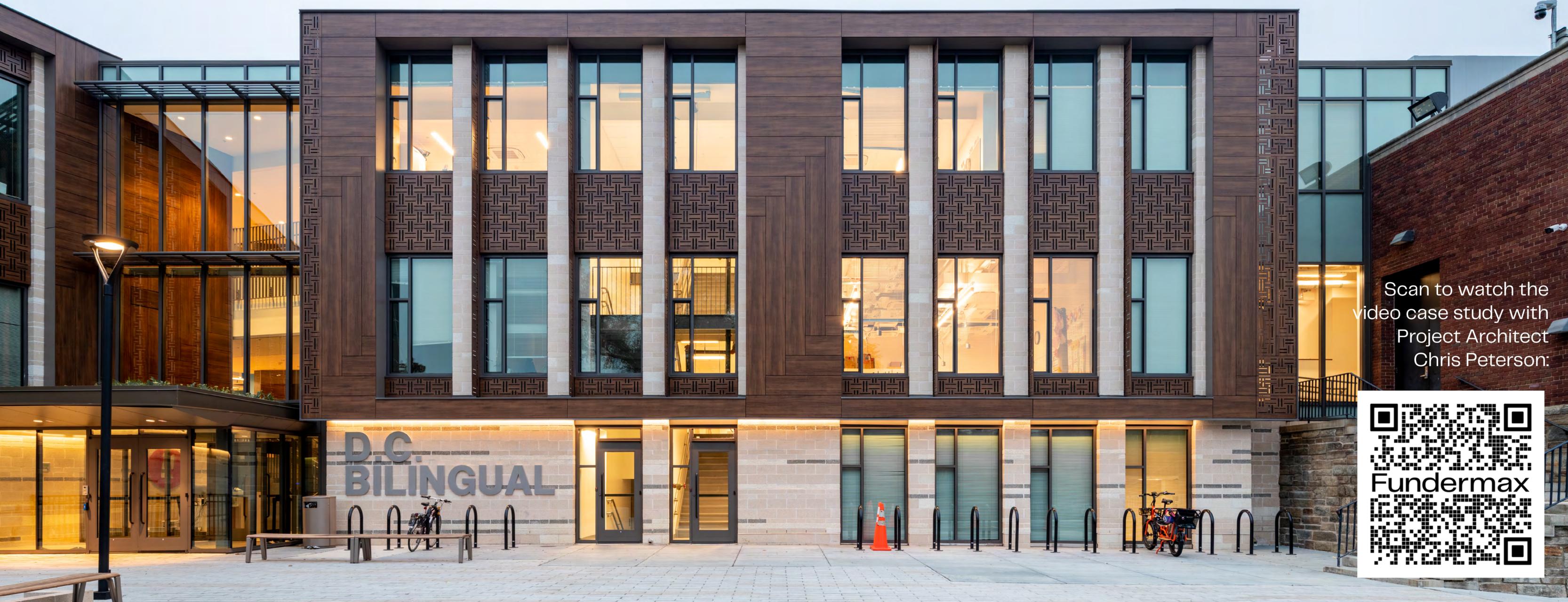


Rainscreen Facade Case Study: D.C. Bilingual + Hord Coplan Macht

: Fundermax



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video case study with
Project Architect
Chris Peterson:



The D.C. Bilingual Public Charter School building in Washington, D.C., is not just any education building – and this school project wasn't just any school project.

Marrying the existing historic building with new growth and the multicultural, bilingual immersion experience – all within serious space constraints – architects used Fundermax phenolic panels to create a fun, custom design to meet and exceed the needs of the growing school.



Situation



Chris Peterson, AIA, Project Architect from [Hord Coplan Macht](#), recalls the challenge of integrating the two worlds of being in Washington D.C. and having a bilingual immersion experience. Peterson and the HCM design team landed on three core concepts rooted in the school: Earth, Life, and Light. These concepts directed the project's material choices and how they used those materials.

EARTH relates to the school's campus, as DC Bilingual has a robust gardening and culinary program.

LIFE relates to the people and the life of the school itself. Therefore, the team wanted the building to have an exciting personality that spoke to the different cultures at the school.

LIGHT relates to the idea of the spirit of the place. Adding perforations to the Fundermax panels let light filter into the building in interesting ways. Additionally, most of the classrooms face east and west, which introduced the challenge of mitigating solar heat gain on the building's east- and west-facing sides. ([Vertical sun shading](#) proved an essential tool in Peterson's toolset!)



But while the school provided ample design inspiration, the location presented some significant challenges:

SITE SPACE USAGE CONSTRAINTS

Site space usage constraints included playgrounds, parking, drop-off zones, and sidewalks. The design team had to rotate the addition and push it as close to the property line as possible to allow space for those requirements.

“We needed to create not just a beautiful building and site, but a safe site and building to arrive at. So our design included not just the building but also the landscape,” says Peterson.

“We created a sidewalk around, connecting the existing building to the new building. That allowed us to have a designated pedestrian zone, which is great for drop-off, cars, and any bike riders arriving. There is a protected route now from the street all the way through the site to the front doors...It is a very safe, accessible experience now.”

HISTORIC PRESERVATION CONCERNS

“We had to respect the historic character of the existing school,” Peterson emphasizes. “To do that, we adjusted the building’s massing, placing it just a little bit away from the existing school.”

They also carefully considered the new building’s elevation, including the window groupings. “The windows – four windows in three groupings along the elevation – were also important to respect from a historical point of view,” recalls Peterson.

“But at the same time, we didn’t want to try to copy the existing building. We thought that would be somewhat inauthentic. So while we respected all of the proportions and the rhythm of the existing building, we did so in a different way of contrasting the materials of the building itself. So we did not duplicate, but we did respect the character of the existing school.”

Solution



The team chose Fundermax [Max Compact Exterior](#) phenolic panels for a few key reasons:

COLOR & TEXTURE

Nailing the new addition's contrast to the historic building was important: the addition needed to have its own character but not replicate or clash with the existing structure. Fundermax phenolic panels offered a similar tone range to the existing dark brick but in a very different texture. It was just the right amount of contrast.

PATTERN & PERFORATION

Not Inspired by historical Latin American textiles and weave patterns, the phenolic panel design incorporated a herringbone pattern, fins, and custom perforations. (Using perforated phenolic panels also allowed the team to mitigate excess solar heat gain while allowing sunlight to enter the building.)

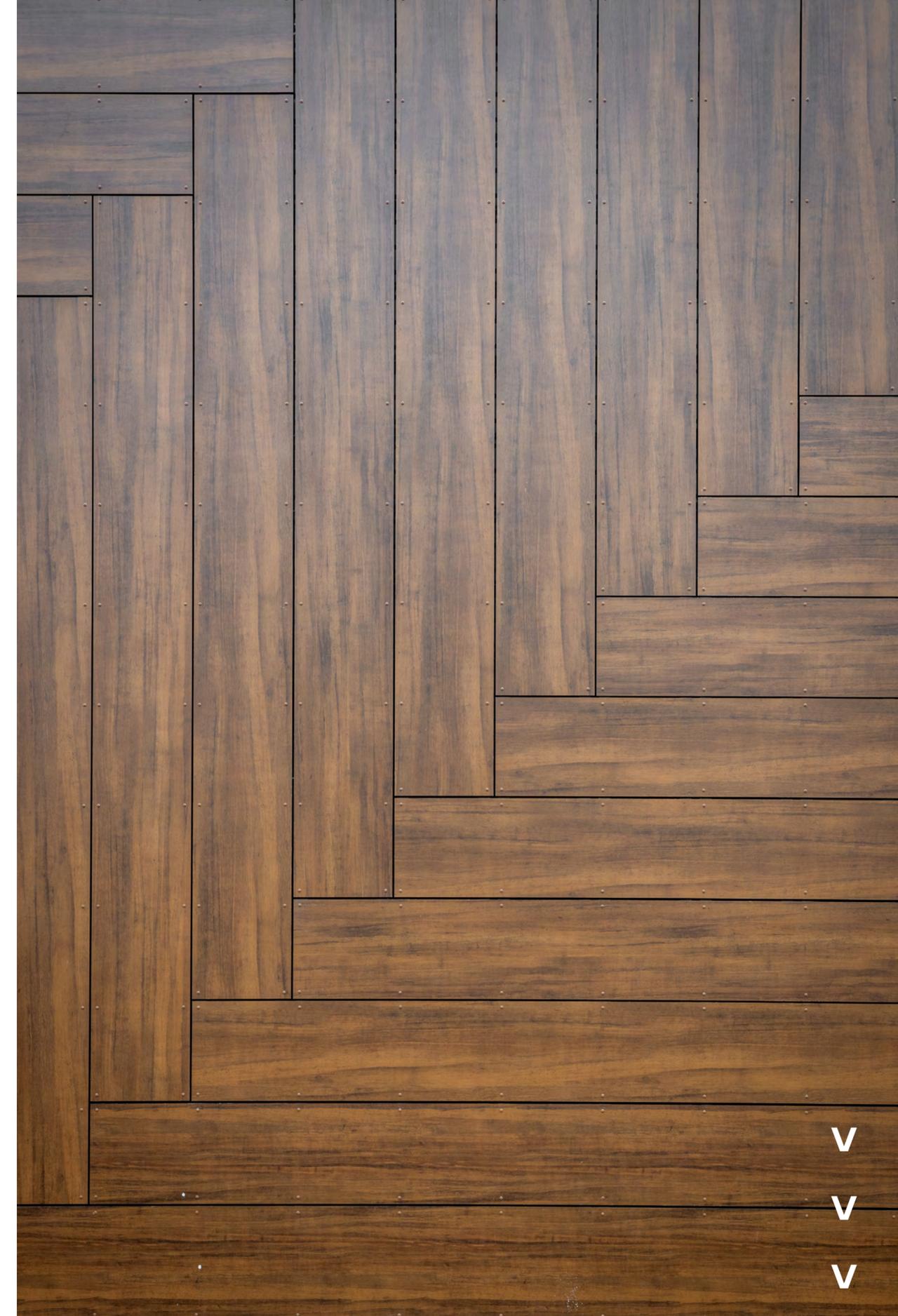


Solution

Additionally, the double-sided nature of the Fundermax panels allowed creative freedom to maximize the textile idea – extending the double-sided panels out past the building mimicked the look of a stretched fabric. It also allowed some sun shading on the south side of the building.

DURABILITY & IMPACT-RESISTANCE

Panel durability was also paramount. Not only is this an elementary school, but it is also located at a busy intersection in the city. This project is a high-traffic application in many ways. So, they needed durable, graffiti-resistant, and easy-to-clean panels. Since Fundermax phenolic panels are suitable for high-traffic areas and virtually maintenance-free, they were an obvious choice.



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Results



As design trends toward finding inspiration from a place's context and local nature, in this case, Peterson's inspiration came from the school.

The design freedom offered by Fundermax panels allowed Peterson's team to use the material in a way that developed the personality they were aiming for.

While impressed with Fundermax's array of solid colors and finishes, Peterson recalls, **"We were really inspired by the vast amount of woodgrains that Fundermax offers. And so we ordered sample after sample, trying to get it just right. And, thanks to our local reps, who allowed us to really fine-tune the nature of the building, we were able to achieve exactly what we wanted."**



Results

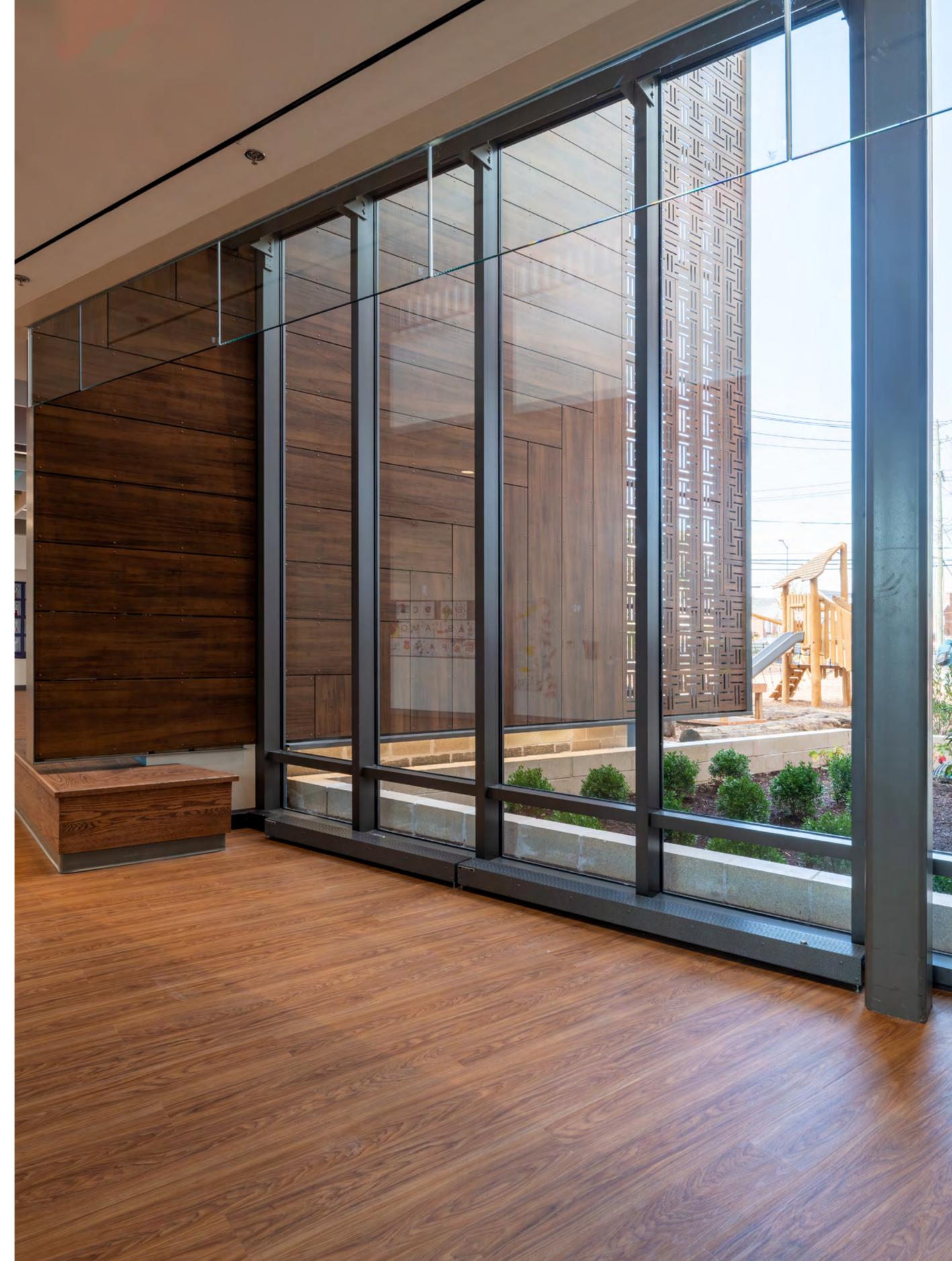
FLEXIBLE DESIGN

Peterson emphasizes the value of being able to work out design challenges. *“It can be tricky when architects want to bring an exterior material inside the building and have an inside-outside experience.”*

“For example, how do you get these materials to line up because you need that thermal break at the windows? But, we were able to because Fundermax has the flexibility to bring these panels inside the building and line up the herringbone pattern precisely. I also credit the contractor for achieving this.” says Peterson.

“The experience as you walk through the building is just so unique... You have this kind of nexus point inside the building where you feel like you are in an extension of the outdoors. It’s just a really beautiful place because of that.”

Peterson recalls, *“When we were trying to conceive of the design and thinking of the idea of textiles, we weren’t quite sure exactly how to achieve what we wanted. Discovering Fundermax allowed us to do and design in ways that we didn’t think of before.”*



Results

VERSATILE OPTIONS

The double-sided panels allowed the design to reveal both sides of the panel in certain elements, and the different panel thicknesses allowed them to create vertical sunshades on the building.

With the fins on the building, they were a bit worried about seeing the core of the panel facing outward. However, Peterson recalls, *“We were really pleased that the core of the panels is actually brown. And so, the woodgrain and the core of the panel matched very closely. That was a great surprise for us.”*

Additionally, the ability for Fundermax panels to have both hidden fastener and exposed fastener installations allowed the team different options from a cost standpoint. Peterson chose the exposed fastener installation for this project.

Adding to the list of pleasant surprises, he emphasizes, *“The color-matched fasteners really do blend in well with the panel itself. When we came out to the site, and the contractor built the mock-up wall, we were pleasantly surprised with how well the fasteners blended with the color of the panel.”*



Results

MATERIAL OPTIMIZATION

Peterson also emphasizes that on every project they design, a process of value engineering happens along the way. He acknowledges that navigating that process can be tricky.

However, when they worked with Fundermax panels, he says, *“We noted the size of the sheets that are available. So with an intricate pattern like the herringbone, you might think at first glance, ‘This is a custom size. There must have been some material wasted there.’ But we worked with the standard panel sizes.”*

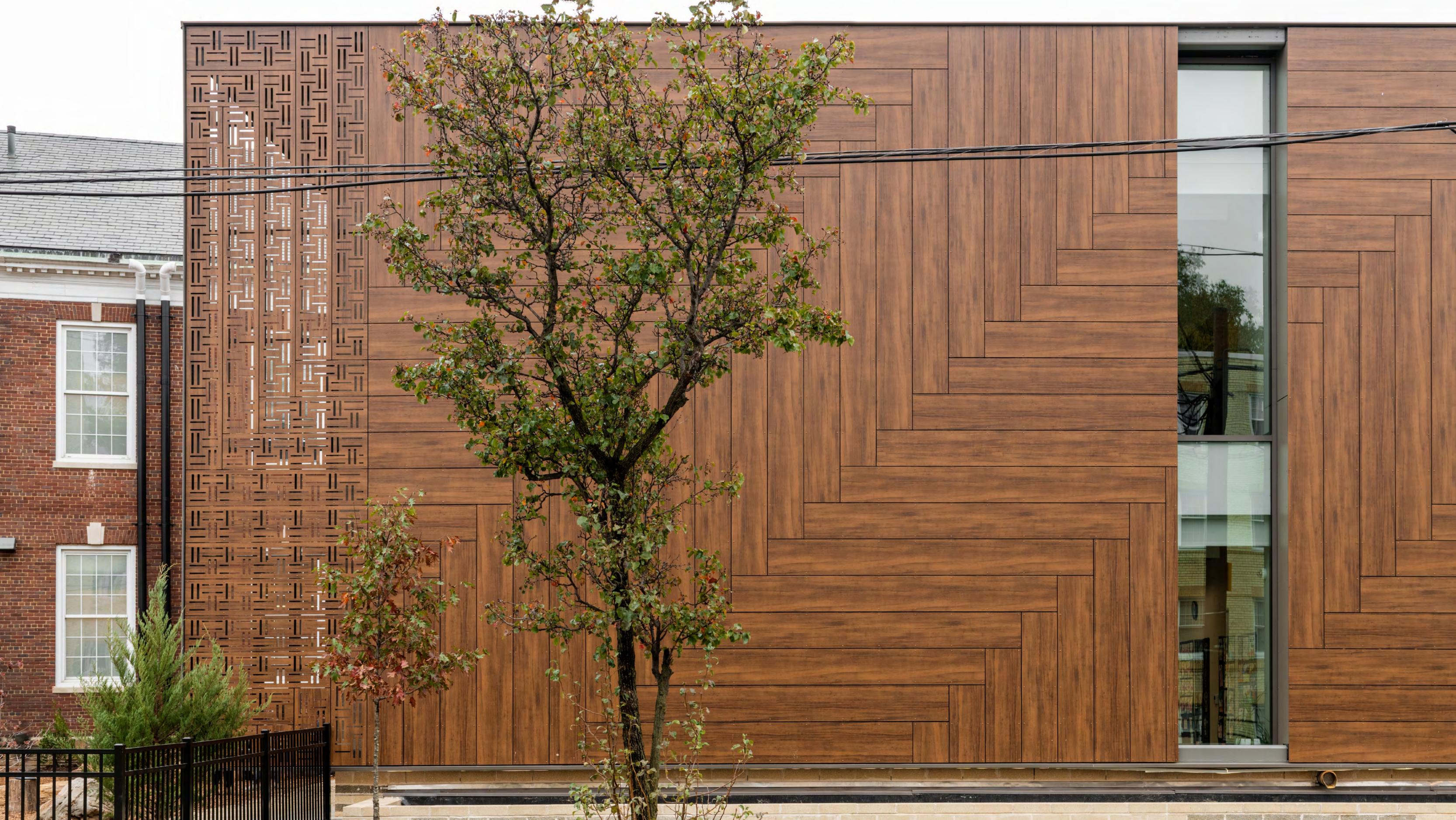
“The 16-inch width by 12 feet long herringbone panels allowed for economical usage, so there was very little waste. Sixteen inches is very standard spacing for most kinds of joists and sub-framing. That allowed an economical installation, not just from the panel point of view, but from the sub framing point of view as well.”



***“Discovering Fundermax
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D.C.
BILINGUAL



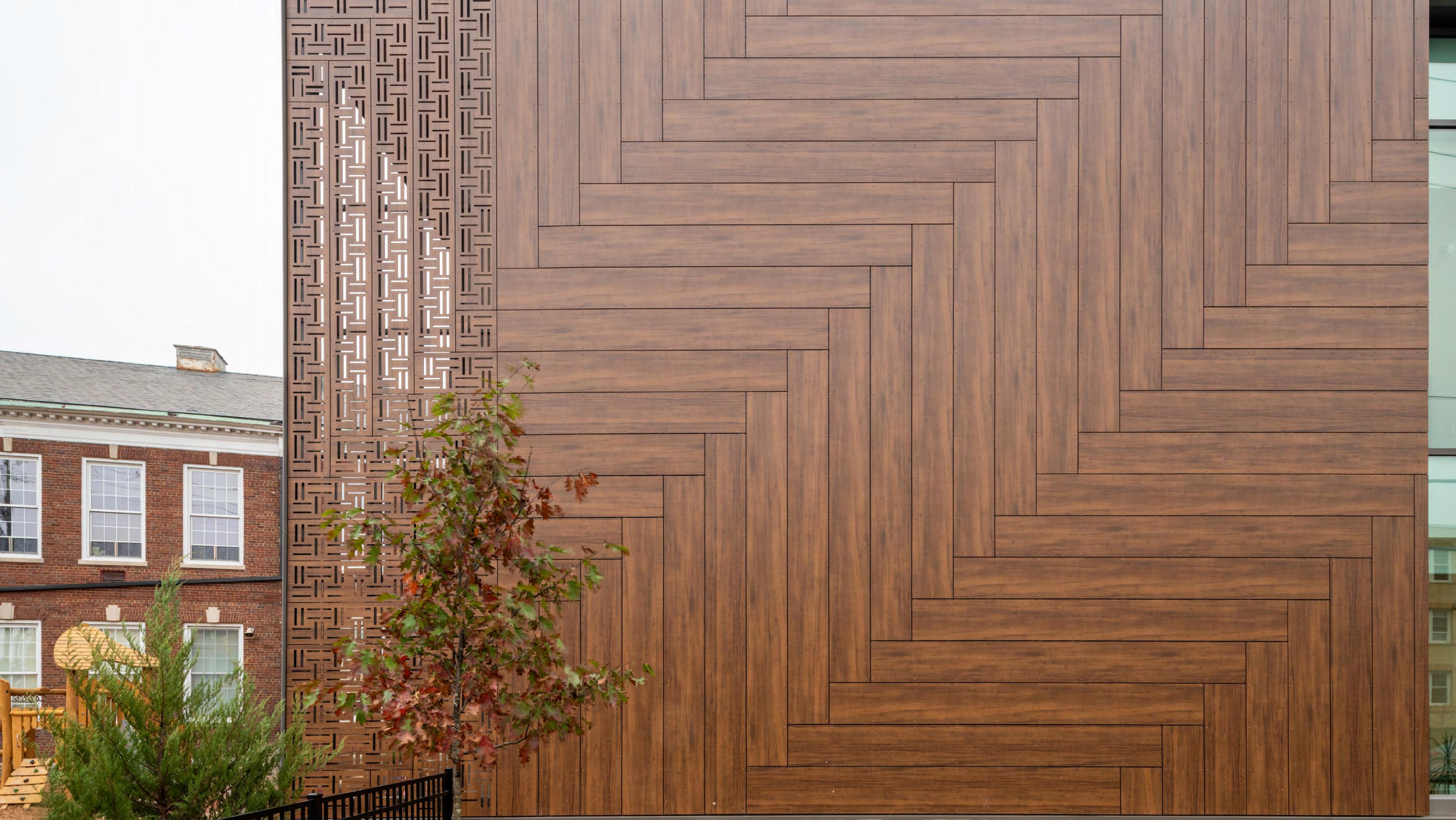
















D.G.
BILINGUAL



The Fundermax Difference

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Before this project, Peterson and the firm were new to Fundermax panels. However, Peterson says, “Now we’re bringing it up in a lot of projects... Fundermax regularly comes up in conversations now for an important design feature for our new buildings.”

When asked about the highlights of working with Fundermax exterior phenolic panels, he emphasized the following points.

SUSTAINABILITY

DC Bilingual is [LEED Gold certified](#), and Fundermax contributed to meeting LEED standards. “When seeking LEED Gold certification, certain material challenges come into play,” explains Peterson.

“For example, how do we satisfy the strong design we’re seeking and negotiate that with the very real and important issue of having a sustainable product at the end? Fundermax was able to satisfy both of those challenges with ease and was able to satisfy a lot of environmental concerns we had with the lifecycle analysis we ran. Regarding sustainability concerns, we didn’t have any with Fundermax.”

VERSATILITY

As for versatility, Peterson’s team appreciated that the Fundermax panels could be cut onsite for revisions. They also loved the different decor options and variety of Fundermax woodgrains and samples. Versatility also means that the panels paired well with other materials to fit the overall vision. Throughout the process, they appreciated the constant and fast communication with the Fundermax sales representatives, [PPSI](#).

DESIGN FLEXIBILITY

Peterson stresses that they could do almost anything they wanted with Fundermax’s product. For example, they have [different orientations](#), exterior panels brought to the interior, and [perforated designs](#) that can handle extreme temperatures and environments. Remember, this is a school and next to a busy street – this is the epitome of a high-traffic environment!



DURABILITY

With durability and low maintenance as top priorities, Fundermax panels deliver. Max Compact Exterior panels do not dent (unlike metal panels, for example, which can easily dent, requiring more maintenance).

Fundermax phenolic panels can also handle the wear and tear that comes with being a school with children, next to a busy street, with regularly harsh weather in Washington, D.C.

Add to that our industry-leading warranty, and the clients enjoyed much-deserved peace of mind.

SERVICE

On many other projects, Peterson had faced shipping and production delays and commonly received product substitutions. But, Fundermax came through. The panels were there on time, fabricated, completed, and shipped to the site – and the team completed the project on time with the product they had originally specified.

Fundermax was there for Peterson and his team the whole way through the process, along with the valuable and talented reps from Preservation Protection Systems, Inc.

Fundermax proudly collaborates to ensure your project's success when using Fundermax panels. From offering samples to including input from experienced reps and our technical director, we're with you the whole way.

Peterson recalls, "Our local reps were so responsive throughout the entire process. They were excited about the project, and we kept getting more excited the more they explained to us. Even through construction, Fundermax was very responsive to all of our questions. That really was a standout for us. And it's these relationships that keep us coming back to the product more and more... **We just keep being surprised by how many different ways you can use Fundermax.**"

“From architect to owner to contractor, it really seemed like a fantastic process from start to finish.”

– Chris Peterson, Project Architect

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PUBLIC CHARTER SCHOOL
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Scan to watch the
9-min video interview
with Project Architect
Chris Peterson:



Fundermax.us

(980) 299-0035

contactFNA@fundermax.biz

