renovation transformed three early 20th-century bank buildings by restoring their ornamental ceilings and adding a 7-story glass addition that sits atop what was once Fidelity Investment's world headquarters. Offering historic grandeur with modern functionality and environmental performance in a downtown location helps properties like these stand out to potential tenants.

Power of Policy

Although adaptive reuse can be a flexible real-estate solution, the business case for adaptive reuse depends heavily on the local conditions and what incentives are available. With the right combination of investment and policy, adaptive reuse can serve as a catalyst for urban revitalization and generate a positive feedback loop. Projects spark broader investment, strengthen community identity and increase long-term real-estate value across neighborhoods.

To integrate the 24-foot cantilevered glass box on Congress Square, the design bends inward along Congress Street, adjacent to Post Office Square, at the exact point where the 1904 and 1906 building façades connect beneath it. The faceted, angular design then extends downward through the existing building on the north façade, forming the building's second entry point and connecting it to the popular boutiques and cafés located along Quaker Lane.

When adding a 7-story curtainwall to Boston's Congress Square, Arrowstreet's design team sought a lightweight material to contrast the structures' original granite and limestone façades. The firm's solution is reflected in the sparkling jewel box, fabricated with Solarban 60 Starphire glass by Vitro Architectural Glass and featuring a trendy soffit design, that is now perched atop the three conjoined 1900s bank buildings.

"There are a growing number of policies, particularly at the city level, that directly or indirectly support adaptive reuse," Kokernak notes. "In the United States, the City of Los Angeles expanded its Adaptive Reuse Ordinance to offer zoning relief to projects across the city. Many other cities across the U.S.—from Boston to Chicago to Washington, D.C.—are offering incentives to developers to convert underused commercial space into much-needed housing."

Some of the tools available include the usual tax incentives and grants, as well as streamlined permitting, building code adaptations and mixed-use zoning to provide flexibility for adaptive reuse. Challenges can occur when rigorous preservation standards make it difficult to achieve modern building performance, or upgrades to fulfill current standards for accessibility and safety are cost-prohibitive.

"Our program helps prove that policymaking can be an incredible tool to create the world we want to see, even if it's incremental," Phillips says. "To date, more than 150 houses in San Antonio have been deconstructed that would have otherwise been demolished and landfilled without our ordinance. Our efforts are replicable in other cities, and one of my favorite parts of my job is meeting with communities across the country and the world to discuss how some of our lessons learned can be applied elsewhere to achieve similar goals."

"The development community can work together with policymakers and financers to participate in shaping policies and incentives that represent what they need to facilitate adaptive reuse in urban settings, focusing on local zoning, historic districts and other policy mechanisms," Kokernak says. "We will likely see more innovative approaches to commercial to residential conversions. In Cleveland, conversion projects were planned or are underway for nearly 12 percent of its commercial space in the third quarter of 2024. In cities, like Washington, D.C., there is an opportunity to revitalize commercial districts by attracting residents with mixed-use spaces and creating lasting communities."

Preserve and Adapt

Preservation policy appears to be moving toward integrated approaches that recognize the interconnections

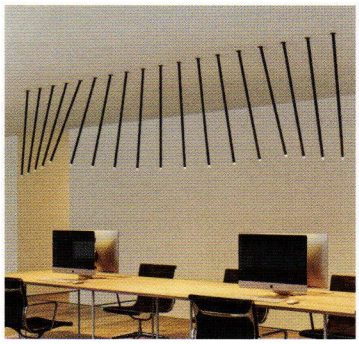
The convergence of housing shortages, climate imperatives, and changing work patterns has created compelling opportunities for adaptive reuse and historic preservation.

between historic character, housing needs and climate goals. Reuse projects increasingly prioritize versatile communal spaces that serve diverse functions and encourage mixed-use developments that combine residential, commercial, and community areas. They will focus on enhancing energy efficiency and incorporating renewable-energy sources while preserving historical significance, utilizing smart technologies to optimize energy use and minimize carbon footprints.

The convergence of housing shortages, climate imperatives, and changing work patterns has created compelling opportunities for adaptive reuse and historic preservation. Cities are beginning to recognize existing buildings not as obstacles to development, but as valuable infrastructure for sustainable urban growth.

For AEC professionals, the work is to commit projects to reuse and bring architects, engineers, owners and preservation experts to the table early to collaborate, manage risk and unlock the potential of existing structures. It is important to understand available tax credits and incentives and be active in local government to shape policy toward reuse and preservation. Each project has opportunities, and individual decisions matter.

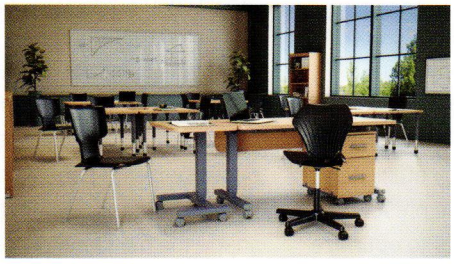
The question isn't whether historic preservation and adaptive reuse will play a central role in urban development, but how quickly the industry can adapt to capitalize on the opportunities. Those who understand the potential and the requirements of this new landscape will be best positioned to shape the built environment of tomorrow while honoring the heritage of yesterday.



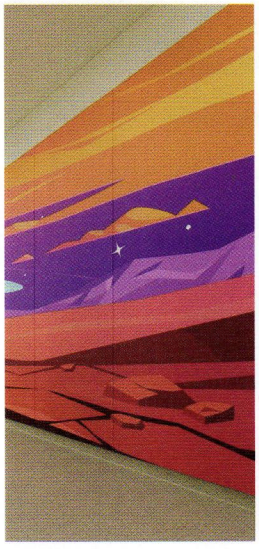
Customize Lighting for a Soft, Enveloping Glow

The A-Tube Nano Swing, designed by Studio Italia Design for Lodes, builds on the A-Tube Nano collection with 360-degree rotation and multidirectional adjustability, allowing users to customize lighting with ease. Its sleek, minimalist form is ultra-light aluminum—2 centimeters in diameter—that houses a transparent methacrylate diffuser with an internal LED module that emits a soft, enveloping glow. Available in three frame lengths and six versatile finishes—Champagne, Chrome, Gold, Matte Black (9005), Rose Gold and Terra—it offers endless design possibilities, whether as a single focal point or arranged in clusters. Now available in a recessed version, the A-Tube Nano Swing can be installed directly onto the ceiling, offering precise light direction while amplifying the dramatic effect of multi-element installations.
www.lodes.com/prodotti/a-tube-nano-swing

Pneumatic Desk, Podium Enhance Teaching Flexibility



Marco, a family-owned American manufacturer of education furniture, announces the launch of CUE, a next-generation pneumatic desk and accompanying mobile podium with optional storage cabinets. The GREENGUARD Gold-certified, ADA-compliant system combines thoughtful functionality and sleek design to offer flexibility and mobility that enhances teacher productivity. Suited for classrooms, labs and flex zones, CUE is positioned on locking swivel casters, so the desk and podium can be moved smoothly and independently. CUE can serve as a single unified workstation through a hidden magnet locking system that attaches the podium to the desk. With no cords or outlets required, the power-free, lever-activated pneumatic rise system offers mobility, ergonomics and silent height adjustment. Each piece can be raised simultaneously when connected or separately from 28 to 48 inches in height.
www.madebymarco.net/product/cue-collection-pneumatic-desk-and-podium



Corrugated Panel Features 2-inch Depth

Altro now makes its Altro Whiterock Digiclad wall panels in the USA, meaning quicker turnaround times and more flexibility for projects. Altro Whiterock Digiclad transforms walls using high-resolution photography and vector illustrations printed on durable Altro Whiterock panels. Whether it's calming nature scenes in health-care settings, bold branding in retail spaces, or intuitive wayfinding in schools and public areas, if you can imagine it, Altro can print it. Use your own artwork or choose from the company's curated gallery of eye-catching visuals, landscapes, architecture, patterns and more. Altro Whiterock Digiclad is available in 4- by 8-foot, 2-inches or 4- by 9-foot, 10-inches PVC panels with a Matte or Gloss finish and seamlessly integrates with Altro flooring for a cohesive, protective solution.
www.altro.com/us/products/altro-whiterock-digiclad

Broadloom Carpet Is Crafted with AI

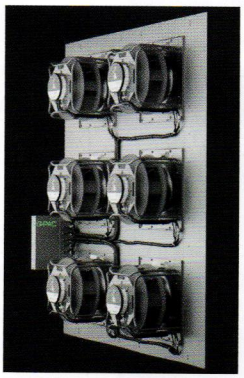
Stacy Garcia Design Studio has collaborated with Signature Flooring to create Mystic Horizons, a broadloom carpet collection that merges natural inspiration with artificial intelligence to deliver a transcendent design experience for hospitality spaces. The Stacy Garcia team trained generative tools using visual inputs, like natural landscapes, frequency vibrations and sky-borne patterns, allowing the system to generate ethereal, otherworldly designs that blend organic beauty with algorithmic creativity. The color palette reflects this fusion: sky blues, glowing apricots and tranquil neutrals are grounded by a rich raisin-burgundy hue, delivering layered dimension and visual intrigue. The collection includes bold lobby and corridor patterns, along with a newly updated guestroom broadloom program engineered to meet the demands of high-traffic hospitality environments. Mystic Horizons is fully customizable and available exclusively through Signature Flooring.
spark.signatureflooring.com

Outlet System Offers Flexible Installation for Varied Surfaces

Juniper, a Connecticut-based designer and manufacturer of lighting technology solutions, has made available Ground Control, a forward-thinking outlet system that redefines the look and function of power access for interior spaces. Expanding upon the brand's premium office power receptacles, the new system introduces hardwired formats for in-wall solutions, offering flexibility for a wide range of residential, commercial and hospitality applications. Crafted with world-class finishes, the Ground Control system is available in black oxide, English bronze, matte black, matte white, satin brass and satin nickel, as well as custom digital color-matching options. The Ground Control hardwired system features tamper-resistant NEMA 5-15 receptacles and 65W USB-C chargers available in single-, double- and triple-gang setups; USB charging ports and low-voltage dimmer knobs; and a flexible installation experience design for drywall, panel and tile surfaces.

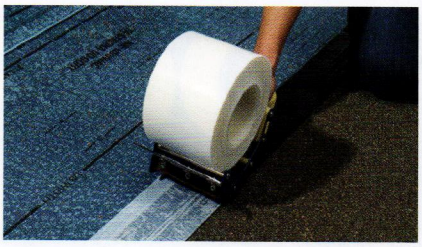
juniperdesign.com

Fan Ensures Continuous Airflow for Critical Environments



Q-PAC has introduced its Multimotor Plenum Fan, which is a single, cohesive system, rather than a loosely assembled fan array. It delivers superior airflow and built-in resiliency for critical infrastructure in health care, education, data centers, commercial towers and other high-demand environments. If one motor within the system fails, the remaining motors can automatically adjust, which eliminates the risk of a full-system shutdown and ensures continuous airflow, even during unexpected equipment or environmental issues. The Q-PAC Fan is a single, well-engineered product with zero points of failure. Its compact footprint and simple assembly make it easier to transport, install and maintain, even in space-constrained retrofit environments. The unit arrives pre-wired as a complete kit, eliminating much of the coordination and labor associated with fan assembly or blower replacement.

www.q-pac.com



Tape Boosts Roofing Membrane Adhesion in Cold Weather

CertainTeed's Arctic Edge Cold Lap Tape allows contractors to use Flintlastic SA self-adhered roofing membranes in cold-weather conditions. The tape is made with a specially formulated adhesive that remains sticky in temperatures as low as 35 F, boosting the adhesion of Flintlastic SA membranes in cold weather. The tape is easy to use and can be applied by hand or with a stand-up applicator around perimeter edges, sidelaps and base/interply endlaps. Arctic Edge replaces FlintPrime Aerosol asphaltic primer on details, such as metal edging, eliminating crew delays waiting for primer to tack up. Each roll is 4 inches by 260 feet and comes in eight rolls per carton, enough tape to adhere four rolls of Flintlastic SA PlyBase or eight rolls of Flintlastic SA MidPly, SA Cap, SA Cap FR. CertainTeed's Credentialed Contractors report faster skill acquisition for Flintlastic SA self-adhered installation compared to other application methods.

www.certainteed.com/products/commercial-roofing-products/arctic-edge-cold-lap-tape

Gas Water Heater Maximizes Combustion Efficiency

A. O. Smith has released the Cyclone FLEX High Efficiency Commercial Gas Water Heater, which features over-the-air updates, new max vent lengths and AiQ Adaptive Gas Technology. The new technology maximizes combustion efficiency and system reliability by identifying gas-supply qualities and automatically adjusting parameters for optimal combustion control. AiQ Technology can determine the gas type supplied to the water heater, resulting in a straightforward inventory for distributors. The Cyclone FLEX offers up to 98 percent thermal efficiency. Available in three new input sizes—within the company's 60-, 100- and 119-gallon platforms—the water heater features a 7-inch color touch display to make using and maintaining the unit easier. It also includes integrated leak detection with optional water shutoff to prevent damage to the unit and its surroundings if water is sensed.

www.hotwater.com

Update Advances Privacy-first Facial Authentication

Alcatraz's latest release adds new features to its Rock facial biometric devices, as well as to the Alcatraz platform. Enhancements include privacy-first identity handling, adaptive two-factor authentication, improved tailgating detection, visitor automation and SIP-based voice intercom support. Biometric matching now can be restricted to pre-enrolled cardholders, supporting compliance with privacy mandates. Customers can use their own DocuSign accounts for biometric consent, whether deployed in the cloud or on premises. Rock X enables two-way voice communication at the door, fully integrated with SIP systems. Alcatraz offers enhanced support for RightCrowd PIAM and on-prem web enrollment with SMTP control. The update also introduces improvements to visitor management, security event logging, reader group persistence and real-time provisioning visibility, helping customers operate more efficiently while maintaining a strong security posture.

www.alcatraz.ai

Audio and Circadian Lighting Come Together for Office Wellbeing

KUMUX is collaborating with K-array to create dynamic work environments focused on human wellbeing. Traditional artificial lighting does not always meet people's biological needs. Aware of this, KUMUX has developed software based on artificial intelligence that adapts lighting to circadian rhythms, providing a more natural and health-beneficial lighting experience. When integrated with RAIL by K-array, an architectural line that combines light and sound in a single product, a multisensory environment enhances comfort, creativity and workplace performance. Because of the incorporation of KUMUX technology, RAIL by K-array now optimizes the auditory and aesthetic experience of spaces and contributes to the health and wellbeing of its occupants.

www.kscape.it

AD INDEX

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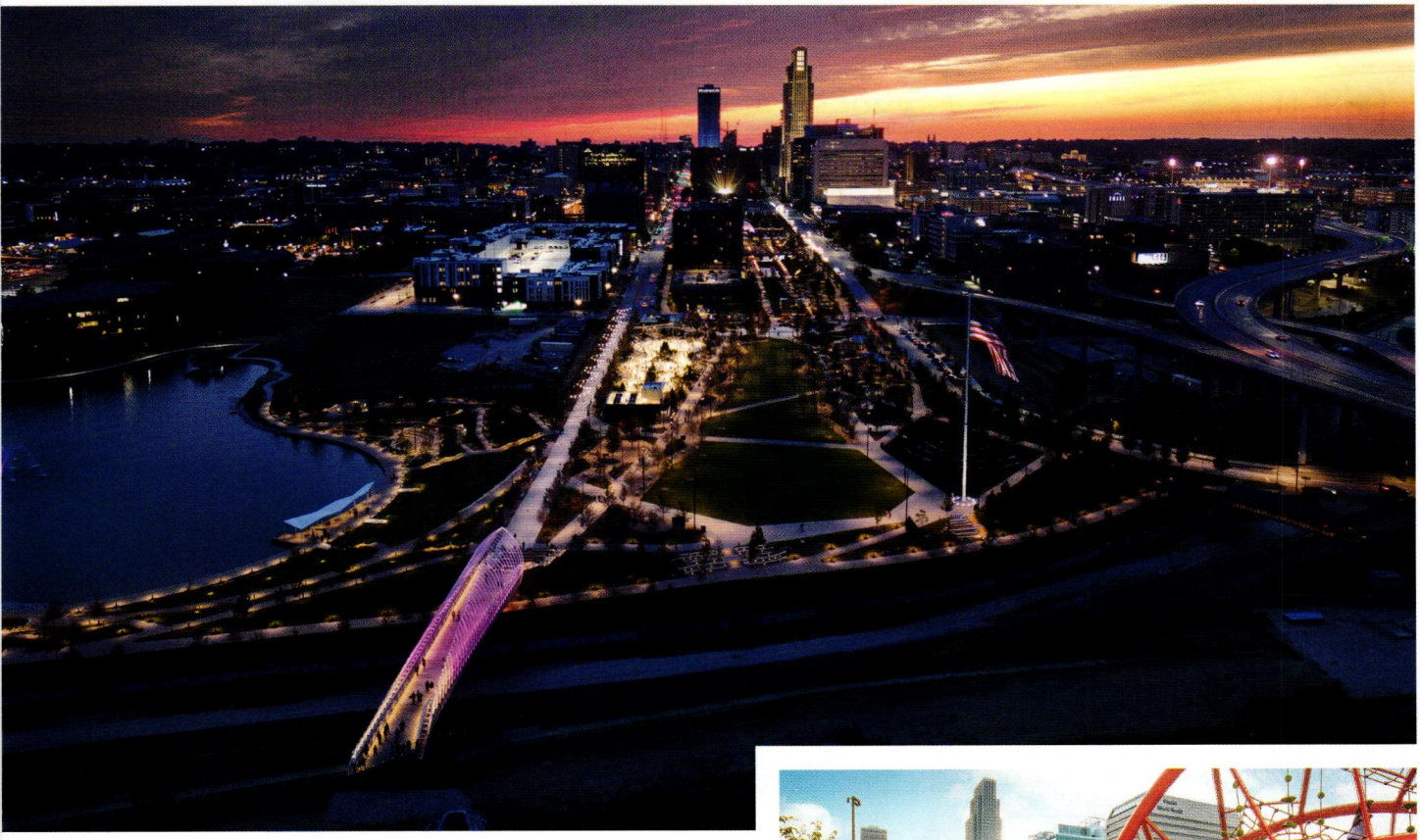

PHOTO: Buck Christensen

PHOTO: Jeff Durkin

The Riverfront

A Family-centric Restoration along the Missouri River Changes the Face of Omaha, Neb.

Lewis and Clark Landing abuts the Missouri River in Omaha, Neb., knitting the downtown core together into an urban park destination. After a multi-decade restoration effort, the site now is anchored by a new children's museum; destination playgrounds; and a host of family activities, including an urban beach, event plaza, sand volleyball courts and ancillary facilities.

The 36-acre park sits on the site of a former lead refinery, and a 7-foot-tall floodwall bifurcates the area. The site was remediated in the late 1990s and transformed into a public open space that consisted primarily of an open lawn, parking, a small riverfront marina, restaurant and paved event plaza. The team, including architect Gensler, engineer HDR and landscape architect OJB, worked closely with the City of Omaha, U.S. Army Corps of Engineers, and other local and federal agencies to rethink the remediated site and provide proper soil depths for shallow-rooting trees and a multitude of recreational opportunities.

An adventure playground anchors the south end of the site with towering climbing structures, an adventure path, zipline, log forest, swing canopy and an interactive water/sand play area. An urban beach with seating hides the floodwall. Residents can enjoy a day at the beach with volleyball, lounging, bocce ball and a view of the previously obscured Missouri River. The park is further anchored by the Luminarium, a STEM museum that dovetails with educational programming and adventure play paths. The connective site areas along the rail lines, roadways and river are planted with low-maintenance prairie grasslands, which offer seasonal interest and will naturalize over time.

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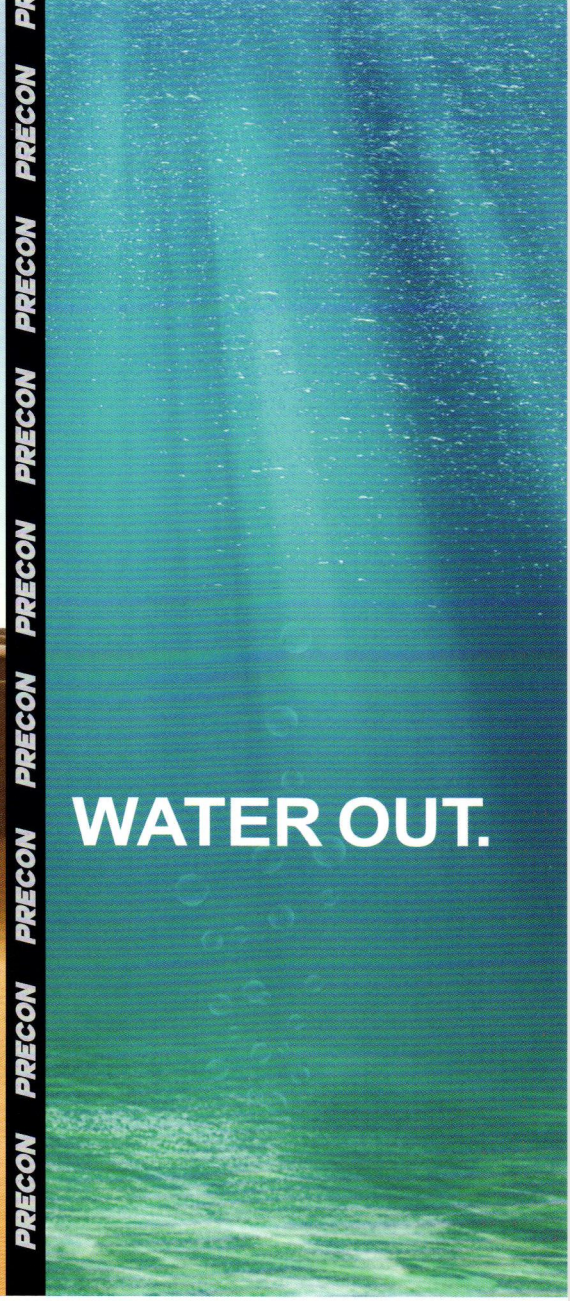

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