Single Family Home Look Book

The year's best in wood design + construction.

Featuring designs from BLDUS, Salmela Architect, Lake | Flato, Johnsen Schmaling, Worrell Yeung, Moontower, and nARCHITECTS .



Natural human habitats.

The National Association of Home Builders reports that 94% of all new houses in the U.S. are framed with wood. But step into these seven single-family homes and you'll see that the possibilities for using the material goes way beyond studs and stringers. From coastal retreats to urban sanctuaries, each home highlights the role wood can play in creating inviting, sustainable, and timeless spaces. Explore how it can not only enhance a home's aesthetics, but also contribute to a sense of well-being and comfort for the people living inside. Come in and discover the good in wood.













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Swampy Hollow

Project Details

Project Name: Swampy Hollow

Location: East Hampton, NY

Architect: BLDUS

Lumber Products: Light-Frame Construction

Photo Credit: Michael Vahrenwald





How to Create an Extraordinary Screened Porch with Conventional Wood Framing

This BLDUS-designed outdoor living project offers spatial sophistication and structural simplicity.

In a sense, the Swampy Hollow addition to a 1990s builder-grade home in East Hampton, New York, is a simple project. "It's just a screen porch," says the architect, Andrew Linn. But the straightforward demeanor of the design belies its spatial, material, and technical sophistication.

The 250-square-foot porch creates something extraordinary using dimensional lumber. Designed by Washington, D.C.-based BLDUS, where Linn is a Principal, the project's name is derived from its site: The home is located in a hollow surrounded by trees on all sides. With this new, open-air addition, the client wanted to maintain visibility to the trees but did not want just a simple box. BLDUS's solution— a 20-foot-tall gabled volume that floats free of the house—uses simple 2×4 studs to support a steeply sloped roof and mimic the tall straight trunks of the existing pine trees around the home.





The project's distance from BLDUS' office played a role in the architect's decision to use standard light-frame wood construction. "We knew that we wouldn't be visiting this construction site very frequently, so the construction is relatively conventional," Linn says. "It's a project that someone who knows how to frame a house would be able to build." And the framing is remarkably straightforward: The exterior walls are built with clear cedar 2×4 studs that support 2×12 Douglas fir rafters. The roof is topped with lighter-weight cedar shingles that have long been the default roofing material in the area. Each material was selected for its durability and its ready availability in a post-pandemic world. "It's not that easy to source materials out there on the far eastern tip of Long Island," Linn says. "We wanted it to be easy to build using components that we knew we could get our hands on easily."

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Despite the porch's small size, it packs a considerable variety of spatial experiences. Immediately against the existing houseand accessible from its kitchen—is a flat-roofed space that shelters a dining table under a skylight just 8-1/2-feet above the deck. The primary gathering space is under the steep 14:12 gable and functions as a screened, outdoor living room; both a fan overhead and a ventless fireplace at its center render the porch a year-round space. Overhead, the gable's broad eaves don't just protect the porch's interior, but they also shelter cozy seating areas with built-in benches on the east side of the addition and a countertop workspace on the west. At night, integral LED lighting tucked behind the copper gutters provides an even, diffuse light to the porch's interior and exterior.

Swampy Hollow is a testament to the power of small spaces, thoughtful design, and a palette of all-wood materials to upgrade any home's outdoor living space. And BLDUS's innovative design solution-fitting for a firm that was recently named to Architectural Record's 2023 Design Vanguard shows that smart and practical design using standard materials can yield extraordinary results.







Feldmann Residence

Project Details

Project Name: Feldmann Residence

Location: Woodland, MN

Architect: Salmela Architect

Lumber Products: <u>Glulam</u> | Light-frame Construction | Appearance Wood

Photo Credit: Corey Gaffer





Minnesota home's dramatic second-story porch provides a sun-filled outdoor living escape.

To those who live in more temperate climates, the possibilities for outdoor lounge areas might seem constrained in Minnesota, given the short summers and long winters. But that's hardly true for natives of such cooler climes. Duluth-based architect David Salmela is known for crafting residences that place a premium on outdoor living; one of his latest is this two-story house west of Minneapolis, overlooking Lake Minnetonka.

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Chief among the home's exterior spaces is a south-facing screened porch that is dramatically cantilevered from the second floor.

Supported by three Douglas fir glulam beams, a cedar deck provides an additional 235-square feet of living space. Enclosing screens of naturally stained horizontal 2×2 cedar slats protect the space from the southern sun and provide the users a better protected, and more private, space. "It is an extremely dramatic place," Salmela says. The slats add sun control to the south, so it doesn't ever get overly hot. And because the slats are so close to each other, on a sunny day, the sun does not shine in directly.

The clients are a physicist and an ophthalmologist with two children who wanted a year-round residence. Salmela's fundamental idea was a pragmatic wood frame structure with consistent light in every room. "We intentionally try to keep our houses in a lesser dimension in width," Salmela says of the 20-foot-wide structure. "It's perfect in that it allows the light to come from the north and the south," he says, which is supplemented at the center of the building by east and the west light from the skylight. The sheltered porch provides additional daylit outdoor space.







"We wanted to make the building all out of wood, so the structure uses glulam beams to maximum efficiency," Salmela says. "It's an extremely functional place." The overhang of the porch exposes some of those beams underneath, they form the ceiling of a modern interpretation of a portico that directs visitors to the house's main door underneath. The black stucco that clads the home creates a contrast that magnifies the warmth of the exposed wood on the exterior.

Salmela reports that his client's two children have claimed that cantilevered, wood-enclosed space as their own when friends come to visit:

"It wasn't intended to be a sleeping porch," the architect says, but it has come to accommodate sleepovers during the warmer months of the year. For Salmela's part, he embraces the change in use: "We designed couches that can be made into beds," he says..



Take the Tour

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Project Name: North Fork Residence

Location: Little Hog Neck Peninsula, NY

Architect: Lake | Flato

Lumber Products: <u>CLT</u> | <u>Light-frame</u> Construction | Prefab

Photo Credit: Joe Fletcher







Casual and approachable, the North Fork Residence—designed by San Antoniobased Lake|Flato—leverages wood as a comfortable "old" material befitting a seasonal getaway. But beneath its rustic veneer is a technologically advanced structure and finish using innovative materials and prefab construction techniques. Long Island's North Fork is more agrarian than the better-known Hamptons communities on the nearby South Fork. "It has more farms and vineyards," designer Kelly Weckman says. In fact, the utilitarian wood barns that have served these areas for centuries provided inspiration for the home's design. "There's a tradition of wood construction, wood barns," Partner and Founder Ted Flato says. "They're ubiquitous and handsome in the landscape."





The clients are a Brooklyn-based couple and their small child. They suggested the notion of a camp, and the designers created the informal collection of buildings in this spirit. Two new structures were added to an existing carriage house on site, which itself was renovated as a three-bedroom guest house.

In its final form, the complex is composed of a linear main living barn, a utility barn and studio, and the small guest barn, all clad in dark-stained—nearly black cedar. The main living barn building appears to be a long skinny one-story volume, with living, dining, and kitchen spaces at one end and bedrooms at the other. But the bedroom end is actually two stories, with two bedrooms downstairs and a third bedroom on the main level. The primary bedroom is on the lower level and has sweeping views of the ravine and out to the bay. "We're very interested in new technologies to do things better and simpler," Flato says. One of these is prefabrication. "We thought if we built in a prefabricated manner offsite, we could get started before the permits were available," he says. Not only would this save time, but construction by Bensonwood in New Hampshire, where the structures were manufactured, is less expensive than on Long Island. The prefabricated pieces included the structural frame of columns and beams, as well as infill panels that arrived on site with plywood on both interior and exterior sides.

"[It] allowed us to do things that aren't traditional to barns," Flato says, noting that "barns are often more opaque than open." But the designers wanted to create a structure that could change with the seasons. "The main living barn wanted to be a tight buttoned-up cabin in the winter and an open pavilion in the summer," he says. To accommodate this approach, "we used CLT roof panels that allowed us to not have a ridge beam," Weckman says. The prefabricated frame allowed for floor-to-ceiling windows and doors—which could be ordered ahead of the structures' arrival thanks to the tight tolerances of the offsite construction—which create an interior that can change with the seasons, as desired.

Wood dominates throughout, with species selection based on what works for each application. The structure is Douglas fir. "Cedar weathers well, so that's what we used on the outside," Flato says. And inside, as a counterpoint to the dark-stained exterior, whitewashed pine surfaces reflect the light. "We wanted this informal cabin quality, so we used pine because we liked that simplicity and informality," he says. In the same spirit, a reclaimed heart pine was used for the floors.

"The darker exterior was a response to wanting to reduce the building to shadow and just let it sit in that forested landscape," Weckman says. "Then the interior wants to feel brighter because it's bringing in light and bouncing light in all the spaces inside." The millwork is a darker stained wood that contrasts with the light whitewashed pine. "It reinforces the idea that the shell is one whole thing and then there are parts and pieces within it," Weckman says.

The prefabricated approach made that goal easier to achieve, helping to create a well-crafted structure on a timeline better suited to the client's needs.



Take the Tour

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Project Name: Flex House

Location: Sacramento, CA

Architect: Johnsen Schmaling

Lumber Products: Light Frame Construction

Photo Credit: Johnsen Schmaling Architects

Johnsen Schmaling Reimagines the Wood Deck for Urban Outdoor Living

An extensive top-floor wood deck tops a new three-story mixed-use residential structure in Sacramento, California, designed by Wisconsin-based architects Johnsen Schmaling.

















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Dubbed the Flex House by the architects, the 3,000-square-foot, threestory-tall building accommodates the client's young family of four in a duplex unit that occupies the second and third floors. A flexible unit on the ground level can be configured for commercial, office, or residential use as the family's needs change.

Running almost the full length of the building, the third-floor deck creates an exterior space that expands and parallels the interior living spaces of the duplex unit within. Sweeping views of the neighborhood are framed by tall openings carved from a thick wall of vertical Alaskan yellow cedar siding.

"We use that species because it doesn't have the reddish [hue] of more conventional cedar," founding principal Sebastian Schmaling says. "It's a slightly yellow tint and we whitewash it to reduce the color effect and get a more neutral color spectrum."



The building's structure is built predominantly of light-frame wood, supplemented by steel for long spans and moment connections. The wood façade, which wraps portions of the top two stories, is framed by 2×10 studs and furred with another row of 2x10s to create a wall that is over 20 inches deep. The openings in the wall are tall and slender to mimic the vertical siding and are chamfered to accentuate the depth of the assembly. "It uses wood, but the language is borrowed from the tectonics of masonry," Schmaling says. "This looks almost like a fortress."

The building's site was an empty lot on the border between Sacramento's historic Boulevard Park neighborhood and a more commercial district, and the face that the building presents to the world is influenced by these two competing contextual forces. The wood siding that indicates the family's primary living spaces on the upper floors, including the upper-level deck, contrasts sharply with the black-oxide steel panels that clad the base and the service portion of the structure.

And the building's flex concept has already passed its first test. The client is a local developer who previously worked with Johnsen Schmaling on several multifamily residential projects in the area. "The pandemic hit right when the building was finished, so she was able to use that flex unit on the ground floor for her own business," Schmaling says. It's now being rented as an apartment.



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Project Name: North Salem Farm

Location: North Salem, NY

Architect: Worrell Yeung

Lumber Products: Light-Frame Construction

Photo Credit: Naho Kubota

Worrell Yeung's North Salem Farm Honors the Archetypal Wood-Clad Barn

When a couple of empty nesters from New York City acquired a property north of town, they turned to Brooklyn-based Worrell Yeung to help transform the old farm into a weekend retreat.







The design team originally anticipated a modest renovation of the existing 19th-century structure, but upon closer inspection, the project got more complex: "We got in there and started realizing a lot of the existing walls and structure were not salvageable," partner Max Worrell says.

And while the existing structure had some memorable qualities that the clients were sad to see go, its location on the site is what proved key to realizing the new project. Zoning requirements did not allow for a new house to be built on this part of the site, but by designing a "renovation," the architects could reuse parts of the foundation and place the structure on the ideal spot near the middle of the site, where it would be set back from the road and face the best views to the south. "We ended up bringing [the existing structure] down to the foundation and rebuilding on the footprint, then adding on the garage and painting studio and completing that ensemble," Worrell says.

Worrell Yeung conceived the two-story 5,185-squarefoot house and two new outbuildings, collectively dubbed North Salem Farm, as essays in wood construction and articulation. Inspired by barn structures that weather with time, the architects finished the exterior of the new house and garage/ studio in vertical cypress siding in a custom dark green stain. "It's a nod to the board-and-batten construction of barn structures in the area and also barn construction historically," partner Jejon Yeung says.

The house is organized around a dramatic central space that spans the structure's 26-foot width. The gabled roof, which reaches 19 feet tall at the ridge, is built from 4×14 Douglas fir rafters topped by Douglas fir plywood sheathing. Steel tie rods complete the minimalist exposed structure. A freestanding Douglas fir wood object at the core of the living room organizes the space and hides an entry closet, bench, and bar from view. Dark stained 1×1 wood batten walls bookend the space, with a fireplace and bookcase wall at the east and the kitchen and sleeping spaces at the west. The kitchen is organized around a zinc-clad island that is surrounded by Douglas fir cabinetry.

The garage/studio is sited to the northeast of the main house. The client, a photographer, uses the building as her studio, but it's been designed to function as a guest house when needed. Douglas fir predominates this interior as well, but Worrell Yeung kept it a bit rougher than the house, using marine grade plywood as the primary material for walls and floors.

A third structure, to the east of the main house, is clad in a lighter hued cypress and is much smaller than the other two. It contains a spa under a simple shed roof.

North Salem Farm is a compelling mix of old and new, simple and complex. Worrell and Yeung's contemporary ensemble filters the archetypal wood barn through more than a century of modern minimalism to complete a thoroughly timeless dwelling.

Step Inside

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Project Name: Cross Cabin

Location: Austin, TX

Architect: Moontower

Lumber Products: CLT

Photo Credit: Casey Woods Photography

Carbon-Negative Home Goes All-Natural With Mass Timber and Renewable Materials

When Greg Esparza, Austin-based architect and cofounder of design-build firm Moontower, decided to build a toxin-free, natural demonstration home, he turned to cross-laminated timber (CLT) and other organic materials in place of concrete, conventional wall assemblies, plastics, insulations, or drywall. The result is an energy-efficient, 1,000 square-foot, two-bed, two-bath home that not only wraps occupants in wooden warmth, but is also carbon-negative, avoiding 19,000+ kilograms of carbon emissions.

That's the philosophy behind Cross Cabin, the experimental demonstration home constructed entirely of cross-laminated timber (CLT). Its roof is insulated with hemp and wood fiber, and its exterior is clad in a thermally modified cork. The project is built on a concrete-free steel foundation and uses no paint, drywall, foam, or fiberglass insulation—essentially eliminating most artificial materials and plastics.

Esparza worked closely with his structural engineer Apex to maximize the efficiency of the CLT, using five-ply CLT floor panels and three-ply CLT roof panels that span eighteen feet. Built on top of a steel wide flange and helical pile foundation, the structural design accommodates cantilevering roof and floor panels.

"I wanted to build a home that was bold in its design while putting climate and carbon first," Esparza says. "It's about reducing non-renewable, mineral-intensive materials and simplifying what goes into the dwelling. In this case, the CLT is doing much of the heavy lifting acting as the structure, including the framing, wallboard, flooring, and serving as part of the insulation. The cork cladding acts like a protective bark—much like that of a tree."

Esparza crunched the net project emissions using the BEAM estimator and, when factoring in the home's timber and plant-based carbon storage benefits, the project went beyond carbon neutral. By his calculations, the project achieves a carbon footprint of negative 19,592 kg of CO2 as compared to a positive 27,369 kg of carbon equivalent emissions for a typical slab-on-grade approach for a similarly sized structure that uses spray foam insulation, fiber cement siding, and drywall. The modest but welcoming home features exposed timber throughout, and the spruce and Douglas-fir slabs are treated with nothing more than linseed oil. Inspired by Scandinavian and Japanese residential design, Esparza's two-story open floor plan design feels like a biophilic tree house for adults.

"What the pictures of this home can't fully convey is the positive impact of the exposed timber," he says. "In this space, the first thing everyone notices is the incredible smell of the wood; it's really something special. Everywhere you turn, it's at your fingertips. It feels good to touch—way different from conventional drywall."

Upon entering the main north-facing entry, occupants are greeted by a double-height open-air kitchen and living space. A west-facing built-in daybed/picture window bed makes clever use of the CLT slabs. The primary bedroom on the first floor faces north and gets indirect natural light through floor-toceiling windows. Kitchen and dining table countertops, made of laminated recycled paper, punctuate the otherwise all-wood interiors with a punch of black. A bedroom on the second floor is adjacent to a loft den overlooking the double-height living space below. A skylight draws in ample sunlight, eliminating the need for artificial lighting during the day. Discrete builtins blend with the CLT panels, reducing the need for free-standing furniture. Additionally, the expansive CLT roof shelters a generous back porch conducive to yearround outdoor living.

"Along with the comforting smell of wood, the ample use of timber combined with the natural light it's nothing like what you're used to," Esparza says. "The light bounces off the wood in a way that changes the whole vibe of the home. It's just a more natural, comforting place to be." Doing more with less, and keeping the footprint modest, lends to the home's relatively affordable price tag—total construction and installation costs were just under \$430,000. And with much of the home prefabricated and fitting together like Legos, the residence has become a replicable prototype for future projects.

To help make this a reality, in addition to his primary design-build firm, Esparza has founded Cross Cabin Build and Supply. The company serves as a distributor of many of the products he used to build the house and looks to develop prototypes that may eventually be built as a kit of parts.

"We're working on three more prototype projects, taking inspiration from this first one—and taking lessons from nature itself," Esparza says. "My next step is to put solar on the house, so while the interior and exterior look like a tree, the roof can start working like a leaf. Then we can tell our friends we really live in a tree house."

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Project Name: House Between Forest and Field

Location: Stanfordville, NY

Architect: <u>nARCHITECTS</u>

Lumber Products: Light-Frame Construction

Photo Credit: Michael Moran

Cedar-Clad Home Embraces Its Forest Surroundings

Named for its location on the edge of a forested area overlooking a sloped, open field, the design for the House Between Forest and Field from nARCHITECTS partners Eric Bunge and Mimi Hoang takes cues from the land on either side.

"We like this idea that it has a bit of both worlds," Bunge says. "The forest itself can offer a sort of spatial framework or idea about how one lives inside the house."

Located on the high end of a 13-acre rural tract about 75 miles north of New York City—where nARCHITECTS is based the entire house is configured as a simple gabled form clad in a rain screen of quarter-sawn western red cedar that's an abstraction of Dutchess County's agricultural vernacular with a hint of McKim Mead & White's iconic shingle-style William G. Low House of 1887 in the mix. The house's narrow width—which clocks in at just 27 feet—creates direct connections between every interior space and the landscape.

Individual spaces like bedrooms that require privacy are discrete, but the more public spaces are fluid and interconnected. The entry is on the north side of the house at a mid-level between the first and second floors. On the first floor, four modest bedrooms face south; the second accommodates the kitchen, dining, and living rooms as well as a covered porch. A small third floor, tucked under the roof, holds an office.

Wood dominates the interior finishes, from the floors to the "cores" that conceal various uses—storage, kitchen counter and appliances, stair, powder room, library, and fan coils. "It's a metaphor of the forest that drove material choices," Bunge says. "You walk on the forest floor and you have the trunk of the tree."

But these cores do more than just hide clutter: they are also part of an innovative wood structural frame. "It's a very different kind of framing system that we developed with [structural engineer] Silman," Bunge says. The cores are built with light-frame construction clad in plywood. Eschewing gypsum partitions in most locations, the architects use these cores to spatially demark the main living spaces, allowing space to flow freely throughout the main level.

The covered porch at the east end, immediately adjacent to the living room, functions as the heart of the home. The clients use the protected outdoor space in all seasons and weather. The designers continue the exterior's horizontal cedar siding around the porch, but use it as a screen that creates a sense of enclosure while allowing views in and out. "We wanted the wood to be the dominant feature, but we didn't use wood as a structure," Bunge says. To support the exterior screen as well as the roof above, the architects utilized one-inch square steel bar stock placed every two feet around all three sides. "Using steel elevates the experience of the wood, so you have a very delicate structure—diaphanous and with no heavy corners," Bunge says.

Starting with their Young Architects Program competitionwinning canopy for MoMA in 2004 and continuing with their Jones Beach Energy & Nature Center of 2020, Bunge and Hoang have looked to renewable materials like wood as an integral part of their architectural practice. "There's a lineage of experimentation of wood that we're interested in continuing," Bunge says. Based on the House Between Forest and Field, this line of inquiry isn't stopping anytime soon.

Take the Tour

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