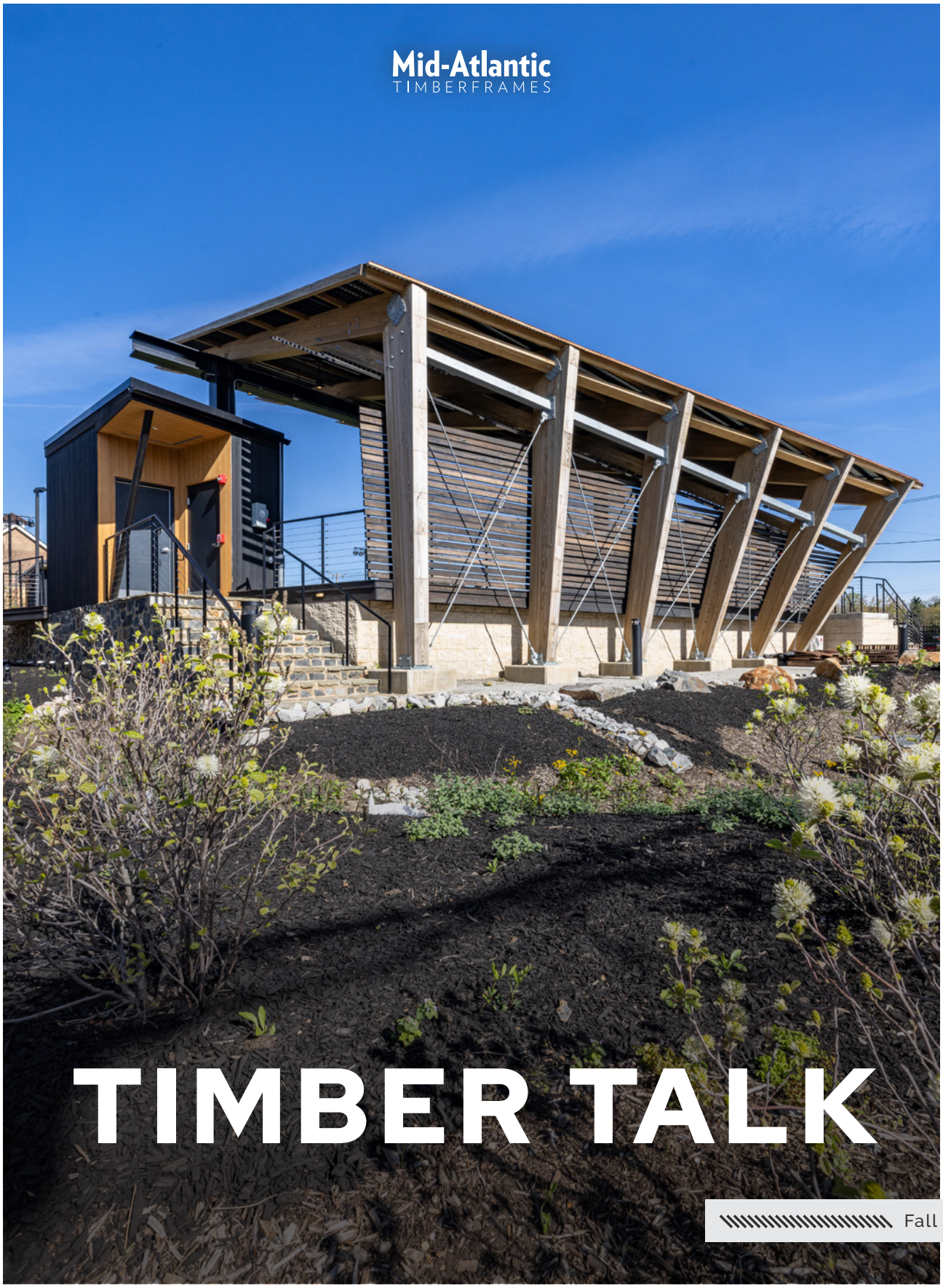
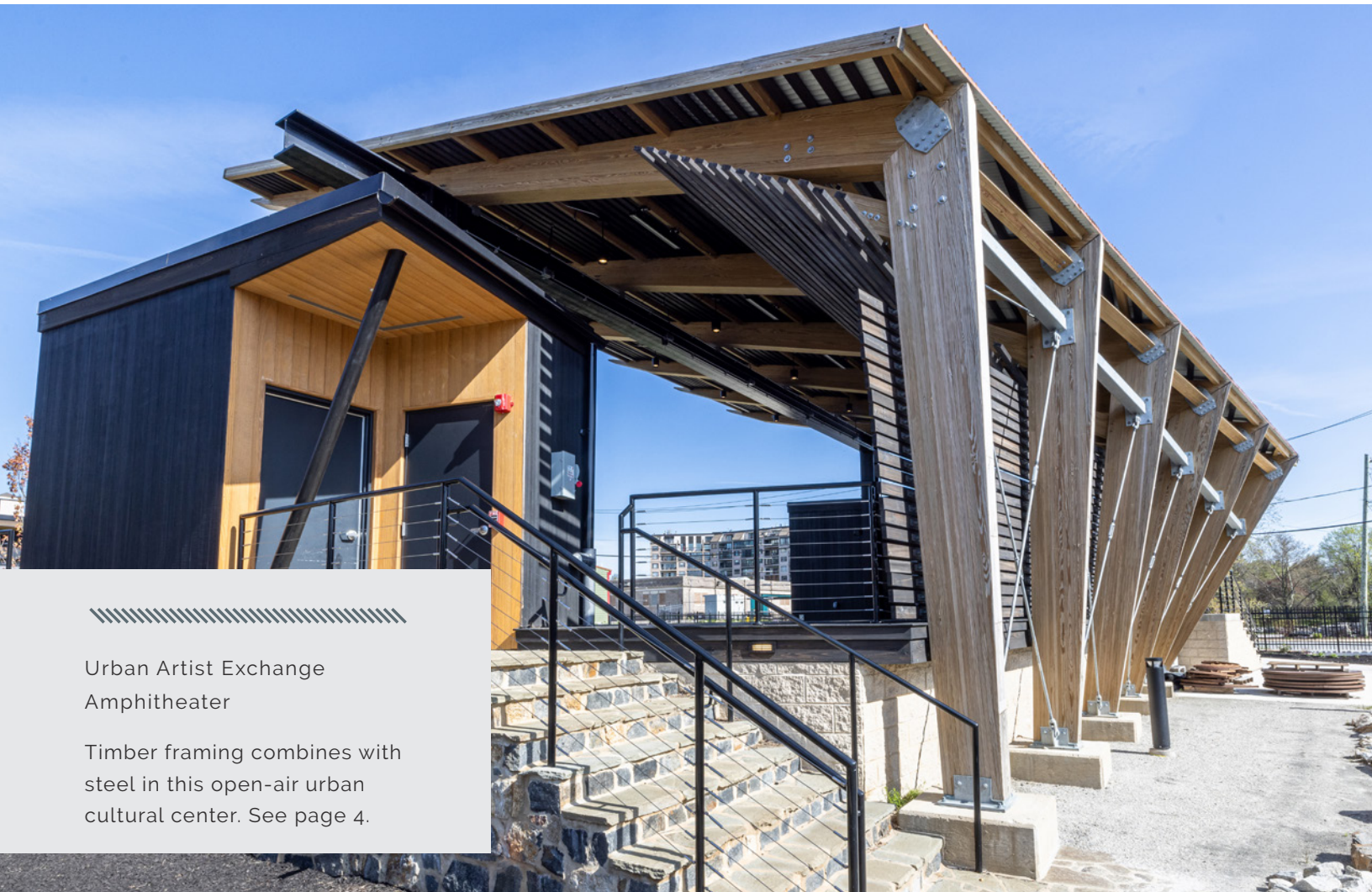
Mid-Atlantic
TIMBERFRAMES



TIMBER TALK

Fall 2024

INSIDE THIS ISSUE



Urban Artist Exchange Amphitheater

Timber framing combines with steel in this open-air urban cultural center. See page 4.

INDUSTRY NEWS

Sustainable Construction for Corporate Campuses

Corporations are increasingly demanding sustainable office buildings. As younger generations of employees rise through the ranks, they are clamoring for action. The desire to reduce their corporate carbon footprint, the push for offsite construction methods, and a demand for a healthy work environment, both mentally and physically, are driving the movement to create green structures.

What was once a "future" goal has become a virtual requirement for many companies.

In Silicon Valley, Google has built a 1.1-million-square-foot all-electric building that is an example of tomorrow's office buildings. It is net water positive, meaning all its non-potable water comes from water reused on-site, and it embraces biophilic building practices with its focus on natural light, indoor air quality, and thermal comfort from newly developed scale-like solar panels and one of the world's largest geothermal systems. The building, and all Google campuses, will operate on 24/7 carbon-free energy by 2030.

In speaking about the design and intention of Walmart's new campus in Bentonville, Arkansas, their Executive VP of Corporate Affairs Dan Bartlett has said, "The buildings themselves (will have) solar panels atop parking decks, energy-efficient lighting and HVAC systems, and regionally sourced building materials, including mass timber construction. We've been working for years to be a more sustainable company, and we want our new home to reflect that."

In many cases, government incentives are offered to push for the completion of green buildings, helping to offset their costs. Mandatory and voluntary construction codes are in effect throughout the country to varying degrees, and they are having an impact on the green-focused mindset of corporate campus planning. The International Code Council's 2012 International Green Construction Code (IgCC), for example, contains mandatory minimum requirements for efficiencies in environmental and health performance. Likewise, LEED is a voluntary series of rating systems builders can follow, meant to increase the environmental and health performance for the design, construction, and operation of all building types.

Sustainability planning for corporate campuses has become expected now, rather than in the future. The construction industry will have to rise to meet these demands while finding innovative ways and materials to satisfy building regulations.

PROJECT SPOTLIGHT

Urban Artist Exchange Amphitheater

Architect	Kevin W. Wilson, AIA, LEED AP, Architectural Alliance, Inc.
Builder	EDiS Company
Location	Wilmington, DE
Points of Interest	• Six glulam timber supports • Timber and steel used in tandem • 2,200 square feet of performance and utility space

Built as part of a cultural center revitalization project in Wilmington's historically African American East Side, the Urban Artist Exchange Amphitheater hosts open-air performances for up to 3,000 spectators. Six load-bearing glulam columns support the shell, each progressively tilted on their vertical and in their cantilever angles. Cypress screening strips combine with hot-dip galvanized steel to complete the structure.

The progressive angling of the glulam beams aligns the roof with the stage beneath to project sound outward.

INDUSTRY HIGHLIGHT

Kevin W. Wilson, AIA, LEED AP
Principal, Architectural Alliance, Inc.

How long have you been an architect?

I've been an architect for 40 years. My father was a sculptor, and I was brought up in a world of art shows and gallery exhibits, so pursuing creative endeavors is in my blood.

I co-founded Architectural Alliance in 1987 to offer architectural design, construction administration, land planning, and master planning. We focus on affordable and market-rate multifamily housing, commercial, and institutional projects. We strive to minimize the impact on our finite natural resources by employing sustainable, environmentally friendly design practices, and we're excited to have designed the first certified passive house buildings in Delaware, currently being built in Dover.

Which project are you most proud of?

I am proud of many projects, including the Urban Artist Exchange in Wilmington, Delaware. This underutilized city block has been transformed into a cultural resource for the community. The old horse stables for the city police department have been converted to artists' studios, and children's programming has occurred here over the past two summers. The Urban Bike Project has moved into the old carriage building at the corner of the site, and a new amphitheater was created on the previously open end of the site. The rhythmic timber frames seem to move with the performances onstage.

In addition to activating the site with programming, we worked with the public works department to accept stormwater from the surrounding area to relieve the overburdened combined storm/ sanitary sewer system. A series of bioswales and retention basins were developed into landscape features on the site that create interest and filter stormwater before it can reach the nearby Brandywine River.

What are your thoughts on designing with timber?

Timber construction adds warmth and beauty to a space. It is a material rooted in history and adds a sense of timelessness to a structure. The joinery of the wood timbers, and the craftsmanship, are reminders of traditions that can be interpreted in new, creative ways.

What do you think is the most interesting structure in the world?

One of my favorite structures in the world is Frank Lloyd Wright's Fallingwater in Mill Run, Pennsylvania. It was designed and built in the 1930s and continues to inspire scores of visitors and architects.

The house was built partly over a waterfall and exemplifies Wright's harmonious union of art and nature. The native stone core seems to grow out of the streambed and anchors the building to the site. The large cantilevered decks appear to defy gravity and bring the beauty of the natural setting into everyday living. It is my opinion that the building not only becomes a part of the landscape, it also enhances its natural surroundings.

Want to be our next Industry Highlight? Email Mike Banta | mike.banta@matfllc.com

See You at Mass Timber+ at Greenbuild

We're excited to join other mass timber experts, innovators, and pioneers at the Mass Timber+ Offsite Construction Conference, happening in conjunction with the Greenbuild International Conference & Expo, November 12–14 at the Pennsylvania Convention Center in Philadelphia.

Come see us at Booth #342 in Tier 2, and talk to MATF team members about what's new in timber, what's possible, and what we can do for your future projects. We'll have samples of our work and collateral on hand to showcase our capabilities in the industry, and we'd be happy to talk with you about all of it in person. See you there!

ASK AN EXPERT

What is DfMA, and how is it beneficial to timber construction?

Design for manufacturing and assembly (DfMA) is the practice of designing and engineering products for maximum production efficiency while simultaneously minimizing the complexity of assembly and installation. In timber construction, this approach results in reduced CNC fabrication time and reduced installation durations. This method requires a firm understanding of CNC machine capabilities as well as the installation challenges that are unique to each new project.

Mike Banta | Operations Manager

Mike has been designing timber frame structures for more than 20 years and enjoys sharing his expertise in glued laminated timber, cross-laminated timber, steel-timber hybrid design, and reclaimed or recycled timber. He also has experience in mechanical, restorative, and sustainable design as well as technical drafting and detailing, CNC fabrication, and design optimization.

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