



Traditional Materials | Made Fresh

Few materials are as iconic in American academic settings as classic red brick. Durable enough to last for decades and virtually maintenance-free, brick has long been a first choice for university planners, who often give brick a place of honor on their lists of design guidelines. That popularity remains today, but architects also are exploring new ways to keep this traditional material fresh.

BY CHUCK ROSS, CONTRIBUTING EDITOR



The Brick Industry Assn.'s Brick in Architecture awards have highlighted several projects over the last few years that illustrate the creative approaches architects have taken to make this ancient building material new again at a number of American universities. These designs all have the dual effect of relating the new facilities to surrounding campuses that might be a century or more old, while also making design statements intended to stay relevant for the decades—and students—yet to come.

Suspended Animation

Project: Center for Architecture & Environmental Design, Kent State University Kent, Ohio
Design Team: Weiss/Manfredi

Kent State University sited its new Center for Architecture & Environmental Design as a bridge between town and gown, on the edge of its campus, adjacent to downtown Kent, Ohio.

On the campus side, light-colored brick, along with concrete, predominates, drawing on the limestone shades of the school's oldest structures. The town side, however, features brick in deep red tones. For this building, New York City-based Weiss/Manfredi brought those downtown hues onto campus, combining millennia-old masonry technology with cutting-edge architecture to create a high-performance structure that's also become a teaching tool.

Aiming for LEED Platinum certification, Weiss/Manfredi's architects selected brick that was produced locally. And they got their own lessons in how brick is fired and in how its color can shift based on how it's produced from supplier Belden Brick.

"We focused our studies on a bee-hive firing process, where the location of bricks within the hive and heat source effect the amount of heat that the brick absorbs and, in turn, the brick's color," says David Maple, Weiss/Manfredi's project architect on the job. For the horizontal runs, designers chose a narrow, Norman-style brick that's iron-spotted. A custom bullnose brick also was developed to create vertical "fins" for added depth and shadowing across the façade. "The orientation of the fin and the depth of the fin were all studied and designed to optimize the site conditions."

The fins, which project a maximum of 4 in. from the building plane, are spaced to coordinate with control joints and required weeps in the brick façade.

Each succeeding floor's fins are offset slightly to give a sense of scale and movement, drawing eyes upward to the 650-seat "design loft" that tops the structure. The custom die Belden created to manufacture the fins now is on display in the building.

One of the more striking aspects of the building is the way the brick appears to be suspended over the lower-level curtainwall. Maple says this suspension is, effectively, a rainscreen construction, with brick as the outside cladding. The illusion of suspension is created by a backup wall attached to posts hanging from the slab above. Ensuring successful installation required significant attention to design details, Maple says.

"All the window frames, control joints and weep locations were considered with the brick pattern to conceal these items within the layout," he says. "Due to the angles on the project, every mortar joint and brick was drawn for layout coordination."

The architects see this unique façade treatment as a case study for the center's students in ways this ancient building material remains relevant in even the most modern-day settings. Maple says it has also become a tool to help students visualize the way building materials come together—and the importance of clear visual plans to ensure that effort is successful.

"With this project being a school for architectural design, and with the university's desire to make the project a tool for learning, we thought utilizing the brick in an atypical way and suspending it—though the bricks still rest on a shelf angle—could allow the students to understand the detailing of the system."

DETAILS



BRICK FINS

Bullnose brick also was developed to create vertical "fins" for added depth and shadowing across the façade. "The orientation of the fin and the depth of the fin were all studied and designed to optimize the site conditions."



RAINSCREEN

Architects created the illusion of an overhanging brick "curtain" by attaching a backup wall to posts hanging from the slab above.



DEPTH PERCEPTION

The bullnose-brick "fins" are offset, floor-by-floor, to add to the sense of upward movement created by the climbing curtainwall. Their spacing coordinates with control joints and required weeps.

Belden Brick
www.beldenbrick.com
Circle 394

CAMPUS CONNECTOR

Kent State Center for Architecture and Environmental Design "Design Loft," which was selected as the winner of an international competition, is a site for new connections. A continuous gallery anchors the building's main public level and opens up to a new esplanade. The ascending sequence of ground floor spaces support a broad range of activities including a cafe, gallery, 200-seat multi-purpose lecture room, library, classrooms and reading areas.



Driven by Data

Project: Goergen Institute for Data Sciences
University of Rochester,
Rochester, N.Y.
Design Team: Kennedy &
Violich Architecture

The University of Rochester, in Rochester, N.Y., began accepting students to its new Goergen Institute of Data Science program in fall 2015, and two years later the school opened the doors to an ambitious new facility to house the effort.

The building features a creative façade design by Kennedy & Violich Architects (KVA) that plays with the theme of a data-centric mission, offering a "coded" indicator of the work going on within its walls. At the same time, it also ties this very modern building to the larger campus, with its roots back to the 1930s.

The campus is the university's third home and was originally built as its College for Men in 1930. Its oldest buildings feature Greek Revival themes popular in higher education at the time, and the school's design guidelines still favor what KVA Vice Principal J. Frano Violich, FAIA, calls "the classic

base-middle-top" approach to massing. Brick as a façade material is another design guideline requirement—and not just any brick. Glen-Gery's 55-DD brick is specifically called out, and that is not an unusual choice, says Violich.

"This is a brick that's been used as a standard for so many universities across the Northeast, and maybe beyond."

But, while KVA's palette might have been traditional, the final project is anything but, as the designers chose to turn their required material on its end, in a very literal way. Protruding header bricks now create a pattern meant to symbolize streaming data, against an arrangement of punched windows of various rectangular sizes that create their own visual metaphor of an old-school data punch card.



TELLING TIME

The building uses classic masonry in a new way, tying the façade to other campus structures, while also pointing a new way forward.



**CODED MESSAGE?**

Violich says there is a rumor around his office that the patterning of the punch card-style windows actually spells out a George Eastman quote in binary code. "It could be in there," he says, "but even if it is, I wouldn't tell you."

Protruding header bricks now create a pattern meant to symbolize streaming data, against an arrangement of punched window of various rectangular sizes that create their own visual metaphor of an old-school punch card.

"In the masonry, itself, we posed the challenge of how we could use masonry as a pixel," says Violich.

Violich and his team worked with Glen-Gery to develop a 12-in. version of their classic 55-DD brick for use as the protruding headers, which were installed, cantilever fashion, to extend 8 in. out from the 4-in. thick brick exterior wall. While Violich says the patterning was easy to adjust, thanks to today's design software, the installation involved a team of masons with decades of experience.

"We had all these studies for the sequence of installation," Violich says, describing his first discussions with the brick foreman about how this complicated plan could be realized in a course-by-course

fashion. The foreman, however, had a different idea: installing all the brick except the protruding units, with spacers to hold their place, and then going back to add those units in, once the wall was complete. The approach proved efficient, Violich says, observing how that back-and-forth with the foreman illustrated the continuing importance of hands-on construction experience, even as software takes over more of design.

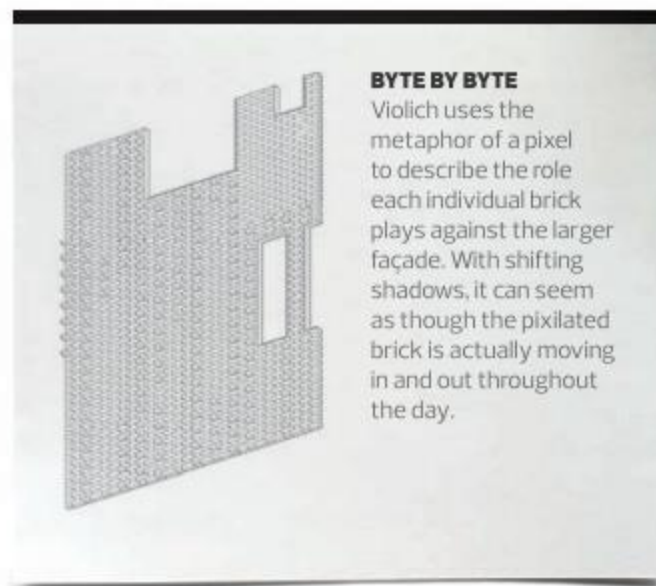
"The efficiency of the digital layout and the efficacy of the human labor," he says, describing this interaction between technology and tradesmanship. "From the digital to the tactile—there is a kind of craft in it."

VERTICAL SUN DIAL

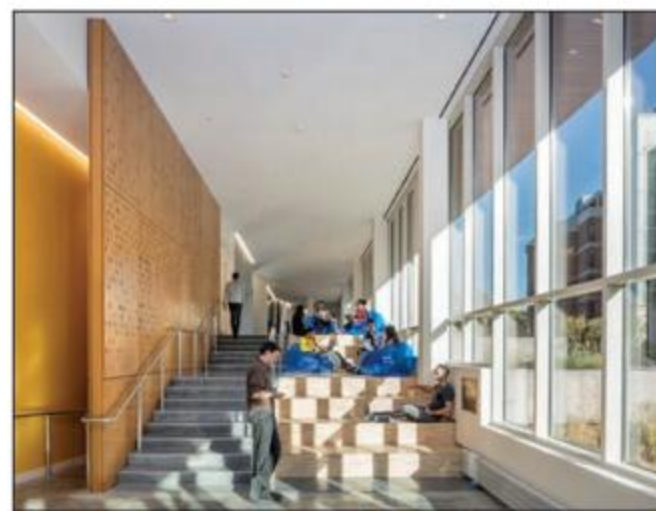
Glen-Gery
55-DD brick
www.glengery.com
Circle 393

**TEAM EFFORT**

The foreman of the project's skilled masonry team opted to install all the brick except the protruding units first, with spacers holding their place. Masons then added those units, once the wall was complete. The approach proved efficient.

**BYTE BY BYTE**

Violich uses the metaphor of a pixel to describe the role each individual brick plays against the larger façade. With shifting shadows, it can seem as though the pixelated brick is actually moving in and out throughout the day.

**BRINGING OUTSIDE IN**

The image of pixelated, streaming data continues into the building's interior, including a wall lining this staircase/gathering space. Violich says such informal meeting spaces are important for this structure, which is now home to a range of data-related fields of study.

A Sense of Place

Project: University of the District of Columbia Student Center Entrance
Design Team: CannonDesign, Marshall Moya Design, Lee and Assocs.

The new student center at the University of the District of Columbia was designed to create a sense of welcome to an urban campus that has long been seen as something of an afterthought. The four-year college has undertaken a major redesign to reposition itself in the dense, Van Ness neighborhood, and the student center's entrance plaza certainly sets a stage for the upgrades that have taken place. Landscape architects with D.C.-based Lee and Assocs. took the lead on the plaza design—the student center was the work of CannonDesign, in collaboration with Marshall Moya Design.

The entire project is one of only two student unions in the U.S. to earn LEED Platinum.

The university has taken to calling the plaza its “front porch,” and it's easy to see why. It leads to a grand staircase, with steps sized for seating, that heads up to a new quadrangle and the rest of the campus, beyond. Its highlight is the undulating pattern of red and cream Boardwalk Pavers from Whitacre Greer. The dynamic patterning provides easy wayfinding to the student union's entrance, which could be helpful for those emerging from the Metro station nearby.



WELCOME IN

The student center is meant as a new front door to what some had seen as a tired urban campus. The variegated pattern of brick pavers creates a sense of movement that is very appropriate to this downtown location.



Whitacre Greer
Boardwalk Pavers
www.wgpaver.com
Circle 392

