CELEBRATING EXCELLENCE IN WOOD ARCHITECTURE

2016-17 WOOD DESIGN AWARD WINNERS

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2016-17 WOOD DESIGN AWARD WINNERS

Canadian Wood Council
Conseil canadien du bois

Canadian Wood Council
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Celebrating Excellence in Wood Architecture
2016-17 Wood Design Award Winners

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The publishing team would like to thank all the individuals who contributed to the book including: Mitchell Brown, Patrick Crabbe, Émilie Dessureault, Houman Hadidi, Sarah Hicks, Crystal Himes, Ioana Lazea, Maureen McLaughlin, Natalie Tarini, and Roxane Ward.

Printing: Friesens

National Library of Canada Cataloguing in Publication Data

ISSN 1708-5233 The Wood Design Awards
ISBN 978-0-9916862-9-2

1. Building, Wooden-Canada.
2. Building, Wooden-United States.
3. Architecture-Awards-Canada.
4. Architecture-Awards-United States.
5. Architecture-Canada-21st century.
6. Architecture-United States-21st century.
I. Canadian Wood Council

Cover: Audain Art Museum by Patkau Architects

Photo: James Dow

Wood architecture and design revolution driven by

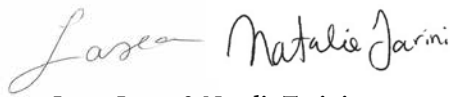
PASSION

The Wood Design & Building Awards is a unique program that recognizes and celebrates designers and builders that are passionate about promoting a wood culture in construction. The inspiring submissions from our 2016 program highlight wood's excellence through diversity of application, structural sophistication, and sustainable attributes. "Wood has a longstanding and passionate history with architecture. The wood projects featured in our awards book should serve as inspiration to revolutionize the way the building community designs and construct structures," explains Etienne Lalonde, Vice-President of Market Development for the Canadian Wood Council.

As wood science technologies advance, so too must the appreciation of wood's capabilities within the built environment. Our awards program provides a platform for celebrating design teams that challenge the traditional applications of wood in construction. The Wood Design & Building Awards program encourages architects, engineers and designers to push the envelope of conventional thinking about wood construction and challenges them to expand this discussion so that wood is positioned as the driving force behind a systematic change for the building industry – one with environmental and economic benefits.

We are excited to share with you the featured winners from our program in our award-winning *Celebrating Excellence in Wood Architecture* awards book. It is our hope that these projects will encourage you to consider wood for your next project. A special thank you to all the firms and individuals who submitted projects and to this year's sponsors for their ongoing support – Sustainable Forestry Initiative, Real Cedar and Sansin.

Etienne Lalonde
Publisher
Wood Design & Building



Ioana Lazea & Natalie Tarini
Coordinators
Wood Design & Building Awards

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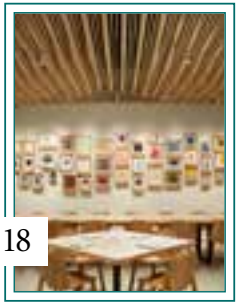

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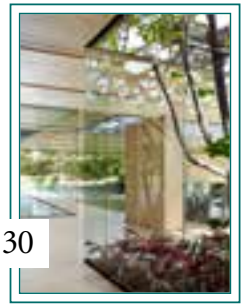

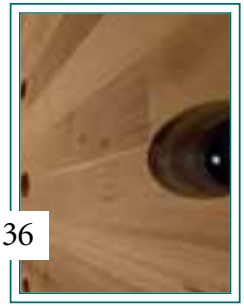

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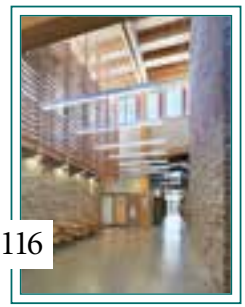

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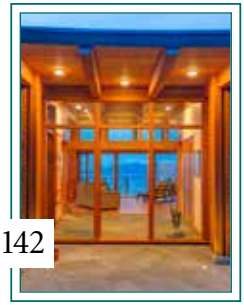

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Solana

Tsawwassen Mills

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CANADIAN WOOD *WORKS!* AWARDS

2016 ONTARIO

2016 ONTARIO

2016 QUEBEC

2016 QUEBEC

Arthabaska Discovery and Visitors Centre

Montmagny Library

Industrial Waste Technology Center

Trois-Sœurs Pedestrian Bridge

2016 QUEBEC

Le Bonnallie Visitors Centre, Mont-Orford National Park

Montmagny Courthouse

Student Center, École de Technologie Supérieure (ÉTS)

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2016 QUEBEC

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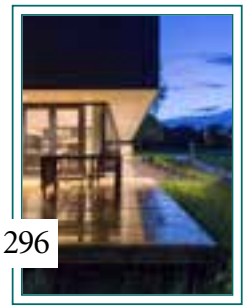

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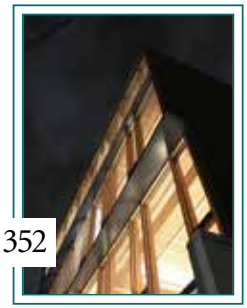

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Hay Barn

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2017 UNITED STATES

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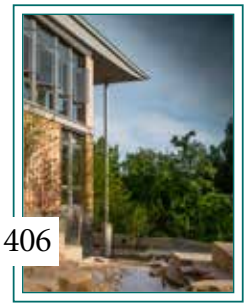

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SANSIN®

Wood Design & Building Awards Program

Celebrating Excellence in Wood Design

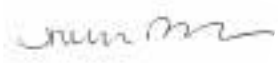
When we announced the award recipients for our 2016 Wood Design Awards program in January, the announcement was picked up by various architectural media from around the world. This obviously speaks to the quality of the program and the award recipients, but it's also great international exposure. Certainly, international entrants have steadily increased since we began separating them from the North American entrants and awarding them two years ago.

All of the submissions remind us of the possibilities for broader applications of wood in construction and echo the common theme of pushing the boundaries of what is considered excellence in architecture and design. And though North America will remain our pride and focus, there are always benefits to looking beyond one's own borders.

Judge Patricia Patkau, Principal at Patkau Architects, says she was struck by "a significant contingent of very impressive projects" in the international grouping. "A number of them made me think that I have to step it up, and I like projects that do that. The outstanding international projects tell me that culture matters. If you have a culture that supports innovation it will also support the exceptional. The international projects challenged me personally."

Brian Court, Partner at The Miller Hull Partnership said, "It's inspiring that people are getting the message about using wood and the number of innovative projects we looked at will push me forward, push us forward, and push the profession forward."

Many new opportunities and new ways of using wood exist, including taking wood buildings taller. No matter where the inspiration comes from, each professional's success can propel the entire industry forward and that is something we can all celebrate.



Theresa Rogers
Editor
Wood Design & Building Magazine

HONOR AWARDS

Reclaimed ash and cottonwood showcase the artistry on display in this museum cafe

North America

In Situ

Aidlin Darling Design

"A delicate and rigorous use of wood where the ceiling changes in relation to the type of occupancy below, giving it a spatial rationalization. That's quite a beautiful idea."

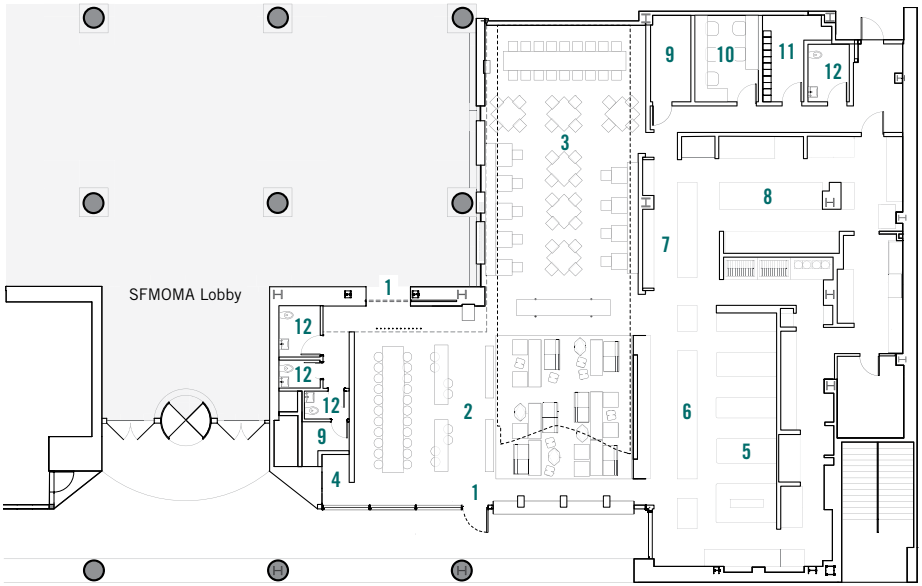
– Jury

Located in the heart of San Francisco's cultural district, In Situ occupies and expands the space previously inhabited by the street-front café of the Mario Botta-designed wing of the San Francisco Museum of Modern Art. As a unique and separate part of the museum's spacious expansion, this new, full-service restaurant is accessible both through the existing museum atrium and directly from the street.

Within the raw cavity of the building excavated for the dining room space, carefully choreographed placement of white art walls, blackened steel apertures and dark felt wall panels calibrate the zones of visual and physical passage between the street, atrium and restaurant. This neutral "liner" creates a backdrop for discreetly placed "artifacts" within the space that engage the guest's physical, sensory and spatial experience.

Very early in the process, the design team chose to explore the manifestation of these "artifacts" within wood's unique possibilities, a material that could provide an essential layer of warmth and intimacy inside the space. Beginning in the streetfront lounge area, the team envisioned a field of floating tabletop surfaces as the starting point of a progression from rough to refined, as a flow of standing-height tables made from salvaged cottonwood transitions down to crisp, rectangular sitting-height cottonwood lounge tables (a parallel of the informal to formal flow of the lounge space to the dining room space beyond).

In the dining room, solid ash tables are further refined with a translucent white top stain that evokes a tablecloth covering, allowing the subtle character of the wood to telegraph through. The final communal table anchoring the dining room lifts this veil of the white stain, presenting the highly figured rectangular slabs of ash to full view.

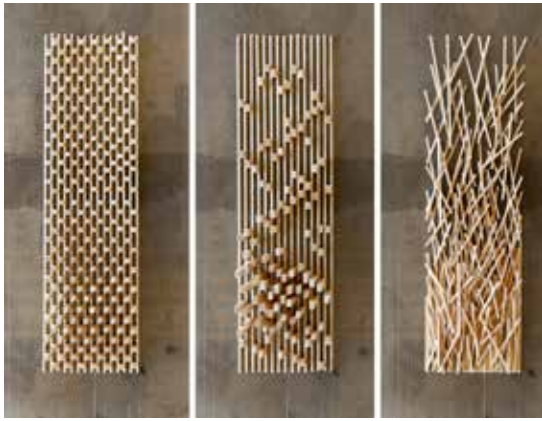


1. entrance
2. lounge seating
3. dining
4. library
5. cook line
6. bar
7. waiter station
8. prep kitchen
9. cook line
10. office
11. lockers
12. restrooms

FLOOR PLAN

A sculptural wooden ceiling canopy was designed as an expressive spatial element to create both a linear gesture to and from the street, while also providing an intimately scaled dining room area within the larger shell of the restaurant. HVAC, lighting and safety elements were integrated into and through the primary slatwork of thinly sliced sugar pine boards, while multiple series of thicker sugar pine sections swell out, responding to the seating areas below. The ceiling wood was pre-coated in a clear fire retardant sealer prior to assembly within the space, allowing for for the full thickness of the lumber to be used as a ceiling element within a restaurant space.

All wood was reclaimed from windfall lumber, urban tree removal lumber or other various sustainable sources. Evan Shively of Arborica was an essential collaborator in the sourcing, selection and preparation of each of the reclaimed wood species required for each artifact's task and fabrication requirements.



CLIENT
San Francisco Museum of Modern Art
San Francisco, CA

ARCHITECT
Aidlin Darling Design
San Francisco, CA

STRUCTURAL ENGINEER
GFDS Engineers
San Francisco, CA

GENERAL CONTRACTOR
Plant Construction
San Francisco, CA

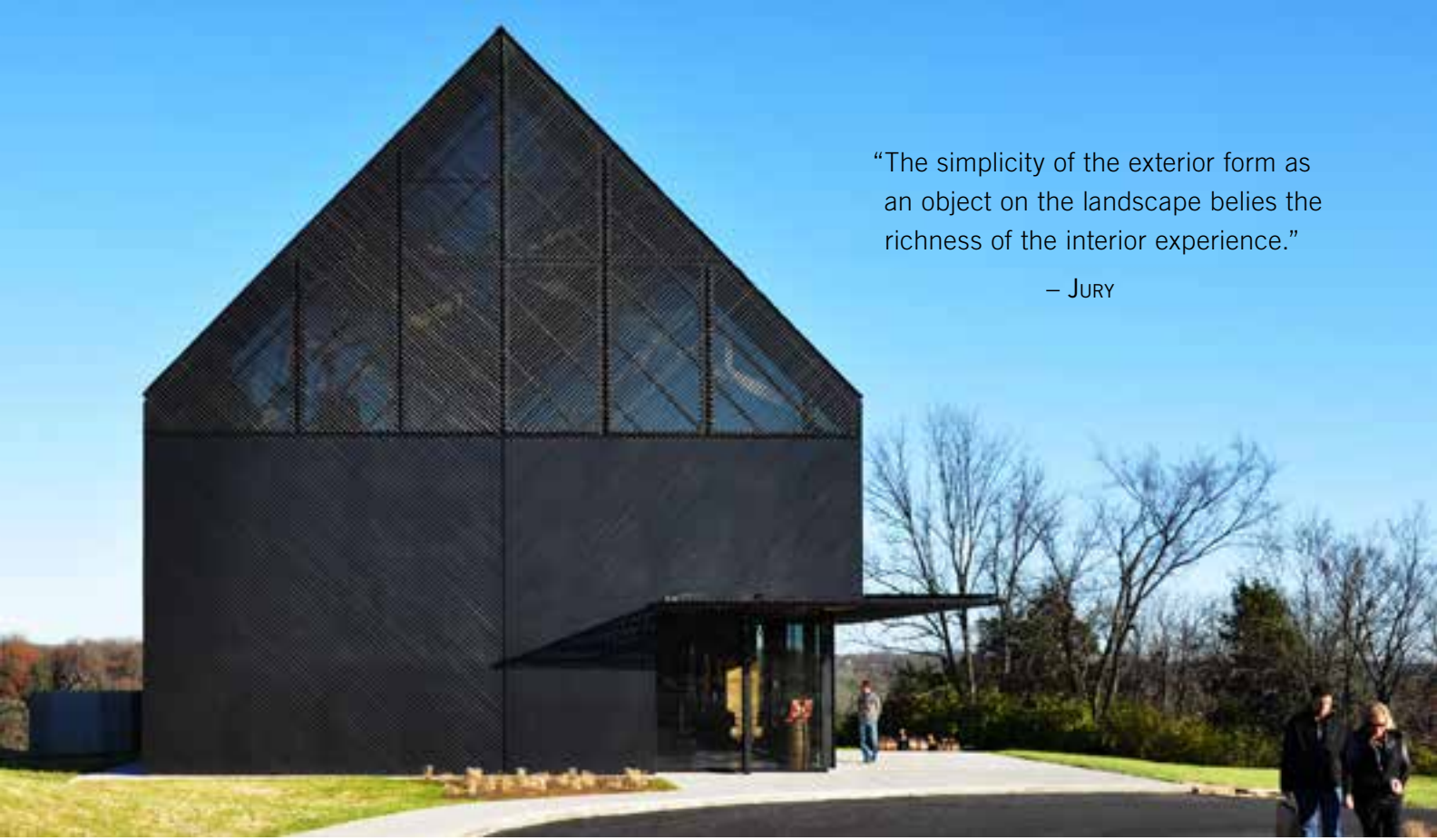
TIMBER SUPPLIER
Arborica
West Marin, CA

PHOTOGRAPHY
Aidlin Darling Design
San Francisco, CA

Alanna Hale
San Francisco, CA

Matthew Millman
San Francisco, CA


EXIT



"The simplicity of the exterior form as an object on the landscape belies the richness of the interior experience."

– Jury

Rebranding effort provides perfect opportunity for famous distillery to bring tradition and innovation together

North America

Wild Turkey Distillery Complex Visitor Center

De Leon & Primmer Architecture Workshop

Located on a bluff overlooking the Kentucky River, the Visitor Center is the newest component of recent additions and expansions to the Wild Turkey Distillery Complex, one of seven original member distilleries of the Kentucky Bourbon Trail. The 9,140-sq. ft. facility houses interactive exhibits, event venues, gift shop, tasting room and ancillary support spaces.

In concert with a major rebranding program under new ownership, the project specifically focuses on exploring possibilities for reinforcing the new direction in product rebranding and marketing efforts, providing an interactive visitor experience that capitalizes on the dramatic landscape, and references the specificity of place and context through regional building traditions.

A key component of re-envisioning the Wild Turkey brand is the need to appeal to its two primary target demographics: the longtime devoted fan that has had a long history with its core products, and the growing legion of new bourbon enthusiasts who are only now beginning to discover its premium range of small-batch spirits. Within this context, the design approach draws on the concept of duality, bridging tradition and innovation through elements that are deliberately both familiar and new.

Utilizing a simple barn silhouette (an interpretation of Kentucky tobacco barns common to the area), the building presents a clear and recognizable marker at the scale of the landscape. Clad in a custom chevron pattern of stained cypress siding, the simplicity of the barn form is contrasted by the intricacy of the building skin at closer range, creating a shifting sense of scale and tactility that is deliberately both simple and complex. Alternating areas of light-filtering lattice blur the boundaries between inside/out and light/dark. By night, the solidity of the dark structure transforms into a delicate, glowing lantern of filigree perched above the river.

Public circulation and movement is an important component used to prolong and amplify the visitor experience, and it begins with a descending approach road that gradually reveals the visitor center building. Internally, the building is organized along a ramped, split-level public promenade that culminates in an elevated tasting room overlooking the Kentucky River (the bourbon's base water source). Referencing the nearby bridges spanning the river, a Douglas fir trestle element provides a physical spine from which the various programmatic elements are reached.

The project employs forms, materials and patterns that are common to the region and to the bourbon-making process, but are expressed in unexpected ways. While the building evokes a traditional wooden tobacco barn with its black pitch coating, the proportions (particularly the roof outline) are exaggerated and relate more to the monumental scale of the nearby bourbon-aging rickhouses. Typical vertical barn plank siding has been reinterpreted into a chevron "plumage", a nod to the brand's iconic mascot. The dark exterior stain also offsets a maintenance issue peculiar to bourbon-producing regions: it minimizes the need to clean off a non-toxic black fungus (which feeds on evaporating bourbon distillates) that gradually darkens building exteriors.

CLIENT
Gruppo Campari
Milan, Italy

ARCHITECT
De Leon & Primmer Architecture Workshop
Louisville, KY

STRUCTURAL ENGINEER
Stanley B. Lindsey & Associates Ltd.
Louisville, KY

GENERAL CONTRACTOR
Lichtefeld Inc.
Louisville, KY

PHOTOGRAPHY
Roberto de Leon
Louisville, KY

Artfully designed house establishes an uninterrupted “inside-outside” relationship with the surrounding Costa Rican landscape

International

INOUT House

PAAS Architecture + mkbstudio

"This residence is delicately and elegantly resolved. It is a wonderfully diaphanous space where the interior and exterior are folded together in really beautiful ways. It would be magical to live in this house."

– Jury

This house establishes an uninterrupted "inside-outside" relationship by means of a sequence of layers between the open and the intermediary. Frontal boundaries are blurred by sheets of glass and vegetation, framed by two horizontal planes (floor and ceiling) where the full and the void are related via a series of matter, water, vegetation and sky. Lateral boundaries establish the "full-void" relationship via a series of solid materials that close transversal views.

All bedrooms are arranged along the peripheries bordering the neighbors, leaving an intermediate space between volumes for social uses: kitchen/dining, living room, swimming pool, porch and barbecue. The kitchen table and the kitchen itself shapes a sculptural scene that presides over the social zone. The play of transparency and reflections that the glass of the central spaces produces are emphasized by the vibration of the pool-water reflections that traverses the entire house, establishing a dialogue of contrasts between the material and the ethereal.

Empty interior spaces become filled with water, vegetation and air, thus establishing a sequence of the natural that ties the exterior and the interior together, erasing the limits and permitting these essential elements to extend throughout the space. A curtain of rope and vegetation along the perimeter delineates the limits of the building, creating a gap of shadow and light that gives quality to the space in between.

A single material, Melina wood, dresses the inside and the outside of the house. A tropical wood with origins in India, Melina has been cultivated for more than 40 years in Costa Rica and used mainly for interiors and furniture. Its hardness is medium to hard, making it suitable for floor and wall coverings. Albeit a single material, the apparatus varies: the outside is expressed as a relief while the inside is softened. Each of the spaces on the outside presents a more dynamic and rough texture, while the interior presents a smooth finish.

The wood forms seamless floor, wall and ceiling transitions. With the aim of achieving a natural texture, the wood has been protected with an open pore treatment that does not change its tone and allows its transformation with time.

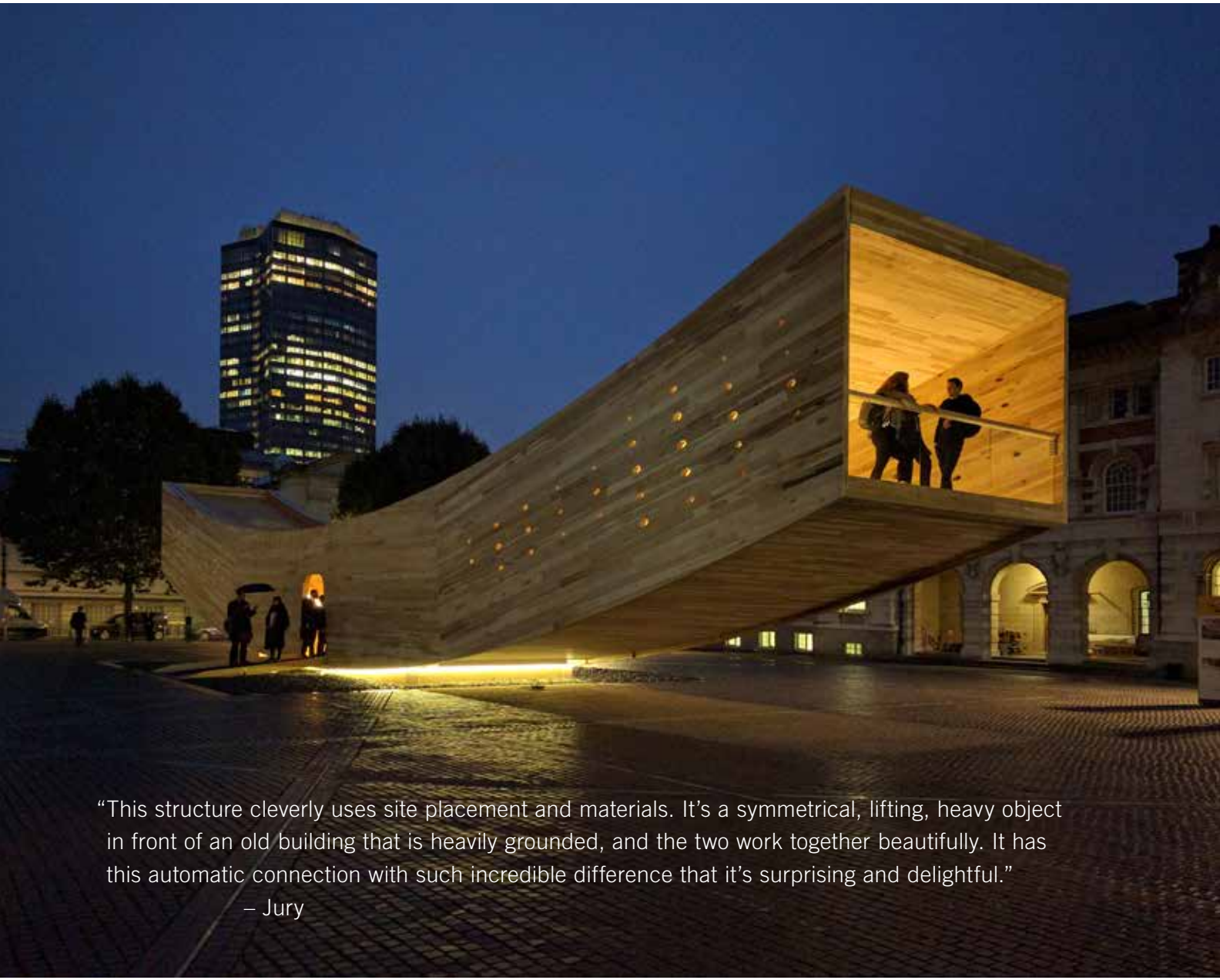
This house responds to the existing features of the landscape and reveals new dimensions of the topography. In its formalization and materiality, the experience of light, shadow, earth, water and air is intensified. The general form is readily readable and fluid in its articulation of space.

ARCHITECT
PAAS Architecture + mkbstudio
Ripoll, Spain

STRUCTURAL ENGINEER
PAAS Architecture
Ripoll, Spain

GENERAL CONTRACTOR
PAAS Architecture
Ripoll, Spain

PHOTOGRAPHY
Jordi Miralles
Barcelona, Spain



"This structure cleverly uses site placement and materials. It's a symmetrical, lifting, heavy object in front of an old building that is heavily grounded, and the two work together beautifully. It has this automatic connection with such incredible difference that it's surprising and delightful."

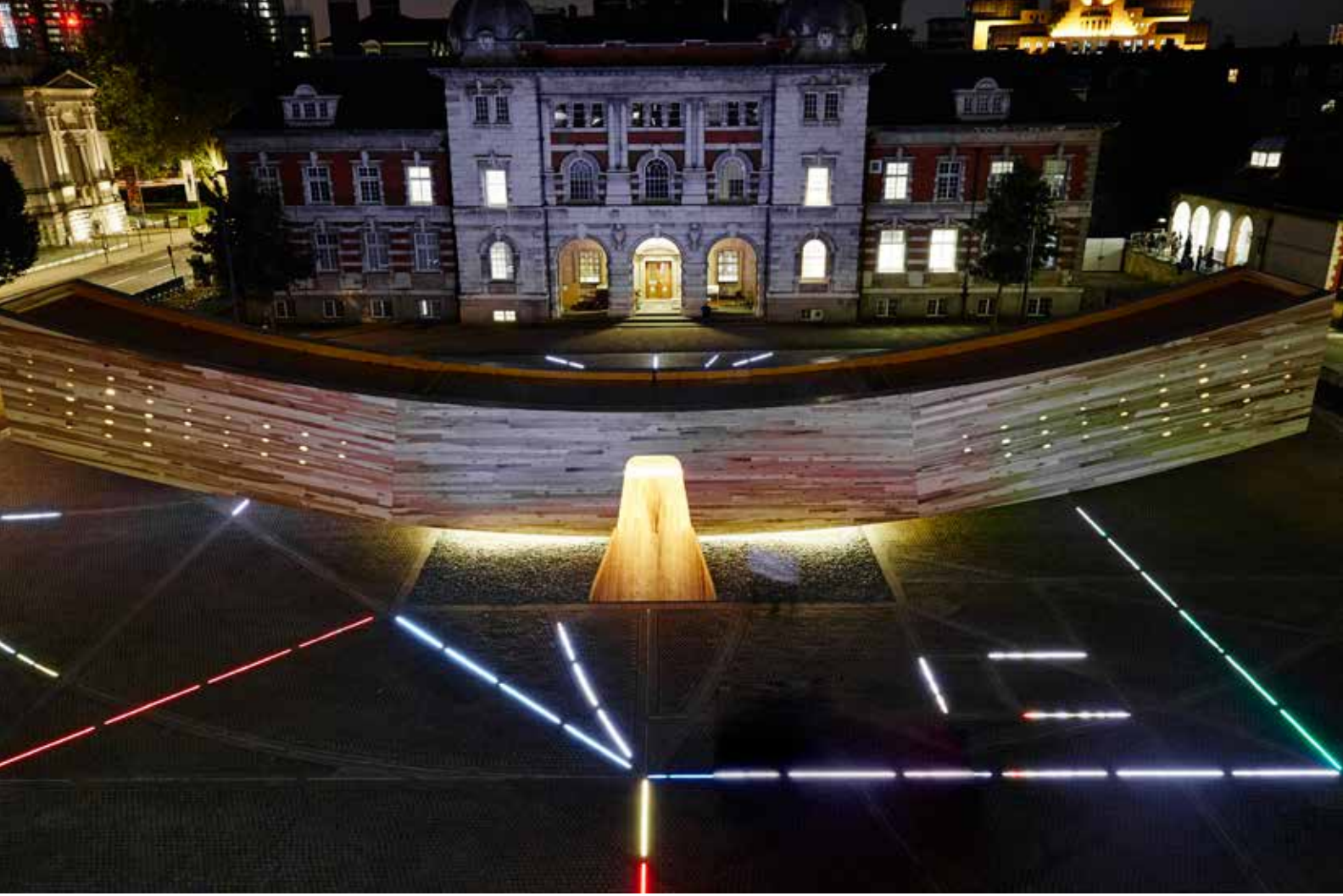
– Jury

CLT urban installation brings a smile to visitors' faces

International

The Smile

Alison Brooks Architects



Produced in collaboration with The American Hardwood Export Council (AHEC) and the London Design Festival, The Smile is one of the festival's Landmark Projects, an urban installation designed to be inhabited and explored by the public.

The spectacular, curved, tubular timber structure is effectively a beam curving up at both ends. Showcasing the structural and spatial potential of cross-laminated American tulipwood, the concept is described as the first-ever "mega-tube" made with construction-sized panels of hardwood CLT. It touches the ground at one point, like a wheel. Entering through an opening where the curved form meets the ground, the visitor can walk from end to end of the 112-ft. tube to discover a new kind of space that gradually rises toward light. All four sides of the interior are made of same beautiful hardwood panels as the structure, offering a complete sensory experience of color, texture, scent, and sound. The Smile's two open ends illuminate the funnel-like interior space and act as balconies to the city.

Along the walls, perforations allow sunlight to draw changing patterns on the floor throughout the day. The perforations also give the visitor an understanding of how the structure performs as they're located in positions where there are fewer structural stresses. At night, the interior is illuminated by linear light strips that trace its dynamic curving floor.

Intended to highlight the potential of tulipwood CLT in construction, The Smile is also a testament to the creativity of the structural engineers who worked on the project. In their quest to find the most efficient structural form, they succeeded in creating a 1,600-sq.ft enclosed space using only 2,100 cubic feet of wood. The forces of tension and compression working in the CLT walls are expressed by perforations in its elevations.

The Smile was open to the public from Sept. 17 to Oct. 12, 2016, at the Chelsea College of Art Rootstein Hopkins Parade Ground in London.

ARCHITECT
Alison Brooks Architects
London, UK

STRUCTURAL ENGINEER
Arup
London, UK

GENERAL CONTRACTOR
Baucon
Berlin, Germany

PHOTOGRAPHY
Alison Brooks Architects
London, UK

Boldness and simplicity spotlight wood's versatility

International

Wrap House

APOLLO Architects & Associates

"The wood wall folding around the space is phenomenal as is the use of different woods to represent different pieces of the structure. The way the architect fills in the lower level and finds ways to knit the solidity of the transparency between the structural members is just beautiful."

– Jury

The client, a graphic designer working at an advertising agency, acquired a piece of land on a hilltop overlooking Matsuyama in southern Japan. He requested a residence with airiness and openness, a place where his family could enjoy the marvelous scenery in their daily lives. The residence was built in response to that request, while also conforming to the realities of the site.

The wooden shell structure realizes one horizontal wide opening without any columns. The structure is composed of SPF lumber and structural LVL, and each component is connected to make a curved triangle lattice. Its detail is carefully designed to be as simple as possible.

Inside the wooden gate door is the entrance court enclosed by the reinforced concrete wall, greeting the owner with indirect illumination. An artfully designed staircase in a cantilevered steel frame is situated behind the entrance door. The soft, diffused light coming down from the grating illuminates the court space next to the bathroom located at the inner part of the building. All the spaces on the ground floor, including the private room and bathroom, face the inner courtyard. The front facade is accentuated by a Stewartia monadelpha tree planted in the outer courtyard, the symbolic tree of this residence.

Ascending the staircase, the structural body unifying the walls and the ceiling of the second floor is gradually revealed. Repetitive triangular structures composed of SPF timber and LVL rise from the floor to continuously form a column-free, spectacular open space by integrating the wall, the ceiling and the eaves in three-stepped couplings.

The opening on the second floor consists of four large wooden sliding doors, achieving a highly exposed space, completed by the transparent bannister with tempered glass for the balcony. Built-in furniture at the gable end contains the kitchen and living areas, contrasting with the structural body with its white finish. The evening atmosphere is revealed when the dynamic structure is illuminated indirectly by the built-in lighting fixed at various positions, providing a space beyond description.

ARCHITECT
APOLLO Architects & Associates
Tokyo, Japan

STRUCTURAL ENGINEER
Low Fat Structure Inc.
Tokyo, Japan

GENERAL CONTRACTOR
Fuji Zokei

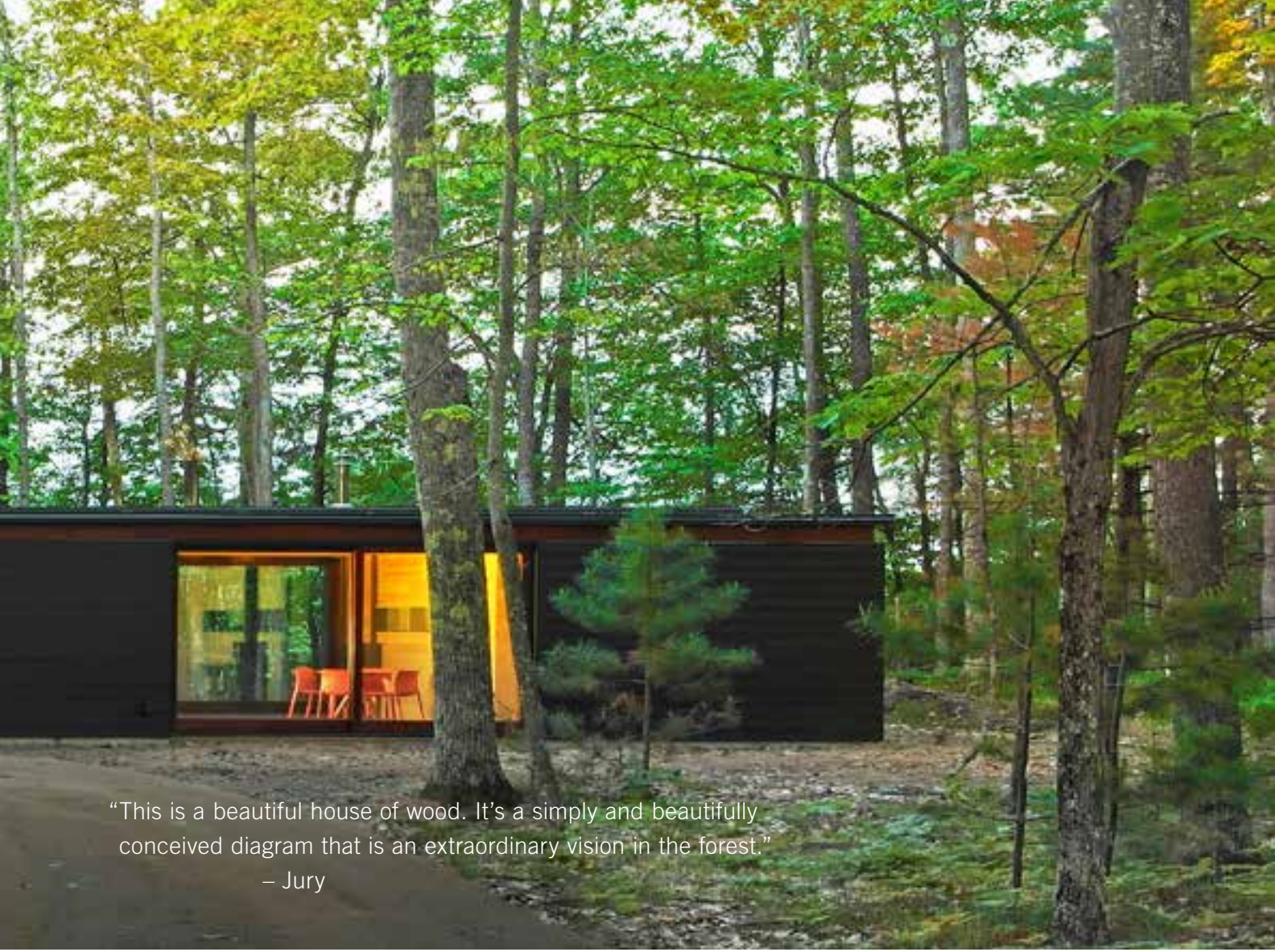
PHOTOGRAPHY
Masao Nishikawa
Tokyo, Japan

Lakeside at Black Butte Ranch
Deschutes County, OR
Hacker

Please see page 122

MERIT AWARDS

Simplicity and precision provide warmth in the Wisconsin woods

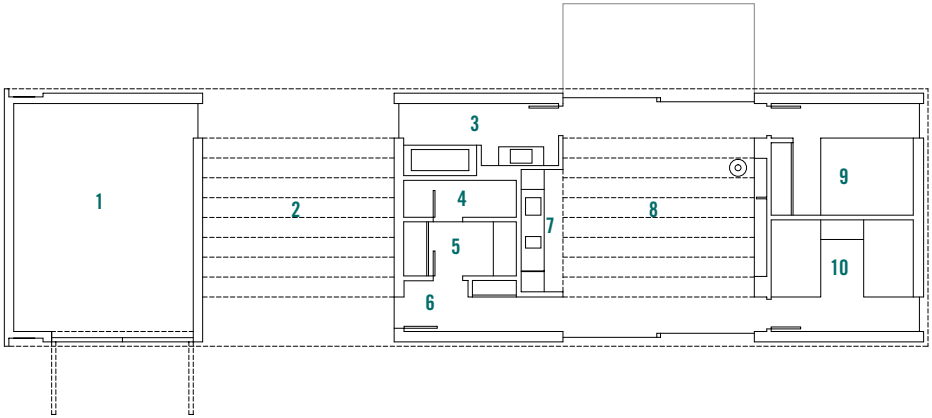


"This is a beautiful house of wood. It's a simply and beautifully conceived diagram that is an extraordinary vision in the forest."
– Jury

North America

Linear Cabin

Johnsen Schmaling Architects



1. canoes/wood storage
2. carport
3. washroom
4. boiler room
5. laundry
6. entry
7. kitchenette
8. hearth room
9. bunk room
10. bunk room

FLOOR PLAN

Sitting atop a steep bluff overlooking Alma Lake in the sparsely populated northern woods of Wisconsin, the Linear Cabin is a small, unassuming family retreat. With its long and low-slung body, restrained use of materials and precise detailing, the cabin – a 900-sq.ft. building that marks the threshold between the densely wooded plateau and the lake bluff beyond – is an unapologetically contemporary building, echoing the elegant clarity and rustic warmth of its predecessors.

The cabin is organized as a series of three identically sized, nearly opaque boxes separated by spatial voids, all tied together with a continuous, thin roof plane that spans the entire length of the building. The storage box offers space for canoes, tools, and logging equipment; the service box contains the kitchen, washroom, laundry, and mechanical spaces; and the sleeping box houses two bunk rooms.

The void between the storage and service boxes is unenclosed, framing views from the clearing toward the lake and offering a covered spot for a vehicle when needed. The void between the service and sleeping boxes functions as the hearth room, the center of the cabin anchored by a wood-burning stove. Here, the exposed 2 x 10 roof joists and the stained, exposed underside of the OSB roof deck add a dimensional depth to the space that reflects its role as the cabin's main activity hub. The 15-ft. wide lift-slide glass doors bracketing the hearth room serve as picture

frames, allowing for unobstructed views through the building from the outside and into the forested landscape from within.

The cabin's restrained material palette is based on locally sourced materials, including a variety of timber products harvested in Wisconsin's vast northern forests. The opaque boxes are clad with blackened cedar planks, their somber darkness echoing the weathered monochrome of traditional Wisconsin cabins. Varnished cedar accentuates the continuous horizontal reveal between the building boxes and the roof plane and acts as a recessed vertical buffer as the roof folds down at the north end of the house.

Inside, walls and ceilings are clad in knotty pine, its inherent rusticity tempered by the crisply detailed joinery and the simple lines of the light-grey, lacquered millwork throughout. A polished dark grey concrete floor completes the interior palette, providing a sufficiently durable surface against the periodic abuse from dogs, snowshoes, ski boots and other perils of the Wisconsin wilds.

ARCHITECT
Johnsen Schmaling Architects
Milwaukee, WI

STRUCTURAL ENGINEER
Core 4 Engineering
Mequon, WI

GENERAL CONTRACTOR
J&J Lee Construction Co., Inc.
Merrill, WI

PHOTOGRAPHY
John J. Macaulay
Milwaukee, WI

Locally sourced materials and ancient charring processes blur the boundaries between building and nature

North America

Michigan Lake House

Desai Chia Architecture
in collaboration with
Environment Architects

Perched on a woodland bluff overlooking Lake Michigan, this 4,800-sq.ft. home in Leelanau County, MI, is an assemblage of three offset structures: the "gathering" structure includes the living room, kitchen and a covered terrace, while two separate structures contain the master bedroom suite and three additional bedrooms. A dining area breezeway connects all three structures.

The roofscape has gentle undulations that follow the movement of the local terrain and make a playful reference to the architecture of nearby fishing villages. The resulting rhythm of exposed wood beams provides layers of asymmetrical vaults throughout the interiors while simultaneously expressing the structural integrity of the house. Custom scuppers are located at the valley of each roof and direct water off the house and into irrigation drywells.

"The presence of this hovering cantilever – and the shape of it – is the first thing that affects you when you see this house. Inside the residence, the cantilever is beautiful because it has depth and it's as if the room is defined by the planes above your head. It's contained perceptually but incredibly expansive to the landscape simultaneously."

– Jury

At the southern end of the house, a 20-foot cantilevered roof extends over the terrace, providing an unobstructed view of Lake Michigan and the surrounding woodlands. This terrace allows the clients to easily transition between the indoors and outdoors for entertaining. A double-sided corten fireplace creates a dramatic moment in the living room as well as on the terrace.

The exterior of the house is clad in Shou Sugi Ban, a traditional Japanese method of charring wood so that it becomes rot- and bug-resistant. The charred texture and the modulation of deep facade members enhances the shadows across the facade as the sun rises and sets.

Dying ash trees from the site were reclaimed for interior cabinetry, flooring, ceiling panels and trim work throughout the house. The ash wood is also incorporated in a series of custom furniture pieces, such as a dining table, coffee tables and a bed for the master bedroom. The interiors of the house embody the indigenous landscape that was once thriving with old-growth ash.

Landscape design strategies were closely tied to the design of the house. A tight palette of native vegetation highlights views while also managing storm water runoff. Locally sourced stone creates outdoor seating areas, paths and stairways – further evidence of the sustainable vision guiding every aspect of the project.

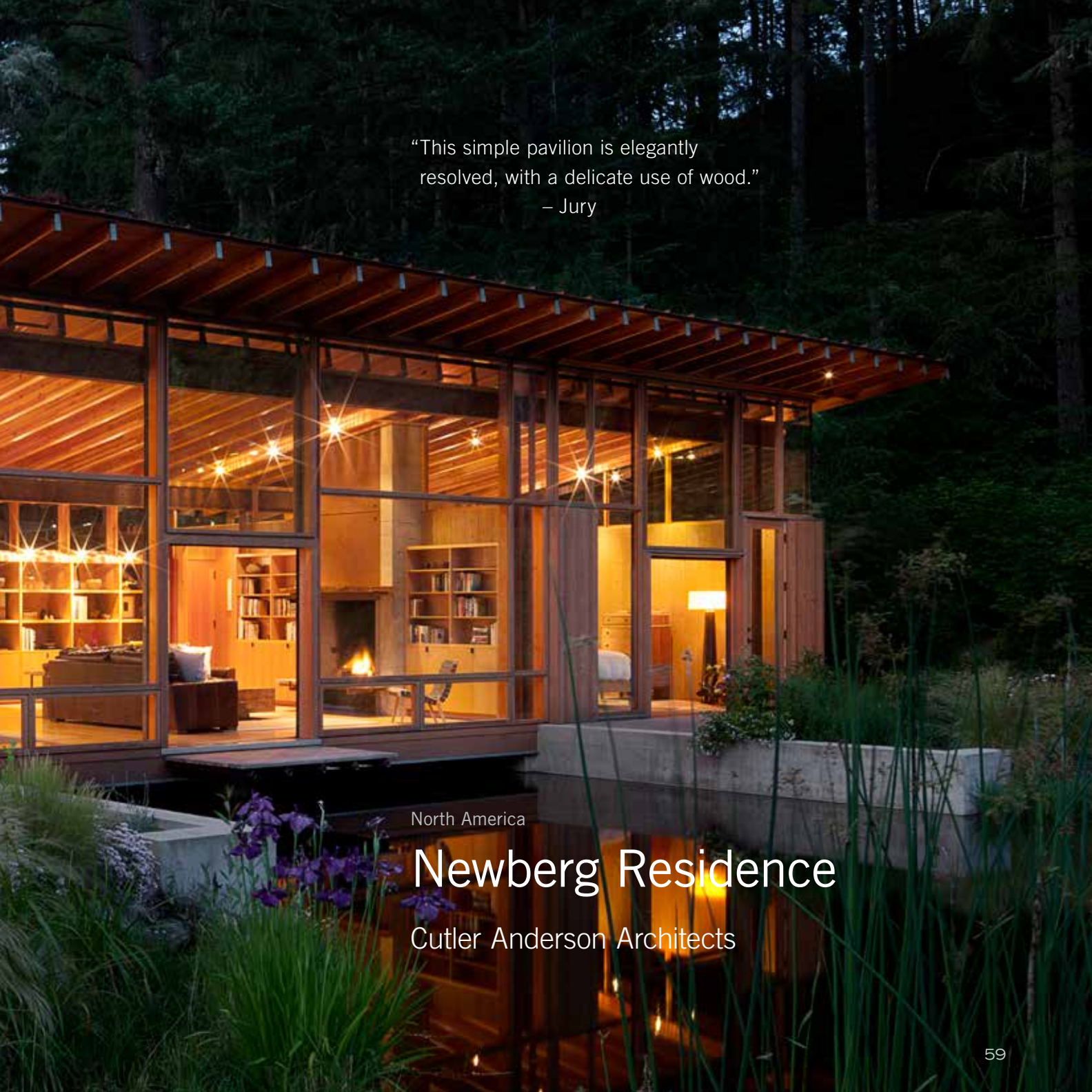
ARCHITECTS
Desai Chia Architecture
New York, NY
in collaboration with
Environment Architects
Traverse City, MI

STRUCTURAL ENGINEER
Apex Engineering & Management
Traverse City, MI

GENERAL CONTRACTOR
Easling Construction
Leland, MI

PHOTOGRAPHY
Paul Warchol
New York, NY

A welcoming gathering place for family, fowl and furry friends alike



"This simple pavilion is elegantly resolved, with a delicate use of wood."
– Jury

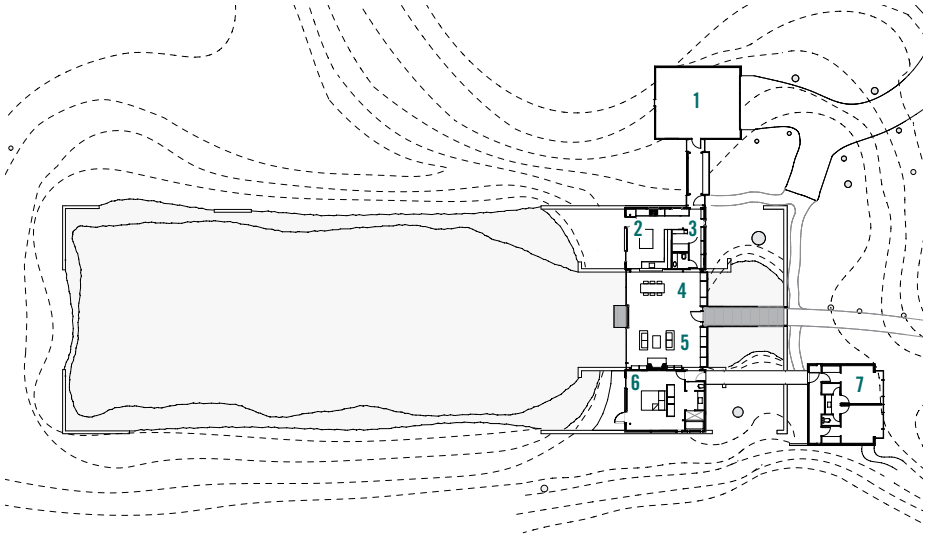
North America

Newberg Residence

Cutler Anderson Architects

This single-family, 1,440-sq.ft. residence with 550-sq.ft. guest house started with a desire by the owner to create a strong emotional connection to the living world. This is reflected in not just the materials used but also in the choice of site: an overgrown artificial pond in an area of the owners' farm that was not conducive to cultivation. The design attempts to make the pond and residence a single entity in which the owners can enjoy the wild creatures that come to the water. To that end, the building is placed as a bridge across the north end of the pond, with the pond itself enlarged and loosely ordered to integrate with the structure of the residence.

Designed as a simple steel frame carrying a wood roof structure, the primary box houses a kitchen, living/dining room and master bedroom. An indoor mudroom connects the home to the garage. To enable guests to better experience the place, the guest house is connected by an outdoor covered walkway.



1. garage
2. kitchen
3. mudroom
4. dining room
5. living room
6. master bedroom
7. guest house

N FLOOR PLAN

Large roof overhangs were designed to protect the glass and wood vertical surfaces of the building; drainage from the roof feeds the pond. The home features exterior tight-knot 1 x 10 board and batten cedar siding, with exposed faces of rough-sawn finish. Red oak flooring, custom rough-sawn red oak cabinets, solid core VG Douglas fir doors and DF architectural grade glulams are featured throughout the house. Wood and steel construction materials were locally sourced, and enhanced native vegetation continues to foster the surrounding wildlife.

How successful was the project in meeting the owners' goal of connecting with their natural world? To date, the owners say they regularly observe: dragonflies, crawfish, rainbow trout, bats, cedar waxwings, ducks, hawks, garter snakes, frogs, salamanders, opossums, deer, raccoons, coyotes… and one blue heron named Herman.

ARCHITECT
Cutler Anderson Architects
Bainbridge Island, WA

STRUCTURAL ENGINEER
Madden & Baughman Engineering
Portland, OR

GENERAL CONTRACTOR
R&H Construction
Portland, OR

PHOTOGRAPHY
Jeremy Bittermann
Portland, OR

Innovative thinking about commercial buildings
creates a workspace designed to stand the test of time

North America

North Main

Bates Masi + Architects

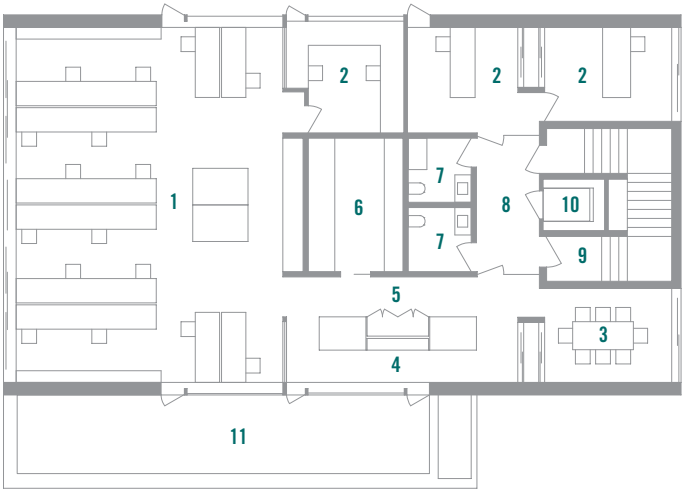
"This is both a very responsible and beautifully considered building. The large and small details are thought through and at times customized, creating a quiet and beautiful small office."

– Jury

Many commercial structures are planned with inherent disposability, minimizing initial cost at the expense of fortitude and long-term usefulness. This owner-occupied project challenges the conventional approach, enhancing the property's value with durable material systems, flexible infrastructure and adaptable spatial organization.

Based on vernacular building traditions, simple forms and naturally weather-resistant materials are employed instead of complex geometries, high-tech coatings or materials that are at odds with the environment, both in the aesthetic sense of standing out among neighboring buildings and in the ecological sense of their toxicity.

Copper shingles will show the effects of weathering but not succumb to them for at least 100 years. Similarly, the rainscreen siding of cedar planks will patina but endure, its longevity increased by an innovative fastening method of custom stainless steel clips that grip the edges of each board instead of penetrating it with fasteners. Allowed to expand and contract and free of penetrations, the typical first point of failure, the boards will outlast typical cedar siding. In the same way that a car's tires are prolonged by rotation, with the clip system the boards can be transferred from severe – to moderate – weathering facades and individually flipped front-to-back, further increasing their lifespan.



1. studio
2. office
3. conference
4. pantry
5. coat closet
6. supply
7. restroom
8. vestibule
9. stair
10. elevator
11. roof garden

SECOND FLOOR PLAN

1. bullpen
2. conference
3. restroom
4. pantry
5. office
6. vestibule
7. stair
8. archive
9. outdoor shower
10. elevator
11. mechanical

GROUND FLOOR PLAN

A garden of beach grass insulates and protects the roof from sun and weather. Planted in modular trays, individual portions of the green roof can be removed for maintenance or to add future technologies such as photovoltaics.

Future technological developments are accounted for inside as well. Reflecting the siding, interior walls are clad by the same system of boards and clips. The boards can be easily removed and replaced, providing access to continuous chases that contain the power distribution, phone and data cabling, as well as HVAC ductwork. Electrical and HVAC outlets can be moved, wireless transmitters hidden and data cables upgraded with minimal disturbance. Additionally, the wood screens serve an acoustic purpose, with the spaces between them admitting and trapping sound to prevent echoes in the large open spaces.

The open-plan interior also provides for changing spatial needs. The hybrid steel and engineered wood structure allows for unencumbered, airy, daylit spaces that can be easily reconfigured. Even the overhead lighting in these open spaces provides for adaptation; decorative globes hang from their cords on a grid of the siding clips, and these light fixtures can be moved among the various clips depending on different furniture layouts.

In addition to enhancing the building's value, the qualities of durability and flexibility lay the foundation for its sustainability. Unlike many green buildings, this project attends to basic construction elements instead of relying on auxiliary technologies to make it sustainable. By simplifying the structure's configuration, minimizing building technologies and facilitating future adaptation, the project attains timelessness by virtue of outlasting its contemporaries and extending our natural resources.

CLIENT
Bates Masi + Architects LLC/
Tarbet & Lester PLLC
East Hampton, NY

ARCHITECT
Bates Masi + Architects LLC
East Hampton, NY

STRUCTURAL ENGINEER
Steven Maresca
Hampton Bays, NY

GENERAL CONTRACTORS
Bates Masi + Architects
East Hampton, NY

Letteri Construction Inc.
Westhampton Beach, NY

PHOTOGRAPHY
Michael Moran Photography/OTTO
Brooklyn, NY

Residence weathers the elements of Nova Scotia's coastal landscape

North America

Point House

MacKay-Lyons Sweetapple Architects Ltd.

Surrounded by water on three sides, Point House is a small project with a big address. Located on a 45-foot-wide lot in what is historically a small fishing port, this private summer residence is composed of two gabled buildings: the main house and the guest house, which provides storage for the residents' sea kayaks. These austere, gabled forms sit atop concrete fin foundations that elevate them off the ground and allow for tidal surges to flow underneath, leaving them unscathed while also reducing their impact on the coastal site.

"The simple, gable form on the landscape has a recognizable history and connection, reinterpreted in a modern and beautiful way. The fine wood volumes are carefully conceived. The march of studs on the interior is helpful and satisfying."

– Jury

One approaches along a dirt road between these two shingled "fish shacks." An ambitious timber staircase ascends to a south-facing terrace, both built from 6 x 6 hemlock. From the terrace, one enters a double-height great room, where one's view is drawn out through the south corner window to the sea. While in the great room, the experience of dwelling in the landscape is anchored by two steel elements: a monumental truss and a hearth that folds into a stair ribbon and provides access to the loft above the kitchen. These elements are acknowledged by the kitchen box, which is wrapped in 2-in. black lacquered poplar shiplap. Kitchen cabinetry is crafted from MDF and painted black to match.

In contrast, the remaining structure is a celebration of light, timber frame construction that is articulated by exposing the 2 x 6 rough sawn spruce framing and 1 x 6 hemlock tongue and groove sheathing. An "outsulation" strategy allows this conventional wood framing system to be expressed, avoiding the need for interior finishes and the problems typically associated with condensation in insulated wall cavities. Sheathing and framing are left natural and unfinished to celebrate this often understated, everyday language of the light timber frame.

The wood used in Point House was sourced from local mills, and hemlock and cedar were strategically employed for their natural rot resistance. This approach is built from the discipline of listening to "place" and allows for an understated architecture that gains its power by resonating with its natural and built environment. Regional material culture is drawn upon for its inherent wisdom and this translates directly into longer-lived buildings.

In Atlantic Canada, this culture has been shaped by the cool, unpredictable climate, characterized by constant wet/dry freeze/thaw cycles, resulting in a very high weathering rate for buildings. Over the centuries, an elegant, economical lightweight wood building tradition has been developed in response to this challenging climate. Point House joins this tradition by offering a simple, conventional, taut-skinned gable with imperceptible eaves designed to avoid ice damming on overhangs. Eastern white cedar shingles on a ventilated rain screen wrap both the roof and the walls alike and embody the monolithic nature of the vernacular fish shacks that dot the Atlantic coast. These shingles contain natural preservatives and are further preserved by the salt air as they earn their natural patina, taking on the silver coloration so familiar to Nova Scotia's built coastal landscape.

ARCHITECT
MacKay-Lyons
Sweetapple Architects Ltd.
Halifax, NS

STRUCTURAL ENGINEER
Campbell Comeau Engineering Ltd.
Halifax, NS

GENERAL CONTRACTOR
Philip Creaser Custom
Homes and Woodworking
Riverport, NS

PHOTOGRAPHY
William Green
Halifax, NS

"This rethinking of a worship space is an extraordinary use of wood. The light falling onto the multi and soft-colored wood screen, which represents the focus of the space and of spirituality, is absolutely inventive."

– Jury

Intelligent structure system keeps material use to a minimum

International

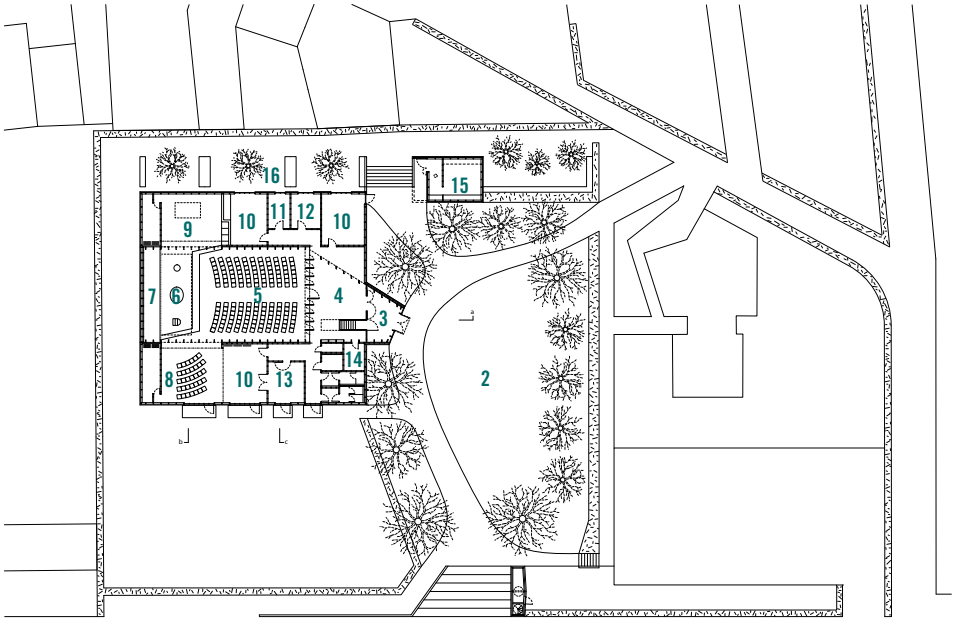
Immanuel Church and Parish Centre, Cologne

Sauerbruch Hutton

The Protestant Immanuel Church stands in the northwestern area of the site in Stammheim, Cologne, surrounded by a stock of old trees. Offering itself for outside activity and worship, this place becomes the central element of a new ensemble that comprises a bell tower, church and small chapel for private prayer.

Access to the building is via a low-height foyer beneath a raised gallery. From the foyer, visitors proceed to the nave, experiencing its full height of 36 ft. The prefabricated timber panels and columns in the interior are left unclad. Their brushed and white-waxed surfaces allow the grain of the wood to remain visible. The flooring consists of an exposed screed with a shiny finish. In conjunction with the infill panels, the rib-like framework forms a rigid, load-bearing structure for the roof and walls. By using simple, cost-optimized single-span beams, it is possible to avoid elaborate connections at the rigid junctions between members of the framing.

Behind the altar, the architects have departed from the restrained character of their design with a full-height screen, consisting of 3,800 wooden strips in 24 different colors. The screen is like a curtain suspended in front of the organ. Above the altar is a "window to heaven," a top light that intensifies the effect of the colors, which become paler toward the top, creating a transcendental aura.



1. bell tower
2. green space
3. vestibule
4. foyer with stairs to the gallery
5. nave
6. altar
7. organ
8. multi-purpose room, can be connected as side aisle to the nave
9. music room, can be connected as side aisle to the nave
10. multi-purpose rooms of the community
11. sexton
12. sacristy
13. kitchen
14. restrooms and storage rooms
15. chapel
16. columbarium

FLOOR PLAN

Daylight enters the church twice: once from above illuminating the altar wall, and once from the rear above the tribune, bringing light and the play of leaf shadows onto a matte glass screen. In the evening, a grid of low-hanging lamps provides an atmosphere of warm light, creating an intimate scale.

The architecture employs sustainable and resilient solutions to accommodate the needs of a dynamic congregation. Its intelligent structural system reduces the consumption of material to a minimum, and the use of exposed timber (PEFC and FSC certified) as the main building material combines cost efficiency, ecological performance and sensuality. Thanks to the nature of the timber construction, the building process was fast and easily comprehensible for the members of the congregation, who were actively involved in the planning process. This participatory approach created a congregation of engaged, enthusiastic members who identify and interact strongly with their place of worship.

CLIENT
Ev. Brückenschlag-Gemeinde
Köln-Flittard/Stammheim
Cologne, Germany

ARCHITECT
Sauerbruch Hutton
Berlin, Germany

STRUCTURAL ENGINEER
Horz + Ladewig, Ingenieurgesellschaft
für Baukonstruktionen mbH
Cologne, Germany

PHOTOGRAPHY
Margot Gottschling
Dreiheide, Germany

Annette Kisling
Berlin, Germany

Rough oak complements smooth interior finishes of mountainside business hub

International

Mont-Blanc Base Camp, Blue Ice

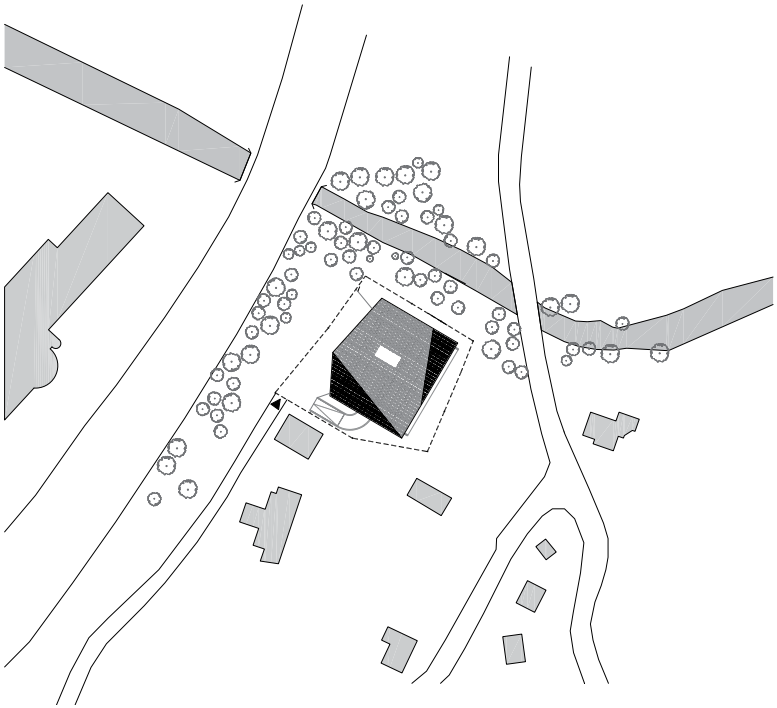
Kengo Kuma & Associates

"The siting of this building is perfect. The rock foreground and striations as they meet the building – which has different striations on the vertical with the cut logs acting as a twisted screen in front of the black glazing – creates a very beautiful aspect in snowy country like this."

– Jury

Les Houches is a small village situated in the French Alps, close to one of its most important peaks, the Mont-Blanc. The aim of this 27,000-sq.ft. project for Blue Ice, a company that designs mountain climbing equipment, was to integrate it as naturally as possible into the extraordinary mountainous landscape surrounding the village.

A wide roof perforated by lines of light runs from north to south, following the natural slope of the site, under which the program is implemented. This "roof filter" allows natural light into the heart of the project, reducing the use of artificial lightning. The orientation of the roof permits smooth and almost constant light in the interior spaces of the wide building while protecting it from heavy snow. A large terrace emerges in the heart of the filtered roof, one that opens 360 degrees on the valley and is accessible to all visitors.



SITE PLAN

In the interior, the large atrium creates a link between the north entrance and the views toward the mountains on the south. A maximum of modularity is provided and a double height space ensures maximum views to the exterior while giving the users bright and generous working and manufacturing spaces. The separation of the offices is made by wooden furniture and a double curtain that contributes to the acoustic absorption.

Wooden boards of natural oak wrap the building, creating an irregular rhythm both in the facade and in the roof. The intention was to express the natural and rough aspect of the wood, so it was decided to keep the bark as well as to not add any treatments. On the north and south, the wooden boards are parallel to the facades with slight inclinations which creates vibration and variation. On the east and west facades, the boards are positioned perpendicular to the facades with the natural shape and the preserved bark on the outside. The raw appearance for the exterior skin contrasts with interior wooden finishes, which express softness and reflects the natural light with a white brushed and ceruse treatment.

The exterior wooden boards are positioned to be visible from the interior. The oak boards have been slightly offset so they can be perceived from the interior space; in this way, the natural waving of the trunks become part of interior perception.

CLIENT
Blue Ice
Les Houches, France

ARCHITECT
Kengo Kuma & Associates
Tokyo, Japan / Paris, France

STRUCTURAL ENGINEER
Egis Bâtiments Grand Est
Maxéville, France

PHOTOGRAPHY
Michel Denancé
Paris, France

Delicate SPF strips
filter the view

International

Nanjing Wanjing Garden Chapel

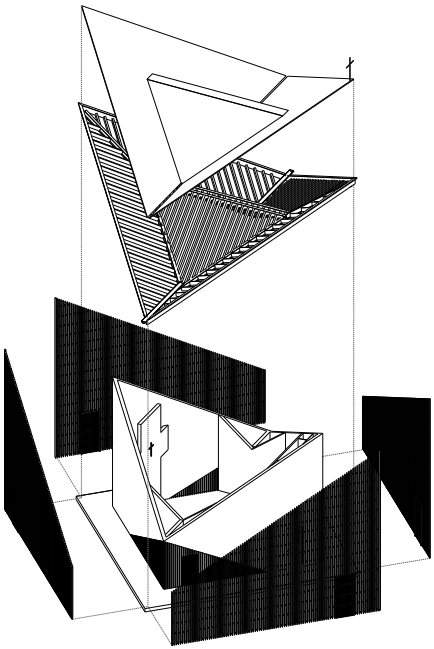
AZL Architects

"The delicacy of the first layer acts as a veiled space before entering the central space. The veiled sidelight transforms into a white space lit from above, and it's a beautiful distinction between the two. This is an uplifting, inspirational space."

– Jury

This project is a 2,153 sq.ft. chapel located in Wanjing Garden, along Nanjing's riverfront (roughly 124 miles up the Yangtze River from Shanghai). Staffed by members of the Nanjing Union Theological Seminary, this small structure strives for simplicity in every facet of its construction, while also honoring the rich heritage of Christian architecture.

The earliest Christian churches tended to emphasize center and depth, using central and axial symmetry to enhance the community's experience of the sacred. In the design of this chapel, the architect invokes the centrality and depth of classical architecture by using an octagonal central hall surrounded by four square-shaped corridors. The use of a dramatic V-shaped roof and the long central skylight also amplify the depth of space, putting emphasis on the high point over the sacred space where all lines converge.



EXPLODED ISOMETRIC

Each wooden corridor forms a unique double shell of the central hall space. The inner shell is more closed, leaving natural light to penetrate only through openings on the roof and walls. The outer shell, composed of delicate SPF strips, serves as a filter of the view outside, emphasizing the roles played by nature and natural light in the religious experience. This double shell system creates a uniquely interesting space that stands apart from both the enclosed feel of traditional stone chapels and the openness of modern architecture.

All interior surfaces are painted white, further emphasizing the role of light and space. The exterior wood strips and asphalt shingles are left in their natural color. The SPF strips surrounding the church are so delicate that their length-to-radius ratio could be 1:120, exceeding the normal load bearing. With lengths as long as 39 ft., the strips are connected to the roof and ground by metal brackets at both ends. Adjacent wood strips are also connected with U-shaped metal parts to insure stability. Together, these materials achieve a structure that's simple in material selection and installation.

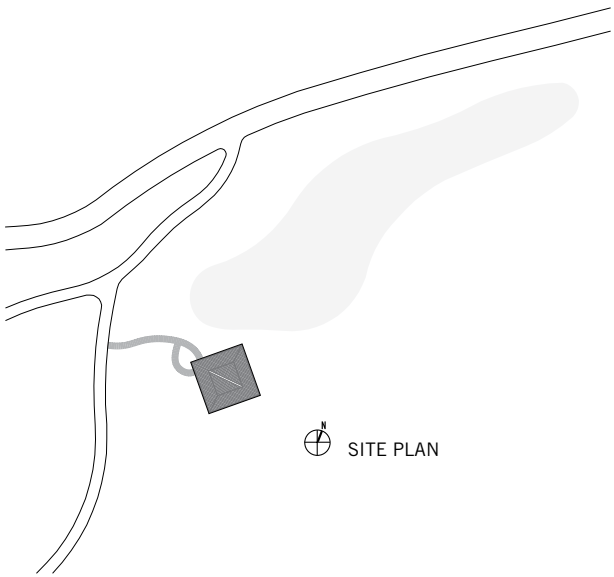
Even with the 45-degree turning connecting inner space to exterior structure, the central square remains highly integrated, symmetrical and center-oriented. The diagonal axis in the plan extends to the roof structure, working with all other elements to realize a complete integration of material and space.

CLIENT
Government of Jianye District
Nanjing, China

ARCHITECT
AZL Architects
Nanjing, China

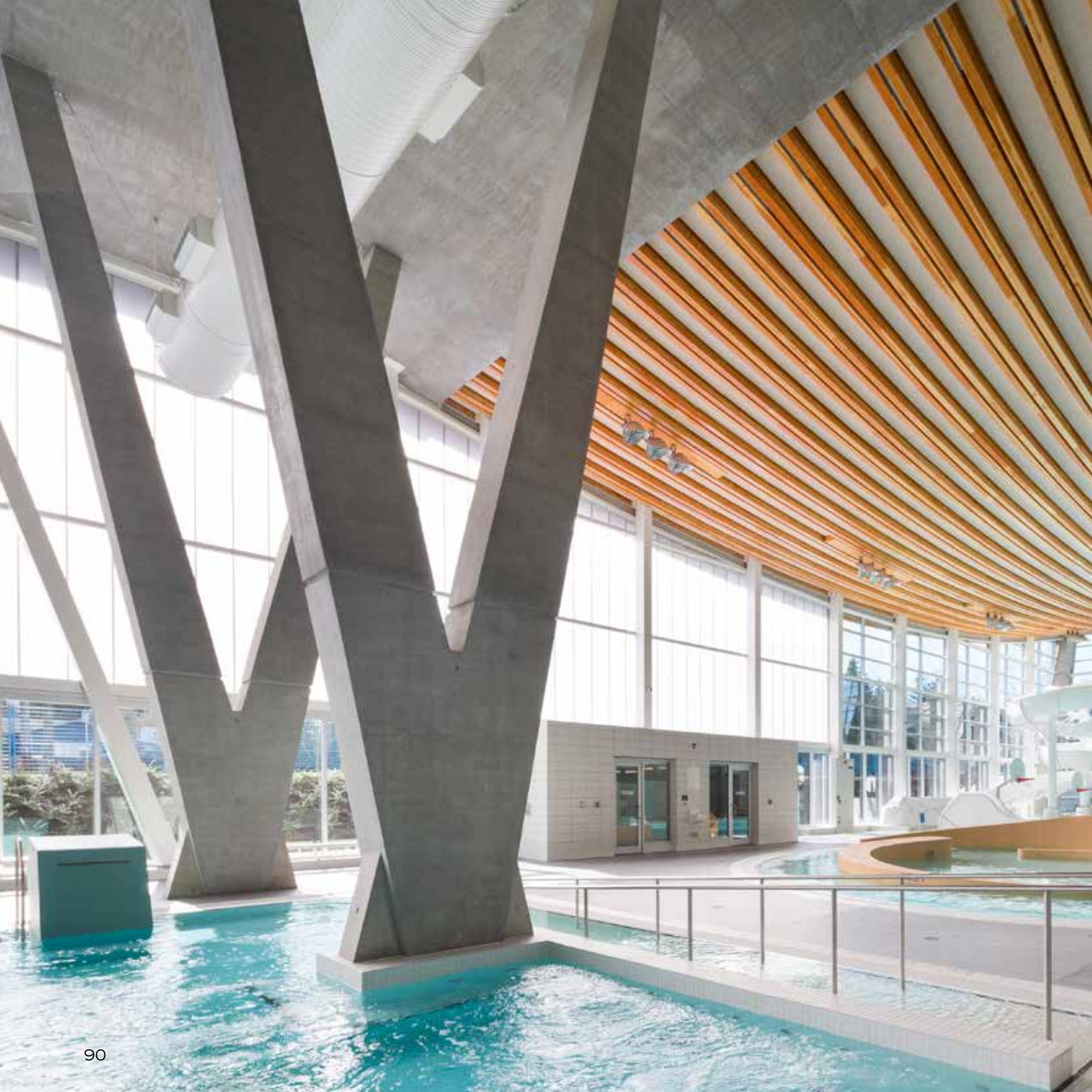
STRUCTURAL ENGINEER
Architectural Design & Planning
Institute, Nanjing University
Nanjing, China

PHOTOGRAPHY
Yao LiSuzhou
Nanjing, China



SITE PLAN

CITATION AWARDS



"This project uses wood in a new way, where the innovative engineering of the roof largely defines the pool room. Its wood catenary belly is the space that gives this pool room its character."

– Jury

Unconventional thinking about conventional building materials creates the world's longest-span timber catenary cable roof

North America

Grandview Heights Aquatic Centre

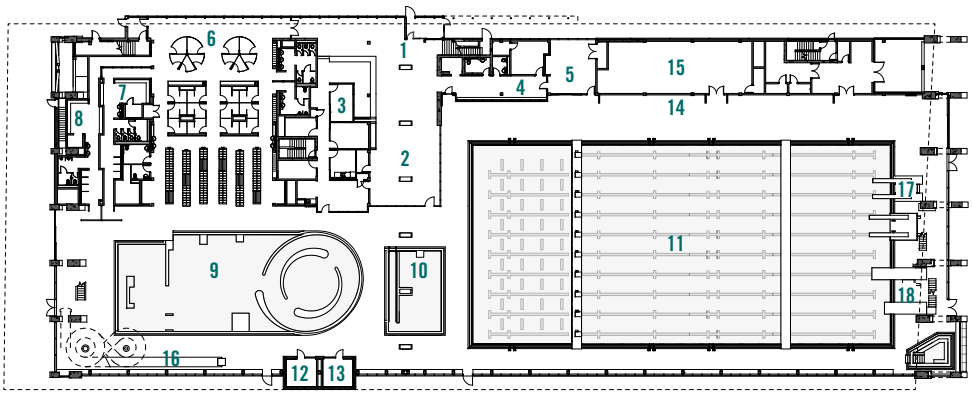
HCMA Architecture + Design

The City of Surrey's new Grandview Heights Aquatic Centre delights children and adults alike with its recreational features: a leisure pool with a lazy river, sauna, two hot pools and a fitness center overlooking the natatorium. The central lobby has clear views into the pool area, offering a sense of both openness and security, while a cafe encourages users to enjoy the facility before and after their recreational activities. Wayfinding is intuitive throughout and accommodates people of all ages and abilities in Surrey's diverse community. Round universal changerooms are both functional and fun, enhancing the users' first and last impressions of their swimming experience and acting as an unconventional deviation from the often-bleak change facilities in pools of the past.

But perhaps the most distinctive feature of the 95,000-sq.ft. building is the roof, a perfect union of form and function. Rather than employ conventional steel roof trusses, glulam timber "cables" were introduced, creating the world's longest-span timber catenary cable roof. These beams hang from post-tensioned concrete buttresses at each end of the building. Prefabricated from regionally sourced Douglas fir beams, individual beams were crane-lifted into place and clad in plywood sheathing in just eight days. The dynamic roof form rises where required to provide clearances for the Olympic dive platform on one end and a waterslide on the other.

Wood was chosen for the roof structure not only for important design considerations – such as its ability to achieve the elegant curving form that strategically wraps the functional elements within – but also for its proven track record in high humidity environments. Wood is well suited to the pool environment as it copes very well in the warm, moist air and does not rely on intensive maintenance for durability. The natural appearance of wood also lends a warm atmosphere to a facility that by necessity requires large areas of hard and impervious surfaces, as well as provides a connection to the surrounding natural landscape and the province's forestry heritage.

A significant challenge the team overcame in the detailing of the roof-to-wall connection was the fact that suspended structures, lacking the rigidity of conventional truss and beam structures, are subject to deflection. The design team worked carefully to ensure the deflection of the roof under different loading conditions (most critically an eccentric snow load) would not exceed 8 in. – the maximum that could be accommodated at the roof edges by a standard curtain wall slip joint detail.



1. lobby
2. viewing area
3. administration
4. cafe
5. classroom
6. wood screens
7. women's changeroom
8. men's changeroom
9. leisure pool
10. hot tub
11. lap pool
12. sauna
13. steam room
14. retractable seating
15. storage
16. water slide
17. spring boards
18. dive tower

FLOOR PLAN

As the wood roof is the key feature of this building, it was deemed important to keep it as clean and uncluttered as possible. As a result, a lot of effort was put into finding a way to avoid sprinklers in the natatorium. This was achieved through an alternative solution that relies on the reduction of flammable materials combined with a smoke extraction system. A side benefit: this turned out to be a significant maintenance advantage for the client, as it removed sprinkler lines and heads from areas in the building that are difficult to access, while also allowing the client to forgo the regular maintenance that sprinkler systems in such spaces require because of the chlorinated environment.

CLIENT
City of Surrey
Surrey, BC

ARCHITECT
HCMA Architecture + Design
Vancouver, BC

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

GENERAL CONTRACTOR
EllisDon
Richmond, BC

PHOTOGRAPHY
Ema Peter
North Vancouver, BC

"This is an early tall wood building which contributes to a growing body of tall wood buildings in North America. It demonstrates the viability of this kind of structure and the use of wood in larger buildings and that has merit."

– Jury

A modern approach to timber construction celebrates the beauty of wood

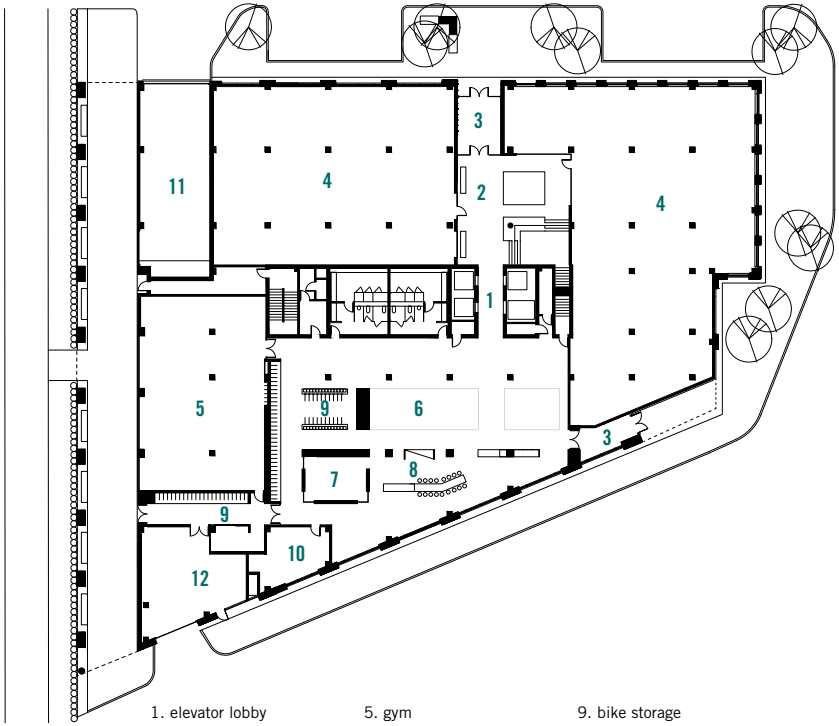
North America

T3

MGA | Michael Green Architecture

Minneapolis's T3 is the largest mass timber building to be built in the United States in more than 100 years. Marrying traditional industrial proportions with modern materials and detailing, the seven-story, 220,000-sq.ft. commercial building – on a site straddling the historic Warehouse District and urban core of downtown Minneapolis – offers a mix of retail and office space in a way that complements the surrounding historical architecture.

T3 (which stands for Timber, Technology, Transit) celebrates the robust character of historic wood, brick, stone, and steel buildings, while providing state-of-the-art amenities, environmental performance and technical capability. Inside the building, more than 3,600 cubic m. of exposed mass timber columns, beams, and floor slabs recall the heavy timber construction of the building's predecessors. While the historic brick-and-timber structures of the district used old-growth solid timbers for columns, beams and floor joists, T3's modern approach uses engineered wood components (chiefly glulam and nail laminated timber) from sustainably managed forests for the roof, floors, columns, beams and furniture. These modern materials bring the warmth and beauty of wood to the interior, promoting a healthy indoor environment for occupants.



1. elevator lobby
2. north lobby
3. vestibule
4. retail
5. gym
6. social workspace
7. conference room
8. social cafe
9. bike storage
10. office
11. parking entry
12. loading dock

N GROUND FLOOR PLAN

The wood structure allowed T3 to be erected faster than conventional steel-framed or concrete buildings. In less than 10 weeks, 180,000 sq.ft. of timber framing went up, averaging 30,000 sq.ft. of floor area installed per week. The timber structure of T3 has about 1/5 the weight of a comparable concrete structure, reducing the depth and extent of excavation and foundations.

The building's aesthetic success can also be attributed to the mass timber construction. The entire timber structure of T3 was intentionally left exposed, with interior lighting directed up to the ceiling. At night, the illuminated wood glows through the large industrial openings, making the wood superstructure highly visible to the public view.

The use of wood is celebrated throughout the building. The small imperfections in the lumber and slight variation in color of the mountain pine beetle wood add to the warmth and character of the new space. Extensive exterior glazing at every level – as well as views into the ground-level social workspace with wood furniture, booths and a feature stair – allow the public to experience the building.

T3 is currently the largest completed mass timber building in the U.S. With changing building codes throughout North America, tall wood buildings will become more common. As a pioneer in this building type, T3 is a prototype for future commercial mass timber buildings.

DESIGN ARCHITECT
MGA | Michael Green Architecture
Vancouver, BC

ARCHITECT OF RECORD
DLR Group
Minneapolis, MN

STRUCTURAL ENGINEER
Magnusson Klemencic Associates
Seattle, WA

GENERAL CONTRACTOR
Kraus-Anderson Construction
Minneapolis, MN

PHOTOGRAPHY
Ema Peter
Vancouver, BC

Artful placement of larch, cedar, iroko, and birch give Irish civic campus human scale

International

Samuel Beckett Civic Campus

Bucholz McEvoy Architects

The Samuel Beckett Civic Campus is located on an 18-acre parkland site along Ballyogan Road in Dublin. Offering a library, child care center, swimming pool, dance studio and other recreational facilities, the campus brings an urban order of architecture into the suburban domain, with buildings strategically placed to enhance permeability and connectivity.

Transparency within the buildings and their various activities, as well as transparency between the interior and exterior, ensures the active environments work to enhance the quality of the landscape context. Views and reflections of the facade sharpen the community's relationship with the surrounding landscape, enhancing a sense of place.

Wood is the primary building material, giving the project a human scale, proportion and longevity. Carefully detailed timber is used for facades and the upper structure while simultaneously acting as internal finish, imbuing spaces with the warmth, color and aroma of wood. The primary building structure is a hybrid system of concrete to the first floor, with timber beams, timber columns and pre-cast concrete slabs to complete the construction. The timber structural members and facade are made from a combination of larch, cedar, iroko and birch, each type of wood used in locations appropriate to its respective characteristics.

"We admire this building because you can see the architect working through the building with a great deal of attention and consideration whether it's about how a wall folds in on itself and makes shadows or whether it's an intersection of a cut plane with a window. There is care and consideration for every aspect and it's really original thought."

– Jury

Larch columns support spruce beams which in turn support pre-cast, concrete hollow-core slabs. The roof is punctuated by continuous roof lights made from cross-laminated timber panels used for horizontal and vertical support. The facade is made from 4-ft. wide panels of heights ranging between 11.5 ft. and 23 ft. Each panel is composed of glulam larch columns that carry panels made of iroko and birch with fixed or opening vents, fixed glazing, and clad in cedar shingles.

The upper facade panels establish the civic scale of the campus while providing daylight and natural ventilation to all buildings on campus. This basic facade unit is adapted to a library use, a community centre use, a sports building use and a swimming pool use. In each case, the primary role of the facade is to supply natural light and ventilation to the internal spaces and cater for the diverse functional and environmental requirements of each building.

Building orientation has been optimized to benefit from passive solar gain (to reduce energy load) and wind direction (to enhance natural ventilation). Natural cross-ventilation of internal spaces is optimized with ventilation openings on the external facades and roof strategically placed for this purpose, with high floor-to-ceiling dimensions enhancing air movement. The energy requirements of the project are met by a shared energy center comprised of a CHP unit, a biomass boiler and high-efficiency gas-condensing boiler, resulting in more than 50 per cent of the annual energy associated with heating and hot water provided by renewable resources, a strategy that achieves reduced operating costs and carbon emissions.

CLIENT
Dun Laoghaire
Rathdown County Council
Dublin, Ireland

ARCHITECT
Bucholz McEvoy Architects
Dublin, Ireland

STRUCTURAL ENGINEER
Punch Consulting Engineers
Dublin, Ireland

GENERAL CONTRACTOR
Duggan Brothers
Tipperary, Ireland

PHOTOGRAPHY
Alice Clancy
Dublin, Ireland

Bucholz McEvoy Architects
Dublin, Ireland

McEvoy Architects
Dublin, Ireland

Peter Maybury
Dublin, Ireland

SPECIAL AWARDS

Cedar shingles and abundant glazing welcome ocean views

Canadian Wood Council Award

Lodge at Cabot Links

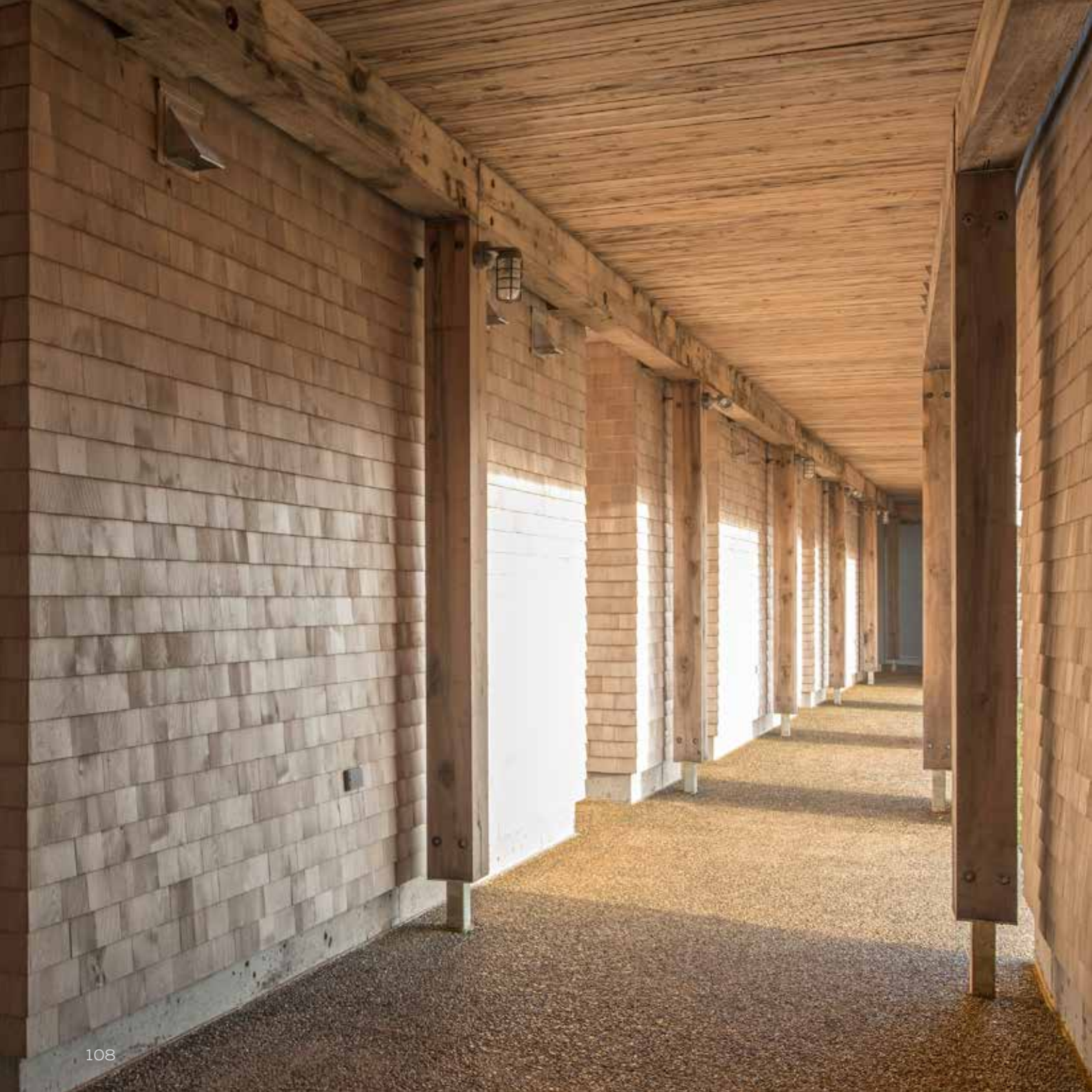
Fowler Bauld & Mitchell Ltd.

Located minutes from the Inverness Miners' Museum on Nova Scotia's Cape Breton Island, Cabot Links is deeply rooted in the region's mining past. This is reflected in the resort's lodge, built close to where many underground coal mines used to stretch out miles under the ocean.

Sited between the town of Inverness and the Atlantic Ocean overlooking the Gulf of St. Lawrence, the lodge presents two contrasting faces. Fronting the town is a 350-ft. curved, heavy timber wall clad in cedar shingle. The wall snakes though the site, connecting the lodges and leading guests toward the course. The wall is a screen between the suite entrances and the parking area while also supporting an elevated walkway to the upper level.

Facing the ocean, the lodge presents a more open, lively elevation. Four two-story volumes, each containing 12 suites, alternate with open stairways that add rhythm to the composition. A fifth volume, the reception and administration building, anchors the north end of the lodge. These volumes are clad in cedar shingles and punctuated by abundant glazing. Further animation is provided by a variety of projecting elements: some suites protrude from the facade while others feature balconies, all sheltered beneath the overhang of the roof.

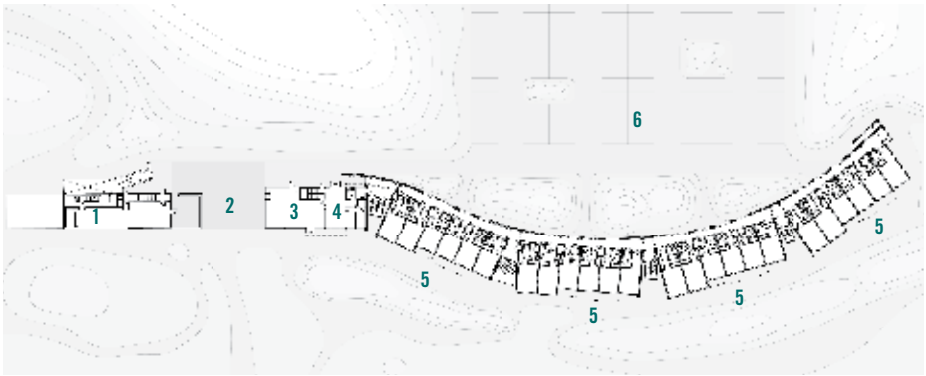
The reception and administration building and the (existing) neighboring restaurant building together frame a terrace, with spectacular views of the ocean and golf course stretching across the landscape, linked by the heavy timber wall.



Due to proximity and limiting distances, the end walls of the individual buildings have non-combustible stucco cladding that contrasts with the untreated cedar shingles and boards used on all other surfaces. The 14-ft. grid of the rooms allows for shallow parallel chord wood trusses, reducing the overall height of the project, while separated double stud walls ensure acoustic privacy. LVL beams project out along the grid lines, supporting the cantilevered bumps and large overhanging roofs.

The modular design of the lodge resolved cost and code issues while giving clarity to the construction and massing of the building. Dividing the lodge into a series of smaller modules, linked by a heavy timber walkway, allowed for the use of conventional wood construction, which in turn allowed for the use of nearby contractors and embedded the project more fully within the local economy.

Wood construction is very much a part of rural Cape Breton. Dividing the building into separate lodges and linking them with the curved shingle wall creates a powerful form in the links landscape, while also allowing the project to be constructed to the requirements of a more permissive part of the building code – and, of course, allows for the warmth and beauty of wood construction and cladding.



1. bar (by other architect)
2. plaza
3. pro shop
4. lobby
5. hotel rooms
6. parking

GROUND FLOOR PLAN

1. restaurant (by other architect)
2. administration

SECOND FLOOR PLAN

ARCHITECT
Fowler Bauld & Mitchell Ltd.
Halifax, NS

STRUCTURAL ENGINEER
BMR Structural Engineering
Halifax, NS

GENERAL CONTRACTOR
DORA Construction
Dartmouth, NS

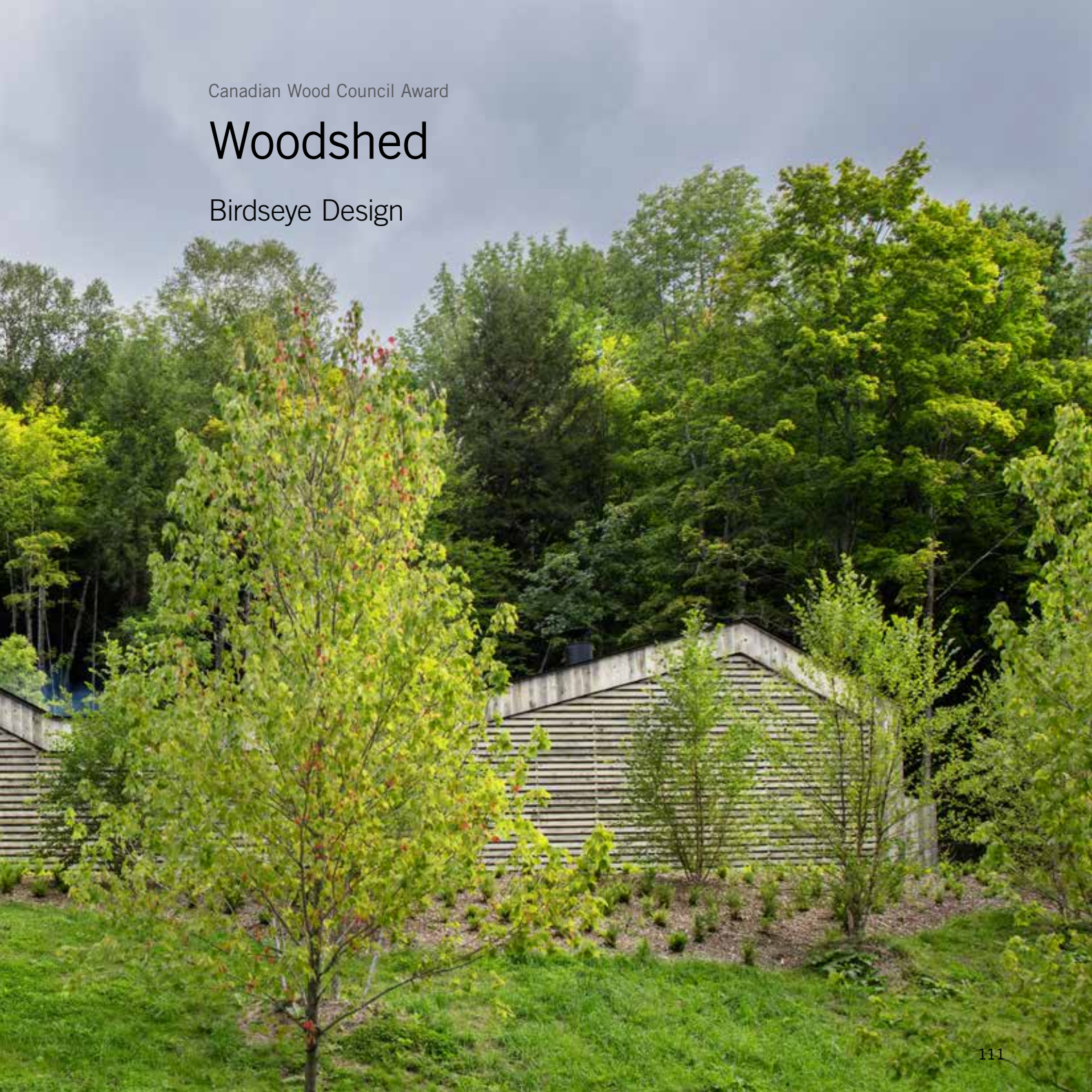
PHOTOGRAPHY
Greg Richardson
Halifax, NS

Repurposed snow fencing and corral board add rustic charm to mountain getaway

Canadian Wood Council Award

Woodshed

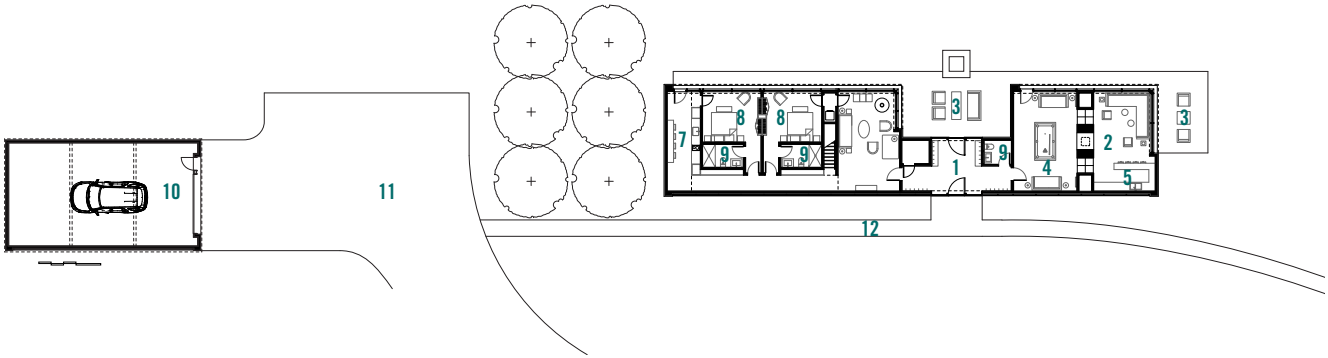
Birdseye Design



Nestled in the foothills of the Green Mountains in Pomfret, VT, Woodshed functions as both guest house and entertainment space for a nearby residence.

Located in a clearing on a steeply sloping and heavily wooded site, the building is inspired by the vernacular woodshed, an iconic element in the Vermont landscape. It is composed of two asymmetric gable roof forms, akin to the traditional woodshed, and connected by a central entryway. The project is visually bookended by an auxiliary garage.

Woodshed purposefully projects a minimal elevation to the public street side and an engaging, contemporary open elevation to the private hillside. The western, public elevation presents the continuous wood wall that evokes the expressive scrim wall of a traditional woodshed. The eastern side opens to the views with glass walls that invite the landscape, exterior retaining walls and terrace spaces into the structure.



1. entry
2. living
3. outdoor living
4. entertainment
5. bar
6. hall
7. kitchenette
8. bedroom
9. washroom
10. garage
11. driveway
12. walkway

FLOOR PLAN

The siding is composed of repurposed snow fencing. Great effort was made to minimize the amount of detailing and express the natural beauty of the weathered boards. The snow fencing is primarily composed of standard dimension boards and were only cut to reach desired lengths. The scrim wall is more complex, composed of several layers of snow fencing to create light and shadow textures visible from the road below. The horizontals of the scrim wall are detailed to create a screen in front of the glass entry vestibule and minimize visibility for onlookers.

The entry vestibule continues the exterior siding to the interior and includes benches made of planed and finished corral board. Visitors in the

entry can look directly through to the exterior and see the stone terrace abutting the steeply sloping woods. From this point, the house splits into two wings: the southern wing is the guest house with three bedrooms, kitchen and living space, while the northern wing houses a game room, lounge space, bar and double-sided fireplace. Each wing is designed to maximize exposure to the eastern hillside of the house, with large glass walls spanning each room and wrapping around corners.

ARCHITECT
Birdseye Design
Richmond, VT

STRUCTURAL ENGINEER
Engineering Ventures
Burlington, VT

GENERAL CONTRACTOR
Colby & Tobiason
Woodstock, VT

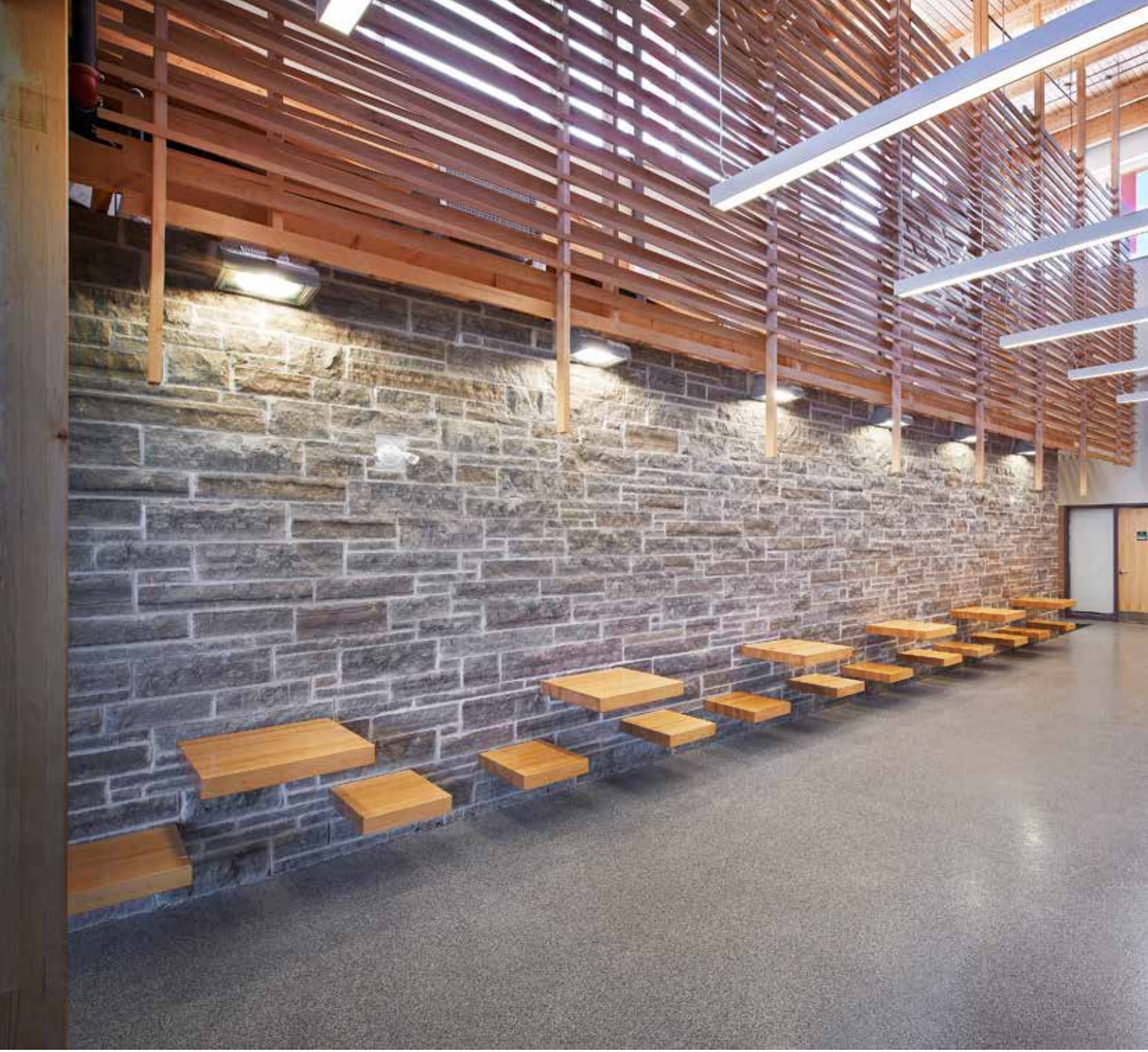
PHOTOGRAPHY
Jim Westphalen
Shelburne, VT

Wood creates a healthy learning environment and powerful connection to the land

Sansin Award

Kikendaasogamig Elementary School

MMMC Architects



The Chippewas of Nawash First Nation's community of Cape Croker is one of several native settlements on Ontario's Bruce Peninsula. While relatively close to the center of southwestern Ontario, the area is remote from major highways and larger cities in the province, a fact reflected in the stark beauty of this area on the western shores of Georgian Bay.

Located in the heart of the reservation, the 22,600-sq.ft., single-story structure is designed and sited to address the remoteness of the location. Great care was taken to respond respectfully to the sensitivities of the land and the culture of the surrounding community. Both form and structure were extensively discussed and developed with the participation of the Chippewas of Nawash.

The rock cliffs of Bruce Peninsula and the early shelters of Chippewas inspired the form of the school. A ceremonial space dedicated to the history of the First Nation is located centrally within the school, creating a symbolic crossroads to this Place of Knowledge. Finished with simple earth sourced materials including wood and stone, the volume is generous and tall, like ancient forests. Silhouettes of thunderbirds cast shadows on the north wall, mimicking the monumental cliffs of the surrounding land, with only minimalist wooden benches furnishing the space.

Wooden screens inspired by indigenous motifs are used throughout the common areas for acoustical control, light diffusion and screening mechanical systems not intended for public view. The screens' design is reminiscent of a basket weave, enhancing the spirit of the structure and further connecting the building with local culture. Passive building design strategies – including extensive overhangs to protect the building from excessive heat gain and the elements – are incorporated into the design to reduce HVAC system loads.

Time is always an important factor for remote sites. With that in mind, prefabricated glulam systems allowed for relative ease and speed of construction, especially through the early stages. The main structure is based on heavy glulam, with supplementary steel columns and bracing where use of wood would be impractical or not cost-effective. Roof decks are made of wood plank.

Wood was chosen as the leading theme for both aesthetics and structure. Although heavy timber structures were never developed by the aboriginal builders of Bruce Peninsula, wood is an integral part of their culture and environment. The inherent beauty of wood also helps create a space that provides a healthy learning environment for students and a powerful sense of connection to the land of this First Nation.

1. classroom
2. project area
3. kindergarten
4. seminar rooms
5. gym/assembly
6. retractable stage
7. changerooms
8. admin area
9. resource center
10. crossroads
11. storage
12. equipment
13. kitchen

FLOOR PLAN

ARCHITECT
MMMC Architects
Waterloo, ON

STRUCTURAL ENGINEER
Blackwell
Waterloo, ON

GENERAL CONTRACTOR
Elite Construction
Concord, ON

PHOTOGRAPHY
Mark Burnham
Brantford, ON

"This structure has a generosity of space which is largely articulated by the knotty wood. The texture of the wood gives the big planes some material presence and light is thrown through the space in different ways. It's bright, warm and peaceful."

– Jury

Design and materials offer varied levels of connection to landscape

SFI Award and Western Red Cedar Award

Lakeside at Black Butte Ranch

Hacker

An iconic resort community in the heart of Oregon, Black Butte Ranch sits at the gateway to Oregon's high desert. There's a raw natural beauty to this part of Oregon, one that made wood construction an obvious choice for the design of the Lakeside bistro, pool facility and recreation center that form the new heart of Black Butte Ranch.

Inspired by the barn-like simplicity, wood construction, and abstracted landform rooflines of the original lodge and country house condominiums, Lakeside is a natural evolution of the regional modernism of Black Butte Ranch. Building with regionally sourced materials was key: in addition to reducing transportation impacts and contributing to the local economy, culling the building material from the project's home region helped create a design that complements and blends with the landscape.

Western red cedar is used throughout Lakeside's exterior and interior spaces: sawn-tight knot siding in a semi-opaque oil stain offers a low-maintenance, bark-like appearance for the exterior; tight knot-grade cedar with a clear finish showcases the wood's natural patterns and color throughout the interior; and a smooth-sanded knotty material incorporated into both interior and exterior spaces lends a rustic modern character to the facilities.

Connection to the outdoors – with detailed attention paid to the local micro-climate – also informed the sustainable design aspects of Lakeside. Deep wood overhangs and trellises provide shade in summer and cover in the winter while reducing glare to the interior, and the building form is designed and positioned within the site to take best advantage of the sun and modulate the prevailing seasonal wind patterns. Daylight is harvested to reduce electric lighting loads, and access to natural light is abundant throughout the interior spaces. Shielded light fixtures limit nighttime light pollution to preserve Black Butte's prized dark skies and visible stars. Massive materials in the interiors, such as concrete floors and walls, hold heat to assist naturally in stabilizing interior temperatures.

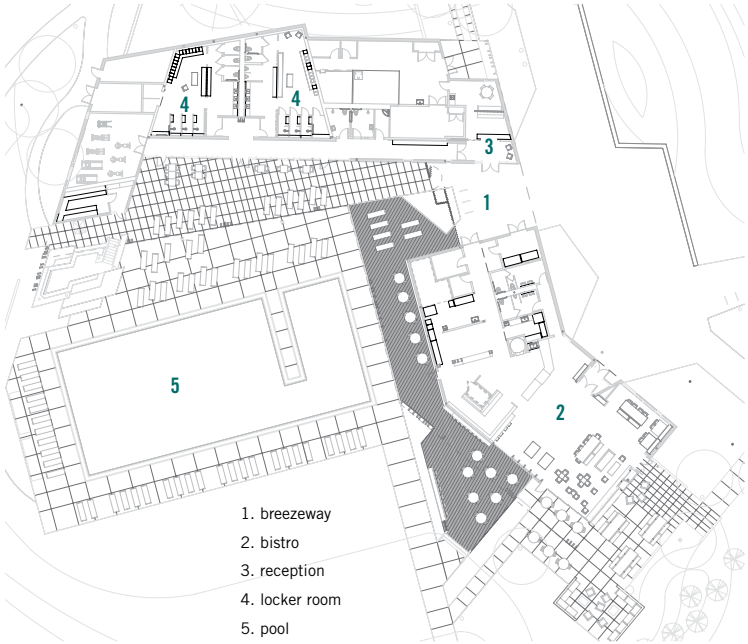
By creating a variety of spaces at the boundary between inside and outside, the design offers varied levels of connection to the landscape as well as opportunities for both solitude and community at Lakeside. In the bistro, sloping cedar ceilings and panoramic windows frame views to the mountains and lake, with inside and outside patio dining space. In addition, the recreation and activity center gives kids an incredibly durable place to be kids: with an oriented strand board interior finished in a clear oil to rid the wood of splinters, this inexpensive option provides a unique, playful feel – and is geared to withstand everything from art projects to water balloon fights.

ARCHITECT
Hacker
Portland, OR

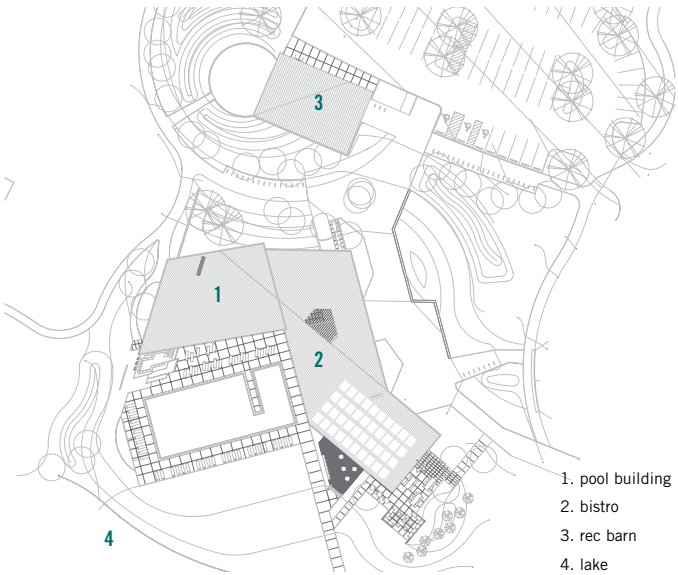
STRUCTURAL ENGINEER
Madden & Baughman Engineering
Portland, OR

GENERAL CONTRACTOR
Kirby Nagelhout Construction
Bend, OR

PHOTOGRAPHY
Jeremy Bitterman
Portland, OR



FLOOR PLAN



SITE PLAN

Canadian Wood *WORKS!* Awards

Great design can change the world.

In Canada and around the globe, a significant and growing number of design professionals have envisioned a future characterized by a more sustainable, human-centered built environment.

Aesthetically, structurally and environmentally, wood is an extremely important construction material that will help achieve this vision. As we face the reality of climate change and the impact of human development, it is clear that building with wood is the most responsible choice. The pursuit of sustainably-sourced wood design solutions can significantly enhance the environmental performance of buildings and reduce the carbon footprint of the built environment.

Using wood in the new ways made possible through scientific research, advanced manufacturing and computer-aided design has ensured that today's wood buildings are not just sustainable, they're also innovative and more competitive. These technological advancements have enabled the construction of larger and taller wood buildings, leading to an impressive new generation of structures we couldn't have imagined even a decade ago.

Wood *WORKS!* is proud to honor Canadian architects, engineers and project teams who embrace wood design and inspire us with their buildings. We congratulate the winners of the Canadian award programs and thank them for their leadership and pursuit of wood design excellence. Please take time to enjoy the projects featured here; you might just glimpse the future!

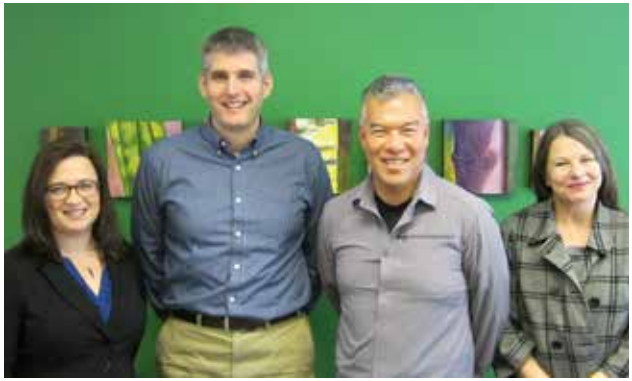
Lynn Embury-Williams
Executive Director
Wood *WORKS!*
British Columbia

Marianne Berube
Executive Director
Wood *WORKS!*
Ontario

Gérald Beaulieu
Executive Director
Cecobois

Kevin Merriam
Executive Director
Maritime
Lumber Bureau

Jurors



From left to right:

KARLA FRASER
Senior Project Manager
URBAN ONE BUILDERS
www.urbanonebuilders.com

BOB SMITH, BScF, MSc
General Manager – Specialty Products Sales & Marketing
CANFOR
www.canfor.com

ED LIM, P.ENG.
UNITED BUILDING SYSTEMS
www.unitedbuildingsystems.com

ADELE WEDER, MASA, MRAIC (HON.)
Architectural Journalist and Critic

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Council of Forest Industries

FPInnovations

GORMAN The Finest Boards

HEROLD ENGINEERING

INTERFOR Building Value

STRUCTURLAM Intelligence In Wood

West Fraser

WFP Western Forest Products Inc.

western archrib structural wood systems

Weyerhaeuser

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BSLC

International Wood Design

T3
Minneapolis, MN
MGA | Michael Green Architecture

Please see page 96

Sustainable Forestry Initiative (SFI) Award

Lakeside at Black Butte Ranch
Black Butte, OR
Hacker

Please see page 122

BRITISH COLUMBIA

LVL panels bring the beauty and simplicity of wood into an unlikely industrial setting

Shoreline

Weir-Jones Group

For this client, an instrumentation engineering company, the architect created a bespoke manufacturing facility and mezzanine office space within a new industrial condominium complex in South Vancouver. The owners of the company had a strong affinity for wood construction for aesthetic, economic and sustainable reasons, and they required a new second floor of offices inserted into their large warehouse and production space.

The solution was a clean and simply detailed structural insertion in the double-height space where mass timber elements provided both structure and finish. The innovative LVL structure meets the client's robust business needs while championing simplicity, beauty and sustainability. The entire interior celebrates the material and takes advantage of the beautiful finish, rather than resorting to drywall finishes or fire-treating the structure.

This was an opportunity to educate authorities having jurisdiction, as this was the first project in the City of Vancouver to employ heavy engineered timber floor and wall panels in a conventionally non-combustible application. The architects worked with consultants and structural engineers to develop an innovative system and set of details that would satisfy building code regulations regarding fire, seismic and life safety.

This project was the first in the world to use Brisco panels, a resawn LVL panel manufactured in Golden, BC. This mass timber product was used as columns, beams, floors, partitions and even stairs, creating a monolithic yet natural backdrop to operations. The economy and simplicity of the structural concept allowed the complete structure to be installed inside the existing building in 16 days by three tradespeople.

ARCHITECT
MGA | Michael Green Architecture
Vancouver, BC

STRUCTURAL ENGINEER
Equilibrium Consulting Inc.
Vancouver, BC

TIMBER SUPPLIER
Brisco Manufacturing Ltd.
Brisco, BC

PHOTOGRAPHY
Michael Elkan
Vancouver, BC

Environmental Performance

Prefabrication proves to be an ideal solution for remote island community

Bella Bella Passive House

Vancouver Coastal Health Authority

Bella Bella is a small community located on Campbell Island off the coast of British Columbia. It is home to approximately 1,500 residents, roughly 90 per cent being Heiltsuk First Nation.

In 2014, a fire destroyed the staff housing complex at the R.W. Large Memorial Hospital, and Vancouver Coastal Health Authority needed to construct a replacement facility. At the time, VCHA was actively considering changing its performance requirements for new facilities from LEED to Passive House. Buildings certified to Passive House standards require up to 90 per cent less heating and cooling energy than an average building. The Bella Bella project was an opportunity to put this change into practice.

The Bella Bella Passive House is staff housing consisting of six, two-story attached townhomes. Each story of each townhome was a module, prefabricated and finished in Agassiz, BC. The modules are 32 ft. long and 14 ft. wide and weigh approximately 32 tons each.

Constructing a project with such high standards in such a remote location would normally prove to be a considerable challenge. The lack of skilled labor in the area, along with no experience in Passive House builds locally, would likely have resulted in housing that would not meet the stringent certification. However, prefabricating the modules within a controlled factory environment enabled the team to combine the required resources with the right materials, quality controls and correct installation.

As part of the construction process, mock-ups were built prior to commencing the final build of the modules to demonstrate how details such as window framing would conform to the stringent requirements and overcome issues around thermal bridging and airtightness.

While the modules were being built in the construction facility, work had already started on the Bella Bella site. This parallel working practice is common with prefabrication and can result in a 30 per cent shorter construction period. The modules were craned into place on Aug. 30, 2015, with the last modules being placed on Sept. 10. In just two weeks, the final exterior work was completed, the units were cleaned and furnished, and residents moved in.

Passive House certification on modular construction had not been attempted in British Columbia before this project and the learning curve was steep. In the end, the results speak for themselves: the lessons learned are transferable and confirm that innovative approaches can benefit the planet, save energy, increase productivity, and improve housing affordability.

CLIENT
Vancouver Coastal Health Authority
Vancouver, BC

ARCHITECT
Mobius Architecture
Sechelt, BC

STRUCTURAL ENGINEER
CanStruct Engineering Group
Surrey, BC

GENERAL CONTRACTOR
Spani Developments Ltd.
Sechelt, BC

PHOTOGRAPHY
Britco Construction
Sechelt, BC

Residential Wood Design

Locally sourced fir and red cedar achieve minimal environmental impact with maximum elegance

Arbutus House

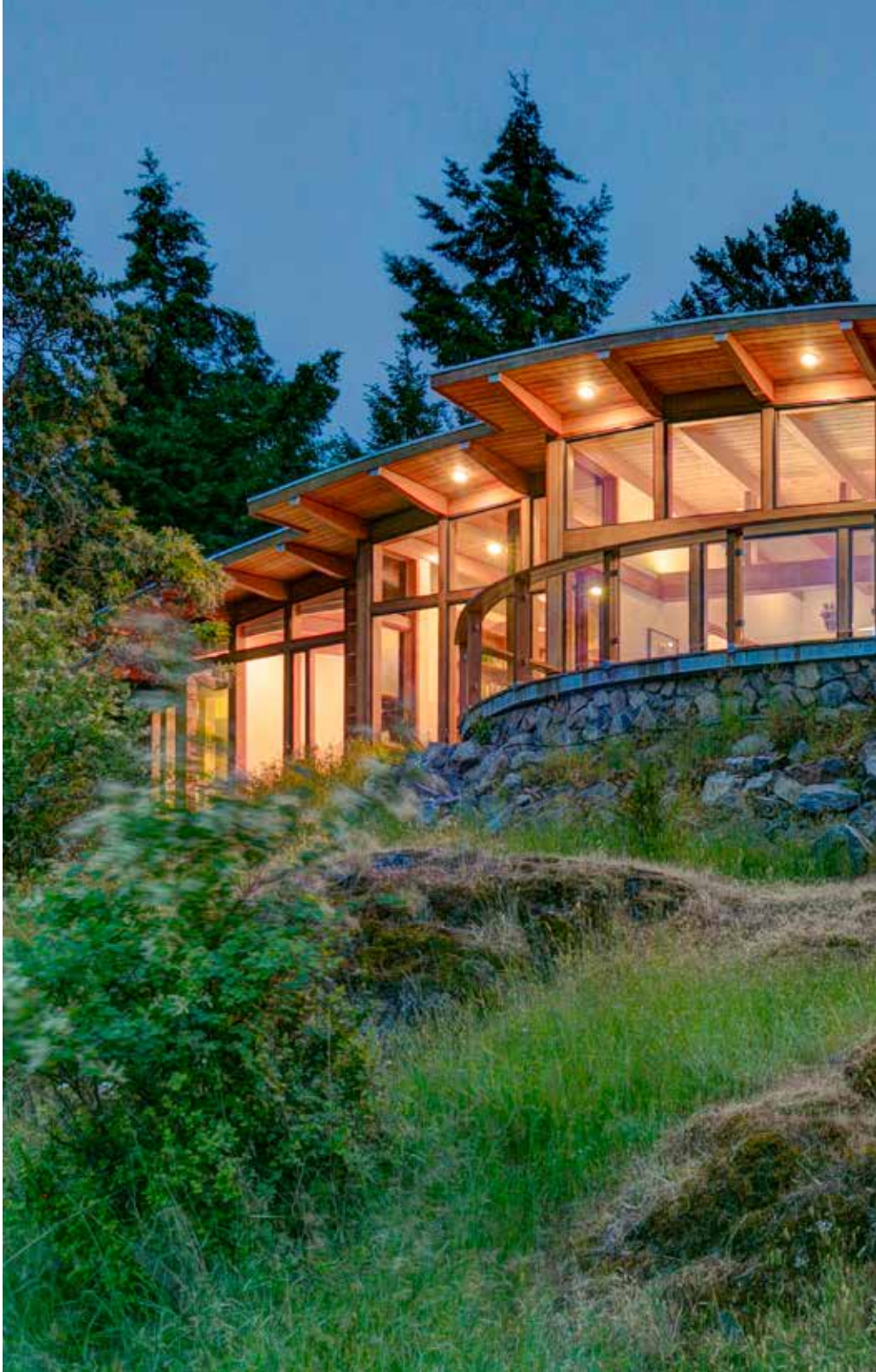
Helliwell + Smith • Blue Sky Architecture

Ascending steeply up the mountain, a beautiful fir forest slowly gives way to an arbutus grove growing along a rocky ridge. Carefully inserted between the grove and the forest, this 2,850-sq.ft. house perched high above a Vancouver Island inlet curves dramatically along the ridge. The distant ocean, mountain and island views are to the north and the intimate forest views surrounding the house are to the south, west and east.

The house, guest house, studio, garage and shop are a series of pavilions with curving red cedar-clad walls, punctuated with glass walls and accentuated with rectangular walls of intensely colored glass tiles adjacent to all entrances. The bones of the buildings are robust Douglas fir post and beam frames.

The main social areas (den, living room, dining, kitchen) are all one space in the center of the house. The sculptured curves of the raftered fir ceiling float above the glass walls and clerestories; glazing for the view walls is site-set into finished structural posts. All framing and finishing fir and red cedar wood is locally sourced by the owner.

The clients wanted to ensure a minimal impact on the natural qualities of the site. To that end, they were involved in site development, planning and material supply. With intimate knowledge of their property, they carefully built a long driveway and laid the utility network up the mountainside. They were able to select premium timbers and finishing wood with the help of a specialized sawmill located on the northern part of Vancouver Island. The detailing of the high quality and fine grained cedar siding, inset with thin, horizontal galvalume strips, gives the house a look like fine furniture placed in the arbutus forest. Windows and doors are custom built with Douglas fir. The entry door is crafted with book-matched red cedar panels set in a fir frame with horizontal glazing slots. This detail is a negative match to the exterior wall detailing. The primary floor finishing material is clear Douglas fir. All ceilings are 2 x 6 Douglas fir decking. The rest of the roof assembly is ice and water shield, polyiso insulation, protection board and modified bitumen membrane.



ARCHITECT
Helliwell + Smith • Blue Sky Architecture
West Vancouver, BC

STRUCTURAL ENGINEER
Chiu Hippmann Engineering Inc
Vancouver, BC

GENERAL CONTRACTOR
R. Parsons Construction Ltd.
Victoria, BC

TIMBER SUPPLIER
JMC Forest Maintenance Ltd.
Brentwood Bay, BC

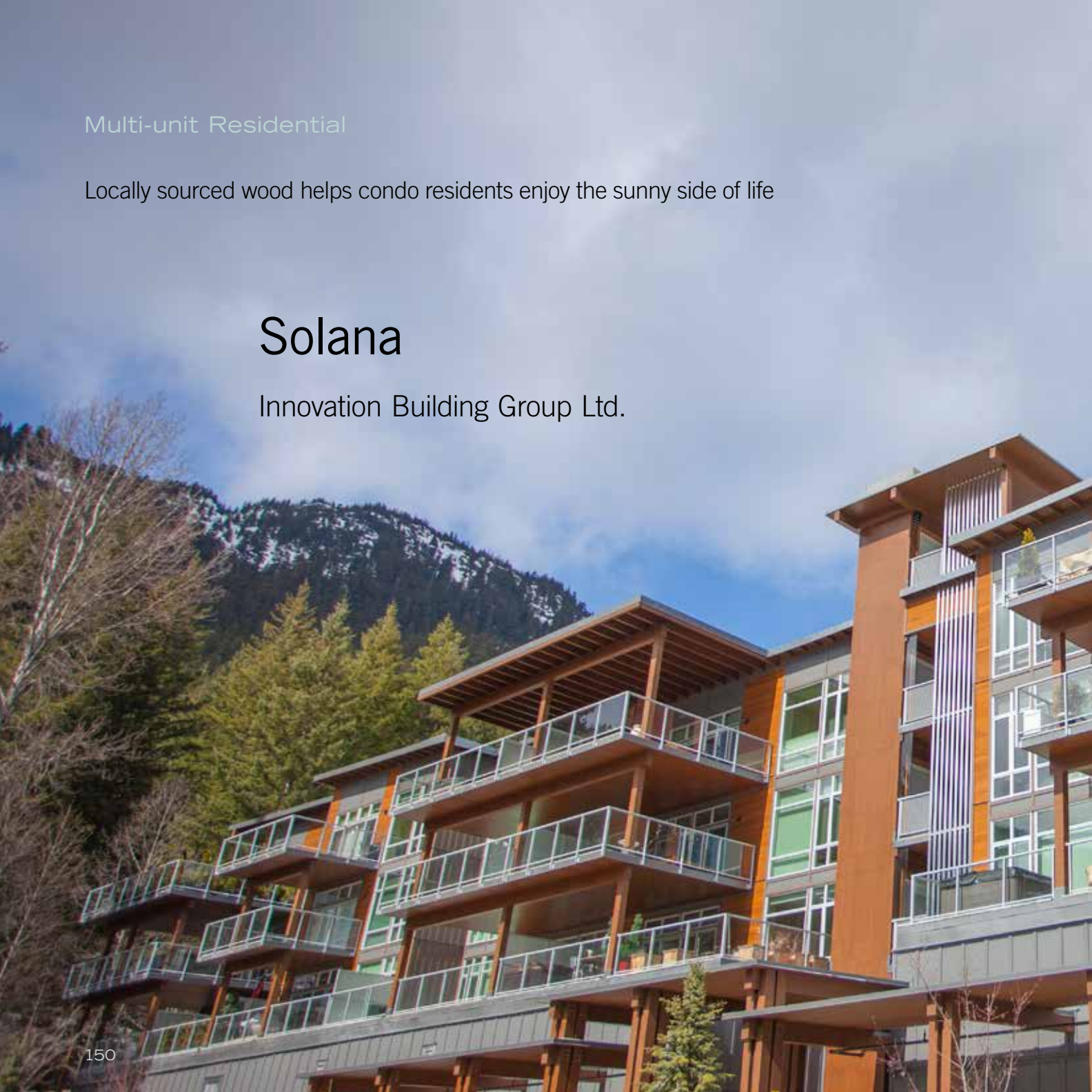
PHOTOGRAPHY
Heath Moffatt
Victoria, BC

Peter Powles
Vancouver, BC

Locally sourced wood helps condo residents enjoy the sunny side of life

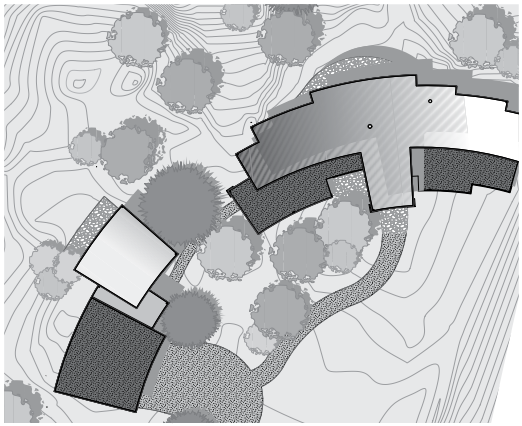
Solana

Innovation Building Group Ltd.



1. entrance
2. living room
3. dining room
4. kitchen
5. bedroom
6. washroom
7. utility
8. mechanical
9. pantry
10. powder room
11. den
12. office
13. master bedroom
14. master ensuite
15. closet

FLOOR PLAN



SITE PLAN

The north-facing view terrace is formed with natural rock from the site. A single laminated red cedar handrail snakes around the edge of this terrace. The south terrace is built on grade, surrounded by native plants, arbutus and rhododendrons. Both exterior terraces are finished with blue stone pavers. A dining area opens to both terraces with glass accordion doors. All floor levels are set close to the natural grade; exceptions to this planning strategy are the main ensuite bath, which appears to float over moss-covered rocks, and the north terrace, built up above the natural rock shelves.

Facing both the Blackcomb Mountains and Green Lake, Solana embodies all that residents of Whistler live for in this resort community. Designed to take advantage of the fabulous views through orientation and floor-to-ceiling windows, this 26,000-sq.ft. condominium was finished in January 2016.

Residents of this "senior-ready," three-story building enjoy well-insulated and ventilated homes with a rooftop deck with garden plots, conversation area, and barbeque and dining facilities. Each unit also has a large deck to enjoy the outdoors in privacy. Features like reinforced washroom walls for grab bars, walk-in showers, and wider halls and doorways for mobility assistance items assure residents barrier-free living.

Wood was the choice for both structure and finish for this building, allowing a reduction in materials and embodied energy. Sustainability was an important goal for the developer, who aimed to exceed British Columbia's Built Green Platinum standards using locally sourced products wherever possible. Using wood provided a lower carbon footprint, reduced the size and costs of the foundation, and reflects the essence and the beauty of the project location.

Another important goal with this project was creating a healthy home. Although units were built to be as airtight as possible, heat recovery ventilators were installed to supply fresh air in each unit. The windows chosen were triple-paned for maximum R-value, as residents want to be as close to the view as possible without feeling chilled in winter. The larger floor-to-ceiling windows allow maximum sunshine penetration into the unit.

LVL panels, posts and beams were used in both the structure and the finish of the building. The elevator shaft was constructed of 60 ft. x 8 in. LVL panels screwed together. The decks and walkways consist of 5.5-in. LVL panels on LVL posts and beams. They were fastened with screws, eliminating the use of steel plates. This process expedited construction while providing a unique wood finish for the building.

Chosen for its quality and aesthetics, clear cedar siding was used for some of the soffits as well as accent siding for the project. Eight-inch SIP panels were used for the outsulation over the entire wall system. The wall structure consists of 2 x 6 framing with R20 batt insulation providing the overall R-value of 52, thus creating a well insulated, airtight wall system. Wood was a good choice to reduce thermal bridging in the structure.

The parkade was constructed using insulated concrete forms (ICF). The ICF system keeps the parkade warm enough to operate without heat. The ceiling of the parkade was built using wood subfloor panels over 14-in.-deep TJI joists with blown-in sound insulation instead of a typically carbon-intensive concrete deck.

Solana reflects the community in which it was built by providing a comfortable and healthy home for Whistler residents. It also reflects the Whistler environment by showcasing BC wood products while orienting itself to take advantage of the best Whistler has to offer.

ARCHITECT
Murdoch and Company
Architecture + Planning Ltd.
Whistler, BC

STRUCTURAL ENGINEER
United Building Systems Ltd.
Vancouver, BC

GENERAL CONTRACTOR
Innovation Building Group Inc.
Whistler, BC

PHOTOGRAPHY
Ryan Nadeau
Whistler, BC

Commercial Wood Design

Heavy timber provides aesthetic and environmental benefits for destination shopping center

Tsawwassen Mills

Read Jones Christoffersen Ltd.


IAN TAN PROJECTS

Tsawwassen Mills, a new destination shopping center in British Columbia, provides approximately 1.2 million sq.ft. of retail space on Tsawwassen First Nation land. The structure is separated into five thematic areas that showcase the natural elements of various regions. Each space is designed to be open and dramatic, and the overall building is designed to be an expansive space that achieves functional and sustainable goals.

In the shopping center's two feature spaces, heavy timber framing is displayed as the primary element. Natural wood is accompanied by an abundance of natural light to create a feeling of warmth and comfort for shoppers. For instance, the Promo Court (also known as Entrance Three) is a 13,000-sq. ft. space that features dramatic natural light and an open concept. Guests are welcomed through a 35-ft.-high entry of faceted glazing that floods the space with light and showcases the extraordinary heavy timber framed roof comprised of 5-in. nail-laminated timber and a 5/8-in. top plywood sheathing. The owner's desire to emphasize the texture of natural wood was achieved through the impressive 42-in.-deep, steel rod-tied heavy timber beams which support the laminated roof and span the up to 123-ft.-wide column-free hall. Generous skylights and clerestory bring further natural illumination into the space.

The food court is a 32,000-sq.ft. space featuring a 3-in. nail-laminated timber roof with plywood sheathing supported on glulam beams framing in two directions on inclined and 44-ft.-high forked glulam columns. The inclined beams and columns were designed to give a sense of movement and liveliness to the area. Huge skylights and clerestory windows flood the space with daylight.

The use of wood in the project led to cost savings and versatility. This was achieved through the application of the long span beams featured in the Promo Court. These beams utilized an innovated pin connection that allowed for the use of four shorter beams instead of one longer beam. Due to the smaller size of the beams, simpler transportation methods were available to get the beams to the project site, leading to significant cost savings.

The use of heavy timber as a material choice for the display spaces provides both aesthetic and environmental benefits. This natural material achieves the predominant wood texture and adds to the thematic west coast design for those areas. Thoughtful consideration was taken throughout the design to increase the environmental efficiencies along with the intent to achieve a level of LEED Core and Shell for the project.

CLIENT
Ivanhoe Cambridge
Toronto, ON

ARCHITECT OF RECORD
Stantec
Vancouver, BC

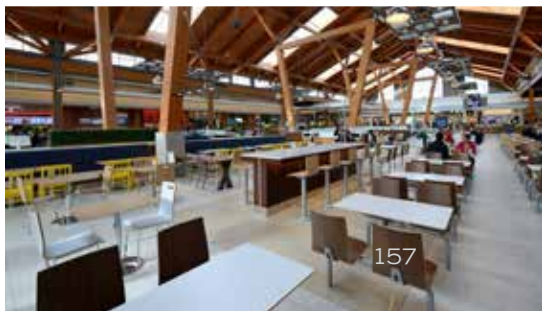
DESIGN ARCHITECT
JPRA Architects
Farmington Hills, MI

STRUCTURAL ENGINEER
Read Jones Christoffersen Ltd.
Toronto, ON

GENERAL CONTRACTOR
Ledcor Construction
Vancouver, BC

TIMBER SUPPLIER
Macdonald and Lawrence
Timber Framing Ltd.
Mill Bay, BC

PHOTOGRAPHY
Michael Sherman Photography
Vancouver, BC



Interior Beauty Design

Warmth of wood provides a finishing touch
to school's 21st-century approach to learning

Mulgrave Senior School Addition

HDR | CEI Architecture Associates, Inc.

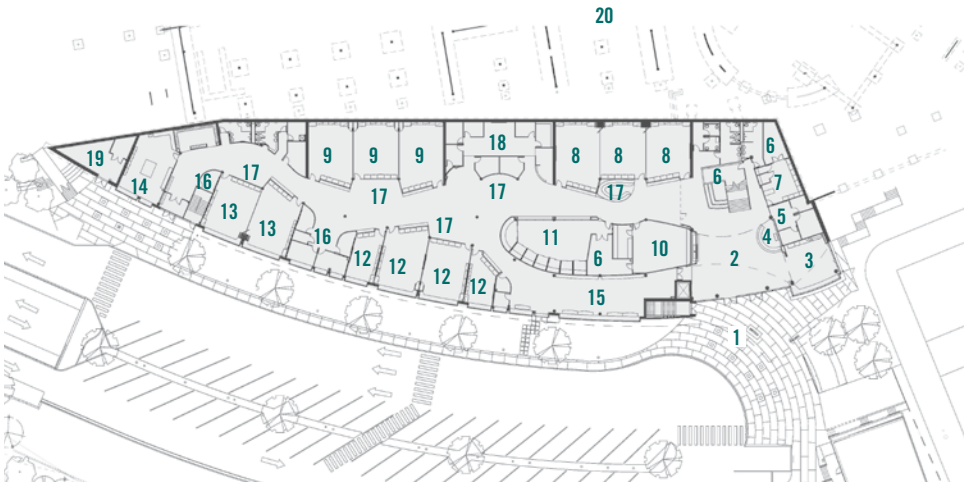

ngela Lee Family Atrium
The Allard Family Senior School

Mulgrave School is an independent school that follows the International Baccalaureate program for students from pre-kindergarten to Grade 12. The architect completed the master plan for the phased development of a Senior School addition to Mulgrave School, and has completed the design and construction of the first phase.

1. open to below
2. gallery
3. cafeteria
4. upper lobby
5. servery
6. kitchen
7. warewashing
8. vestibule
9. receiving
10. portal
11. green roof
12. existing school

N

SECOND FLOOR PLAN



1. entry plaza
2. main lobby
3. cafe
4. reception
5. admissions office
6. storage
7. MVP shop
8. classroom – english
9. classroom – math
10. classroom – studio
11. classroom – viewing
12. classroom – languages
13. classroom – social studies
14. classroom – outdoor education
15. senior academic centrer
16. seminar room
17. learning hub
18. open office
19. existing building
20. existing school above

N

GROUND FLOOR PLAN

At approximately 42,000 sq.ft., the Senior School includes a bright and spacious new main entrance atrium, a "Great Hall" dining room, a roof garden with an outdoor theatre space, art exhibition area and an innovative, module-based approach to classrooms. The design is based on 21st-century learning principles and provides educational space in a variety of configurations and sizes.

Classrooms support various learning styles through flexible configurations, with smaller collaborative areas and larger group spaces that are responsive to a variety of pedagogical styles. Learning spaces are equipped with flatscreen monitors, projection screens and projectors to facilitate instruction and learning.

Wide, non-linear arteries – rather than straight corridors – surrounded by niches and nooks offer a number of options for students to collaborate, talk, relax or work independently in safe, supervised spaces.

A fully accessible green roof, creating green space in what was previously a hard surface, provides storm water retention and roof insulation, and serves as an outdoor play area and learning space.

A low-profile, tiered amphitheater creates seating that looks onto a temporary stage location with a spectacular background view of Vancouver's Burrard Inlet and beyond. Extensive natural light, passive ventilation and solar hot water heating provide further sustainable elements along with a comfortable interior environment.

Wood is expressed throughout the building in structural members and interior finishes, contributing to a warmer, more productive learning environment. The new main entrance is a grand, double-height space constructed of exposed engineered timber components, including glulam columns, beams and cross-laminated decking. The warmth of the wood creates a welcoming glow for students, faculty, staff and visitors.

CLIENT
Mulgrave School
West Vancouver, BC

ARCHITECT
HDR | CEI Architecture Associates, Inc.
Vancouver, BC

STRUCTURAL ENGINEER
Read Jones Christoffersen
Toronto, ON

GENERAL CONTRACTOR
Scott Construction Group
Burnaby, BC

PHOTOGRAPHY
Ed White Photographics
Vancouver, BC

Institutional – Small

A “living lab” for engineering students teaches structural engineering in action

UBC Engineering Student Centre

Urban Arts Architecture

The Engineering Student Centre (ESC) at the University of British Columba is intended to be a home away from home for students, a place for them to build a community. Established in collaboration with the Engineering students, the vision was to create an iconic building that celebrates the science, skill and art of engineering.

The 10,000-sq.ft. student center has been designed as a "living lab" to showcase innovative engineering strategies. Key concepts, developed with the students, included pushing the limits of wood construction, implementing passive design strategies, demonstrating building systems through absence, and creating a healthy, inclusive and welcoming social space for all students.

Wood was selected as the primary building material to demonstrate the use of renewable local resources; to create warm, healthy and compelling spaces; and to display engineering prowess using a mass timber prefabricated structure. The warmth of the wood structure also creates a durable, welcoming environment.

To condense construction time and facilitate building in a tight courtyard site, an off-site prefabrication strategy was implemented, including the nail-laminated timber (NLT) roof and floor structure and glulam columns and trusses. The trusses suspend the second floor from the roof, creating a column-free, open space at the ground floor. Defined by the wood trusses above and the warmth of the exposed NLT ceiling, this open space creates a fluid gathering zone for parties, competitions, group work and relaxing.

The second floor houses the Engineering Undergraduate Society offices, the study zone and a roof terrace. These spaces are a more refined series of linked spaces for meeting, interviews and study. Located between the trusses, the study zones filter views through the warm wood structure to the atrium below and out to the courtyard.

The building materials also provide connection to the past. Glulam columns recycled from the former engineering clubhouse are reconfigured in ESC as stair treads. Concrete was also salvaged, ground up and reused as aggregate in the new foundations. Didactic moments are layered through the project: NLT panels are left visible to reveal their orientation and bearing on the structure, while the trusses showcase connections and provide a clear structural diagram of how tension and compression forces are carried through the space. The total effect rewards the curious with an opportunity to unpack the structural "magic" that makes the upper floor float and the roof soar.

ESC is sited to take advantage of the micro-climate of the courtyard, using the shading from the existing buildings and optimizing the use of localized wind patterns. The cantilevered NLT

1. north walk
2. commons
3. bioswale
4. courtyard
5. stage
6. east walk
7. bikes
8. lawn

N SITE PLAN

roof and second-floor structures address the seasonal sun paths, permitting winter solar gains while limiting solar exposure in the summer. Natural ventilation is achieved through the stack effect, harnessing the constant wind in the courtyard. Trickle vents located on the ground and second floor combine with a roof top lantern to ensure continual natural ventilation. The radiant heating systems are tied directly to a district energy system for the heat source, minimizing energy consumption.

From the outset of the design process, the inclusion of the students as active project partners instilled ownership, created social connections and resulted in a finished building that reflects the ingenuity, inspiration and imagination of the students. As their home away from home while they live on campus, ESC will enrich their academic experience and forge bonds that last a lifetime.

CLIENT
UBC Properties Trust
Vancouver, BC

ARCHITECT
Urban Arts Architecture
Vancouver, BC

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

GENERAL CONTRACTOR
Syncra Construction
Vancouver, BC

PHOTOGRAPHY
Martin Knowles
Vancouver, BC

Institutional – Large

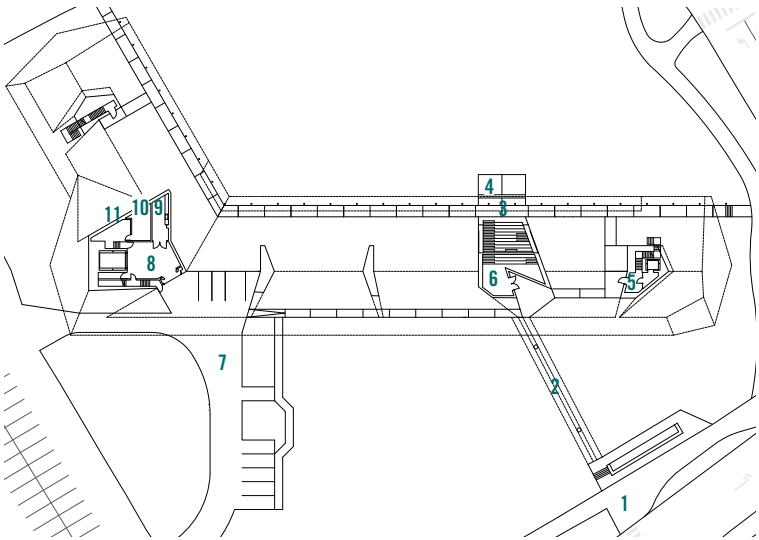
Deliberately restrained design accentuates beauty found both outside and inside

Audain Art Museum

Patkau Architects

A 56,000-sq.ft. museum in Whistler, BC, the Audain Art Museum houses the personal collection of home developer and art collector Michael Audain, tracing a visual record of British Columbia from the late 18th century to the present day. It includes one of the world's finest collections of old First Nations masks, a superb collection of Emily Carr paintings, and works by some of Canada's most significant post-war artists including Jack Shadbolt, E.J. Hughes and Gordon Smith, as well as works by such internationally regarded contemporary artists as Jeff Wall, Rodney Graham and Stan Douglas.

The design of the museum is shaped by three powerful determinants. The first is the need to house both the permanent exhibition of Michael Audain's collection and temporary exhibits of all kinds from across Canada and around the world. The second is the beautiful but challenging site in Whistler which, although blessed by magnificent evergreen forests, is located within the floodplain of Fitzsimmons Creek. The third is the enormous snowfall typical of Whistler, which averages an annual accumulated depth of nearly 15 ft.

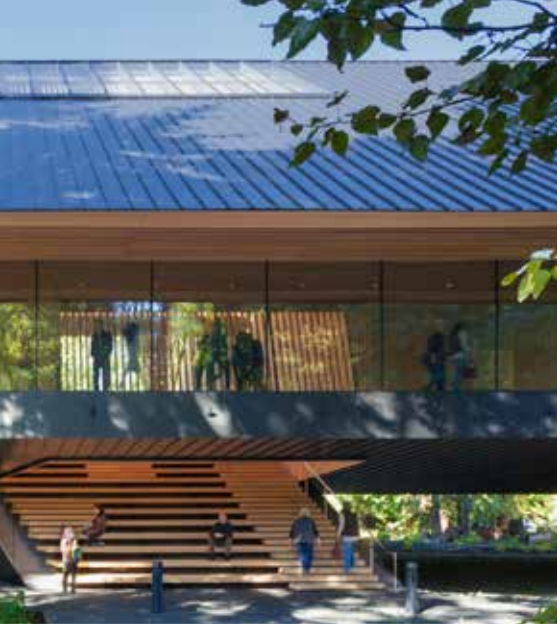


1. drop off
2. bridge above
3. terraced seating/stair
4. pedestrian path
5. lobby
6. storage
7. service entry
8. loading bay
9. workroom
10. generator
11. mechanical

FLOOR PLAN

The design responds to these determinants by projecting a volume of sequential public spaces and galleries into an existing linear void within the surrounding forest. It is elevated a full story above the ground and crowned with a steeply sloped roof.

The building design and siting work synergistically within the context of the site to create a public pedestrian link, beginning from the "village stroll" or pedestrian spine of Whistler Village, across Blackcomb Way, leading to and through the museum and then across the site to Fitzsimmons Creek park. A bridge from Blackcomb Way rises through the forest to arrive at a sky-lit museum entry porch. From there, visitors can either descend to the forest floor and central meadow to continue passage through the site, or enter the museum lobby and event space. Once inside, visitors proceed along a glazed walkway



overlooking the meadow below, to gain access first to the galleries containing the permanent collection and then to the galleries featuring temporary exhibits.

The form and character of the building and interiors are deliberately restrained to provide a quiet, minimal backdrop to the art within and the surrounding natural landscape. The simple form of the exterior is clad in an envelope of dark metal, which recedes into the shadows of the surrounding forest. Where this envelope is opened to provide access in the entry porch or view from the glazed walkway to the galleries, the dark metal is overlaid by a luminous wood casing. Public spaces in the interior, which are visible from the exterior, continue this warm and luminous materiality. Gallery interiors in both the permanent and temporary exhibition areas are closed white volumes with minimal detail.

CLIENT
Audain Art Museum
Whistler, BC

ARCHITECT
Patkau Architects
Vancouver, BC

STRUCTURAL ENGINEER
Equilibrium Consulting Inc.
Vancouver, BC

CONSTRUCTION MANAGER
Axiom Builders
Vancouver, BC

PHOTOGRAPHY
James Dow
Edmonton, AB

Western Red Cedar

House combines ancient wood-charring techniques with modern design

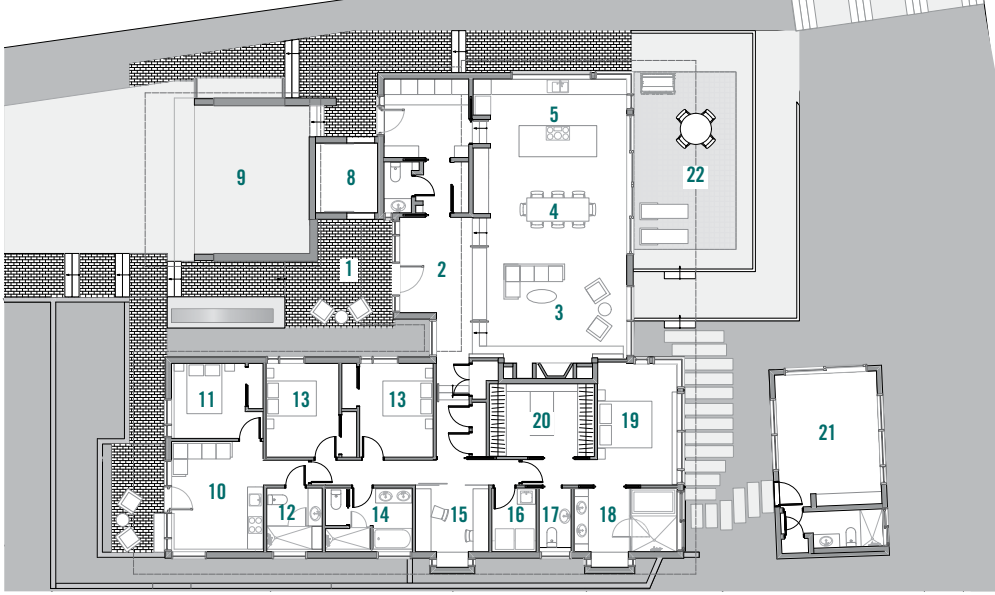
Cadboro Bay Residence

D'Ambrosio architecture + urbanism

Situated on a seaside bluff above a sandy beach on Vancouver Island, this house was designed for a young family.

Window walls and corner glazing frame expansive views of the bay and strait beyond, while large integrated sliding doors allow the facade to open to the adjacent terrace. The home's living roof, planted with grasses and flowers native to the Pacific Northwest, sits low in the landscape and features operable ventilated skylights. The entry sequence is framed by board-formed concrete retaining walls, weathered steel planter boxes, and a recirculating concrete pond fountain.

The ceiling of the main living/dining/kitchen volume combines cedar planks, perpendicular notched Douglas fir beams, and a recycled denim fabric for sound attenuation. Heating vents from a high-efficiency wood burning fireplace are integrated into the recessed steel C-channel above the board-formed concrete hearth. Hydronic heating is deployed in the exposed concrete floor slab throughout the wood-framed home's living and service spaces, master suite, children's bedrooms and attached nanny suite. An existing garage, perched on the bluff's edge, was repurposed as a guest suite, overlooking the bay and beach below.



1. entry courtyard
2. entrance foyer
3. living
4. dining
5. kitchen
6. rear entry/boot room
7. powder room
8. storage shed
9. carport
10. suite kitchen/living
11. suite bedroom
12. suite washroom
13. bedroom
14. washroom
15. study
16. laundry
17. washroom
18. master ensuite
19. master bedroom
20. dressing
21. garden guest suite
22. terrace

FLOOR PLAN

Following studies and experimentation based on the centuries-old Japanese technique of Shou Sugi Ban (flame-charred wood), the tongue and groove vertical cedar cladding was torched on-site prior to installation. The result is a textured, dark and lustrous exterior facade, which contrasts with the home's bright, modern interior.

The beauty and warmth of wood plays an essential role in the architect's work, especially in the context of the Pacific coast. The collaboration between the designers, owners, and the team of skilled builders, has resulted in a beautiful, one-of-a-kind home in a stunning setting.

ARCHITECT
D'Ambrosio architecture + urbanism
Victoria, BC

STRUCTURAL ENGINEER
Spar Consultants
Victoria, BC

GENERAL CONTRACTOR
Taylor Made Builders
Victoria, BC

PHOTOGRAPHY
Sama Canzian
Victoria, BC
Nathan Flach
Victoria, BC

Jury's Choice

A traditional ceremony receives a thoroughly contemporary stage in downtown Vancouver

Shaw Tower Teahouse

Kengo Kuma and Associates

This project, a pavilion for hosting traditional Japanese tea ceremonies, is situated on the 19th floor roof of Vancouver's Shaw Tower, overlooking the city's downtown and bay.

Although based on a traditional Japanese teahouse, the building is thoroughly contemporary. Surrounded by stones and featuring sliding glass walls, the wooden structure encompasses a central accordioning table on hydraulic supports that folds into the floor, creating a level walking surface. When raised, this table accommodates sitting guests for tea ceremonies.

Uniquely placed on the roof of a major office and residential building, this teahouse is richly specified in wood decking and soffits, and shoji screen with a washi paper ceiling. Butt-joined structural glazing doors complete the contemporary floor of the structure.

CLIENT
Westbank Projects Corp.
Vancouver, BC

DESIGN ARCHITECT
Kengo Kuma and Associates
Tokyo, Japan

ARCHITECT OF RECORD
Merrick Architecture
Vancouver, BC

STRUCTURAL ENGINEER
DIALOG
Vancouver, BC

GENERAL CONTRACTOR
Hart+Tipton Construction Inc.
Vancouver, BC

TIMBER SUPPLIER
Canadian Bavarian
Millwork + Lumber Ltd.
Chemainus, BC

PHOTOGRAPHY
Ema Peter Photography
Vancouver, BC

Jurors

JUDY JESKE
Principal; Vice President of Code,
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Senior Code Specialist
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LLOYD ALTER, B.ARCH, OAA
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The Working FOREST
newspaper

Jury's Choice

Kikendaasogamig Elementary School

Cape Croker, ON
MMMC Architects

Please see page 116

ONTARIO

Innovative panels eliminate structural frame system

Steam Canoe Winter Station

Ontario College of Art & Design

Designed and built for Toronto's Winter Station Design Competition, an annual competition that challenges designers to re-imagine Toronto's lifeguard stations as a basis for winter art, the Steam Canoe is designed to provide an active warming station on one of Toronto's Lake Ontario beachfronts.

Inspired by an iconic symbol of indigenous culture and early exploration in Canada, the structure cuts through the harsh winds of the cold Canadian winter like a canoe through water. The design was achieved using a mix of computer-aided and manual tools, including computer-assisted parametric geometry, manual fabrication of the computer-generated forms and experimental production.

The process of sandwiching two layers of 0.1-inch oak and one layer of 0.8-inch spruce was made possible by the mechanical fastening of two layers of metal "Velcro". The three layers of wood were first cut to dimension and then laid perfectly on top of each other with two pre-cut continuous layers of grip metal between the exterior oak veneer and core spruce lumber. The assembled panel was then rolled under high pressure into an instantly stable press-laminated timber panel with the teeth of the grip metal creating an instant bond. Assembled without any adhesives, the components can be separated at the end of panel's lifetime into its pure material origins of wood and metal, making this a perfect innovation in material, process, application, product and sustainability.

The pavilion shell that's formed from these strong but lightweight timber panels did not require a structural frame system holding the skin. The skin itself is the structure of this building with all panels acting in unison, connected to each other by custom-made aluminum brackets.

As a model for sustainable education, the structure also utilizes solar energy for heating. Snow accumulates on top of the structure and slides down the back, where it is thawed through a solar-heated glycol loop. When heated, the moisture in the warm rising air will condense in the cold surrounding environment of the structure and create a fog effect. As the fog travels upward, it is trapped underneath the peaked roof to create a warming environment. Everything about this structure is designed to maximize resources and warmth, right down to the shelter's entrance facing southwest to break the northern prevailing winds (while opening itself up to a picturesque view of Lake Ontario).

The structure was part of the second annual Winter Station Design Competition 2016 and was installed from February to March. It will be on long-term display at the OMI International Arts Center's Sculpture Park in Ghent, NY, until 2018.

PROJECT TEAM

Core Team OCAD University:
Curtis Ho, Jaewon Kim, Jungyun Lee, Monifa Onca Charles, Reila Park, Hamid Shahi, Lambert St-Cyr, Jason Wong, and Mark Tholen, Assistant Professor, Faculty of Environmental Design OCAD

Nucap Industries/Grip Metal:
Albert Bachli, Ray Arbesman, Mark Lavelle

With the help of:
Sanjana Chokshi, Aruvi Rajasingham, Supreetha Guntur, Rachel Sau, Nancy Le, Yvonne Tran, Petar Pilipovic, Shengjie Qiu, Jessica Huynh, May Rizkana, Alison Huo, Samantha Tam, Ariadna Rodriguez, Cyndi Zhang, Ash Babu, Sarah Fahmy, Henry Zhang, Ashley Gesner, Ryan Li, Gretta Leach, Kurt Hsu, Marc Weersink, Mariano Martellacci, Zico Q He, Daniel Slobodskoi, Natassia Addeo, Helena Park, Kangmin Lee, Patrick Augustynovicz, Ben Chang, Olayide Madamidola, Alejandro Rebollar Heres

Environmental Building

Wood roof structure and finishes align with client's sustainable aesthetic

Watershed Conservation Centre, Upper Thames River Conservation Authority

Randy Wilson Architect Inc.

The Upper Thames River Conservation Authority is a community-based watershed management agency dedicated to conserving, restoring and managing water, land and natural habitats through programs that balance environmental and economic needs. The design of the organization's Watershed Conservation Centre is influenced by its responsibility for environmental stewardship and its relationship to the watershed community.

Constructed on a mitigated brownfield site nestled within an urban conservation area, this 40,000-sq.ft. multi-purpose building preserves the existing environment and respects regulated requirements of flood plains, heritage zones and other environmentally sensitive areas. Consistent with the philosophy and mandate of the client, every attempt has been made to address all environmental considerations. The structure curves, mirroring the panoramic views of the watershed area, and is oriented to maximize the quality of light, solar effectiveness, wind exposure, rainfall collection, and groundwater protection.

Both interior and exterior spaces are designed to encourage social interaction and to blend with the landscape, reinforcing a connection to the environment. This is achieved through a contemporary approach and emphasis on the use of natural materials, especially wood. Wood is predominant not only in the roof support structure, but also throughout the building in enhancing and contrasting finishes. FSC hardwoods were used for flooring, trim and millwork. Certified secondary waste-wood products were also used and were organized to bring all the aspects of sustainable materiality to the design. Concrete and steel were necessary to satisfy the requirements for a post-disaster building, and the design team expressed them in a raw state (along with natural

stone) to set a contrast with wood's soft appeal. The intent was to present the building in such a way that the design invites guests to explore the building's palette of materials and then to extend that exploration into the natural environment connecting the community of the greater Upper Thames Valley Region.

Within the building, spaces have been dedicated to education, nature interpretation and community use. The architecture expresses the use and connection of material types, all exposed to encourage investigation of the possibilities of design and construction techniques. While the building is designed as a post-disaster facility, all interior spaces, even underground wet lab and flood control rooms, have corridor-facing glazing to provide transparency from inside the building to the outside environment. This design element, having the building "turn out" to the environment, has proved very successful, and truly connects the building's interior spaces to its natural surroundings.

CLIENT
Upper Thames River
Conservation Authority
London, ON

ARCHITECT
Randy Wilson Architect Inc.
London, ON

STRUCTURAL ENGINEER
Hastings and Aziz Ltd.
London, ON

GENERAL CONTRACTOR
Graceview Construction Ltd.
Belmont, ON

PHOTOGRAPHY
Mitch Allison
Calgary, AB

Tom Arban
Toronto, ON

Anna Wex
Calgary, AB

Interior Wood

Curving wood panels are inspired by the finely tuned instruments that call performing arts center home

FirstOntario Performing Arts Centre

Diamond Schmitt Architects


FirstOntario


FirstOntario PERFORMING ARTS CENTRE

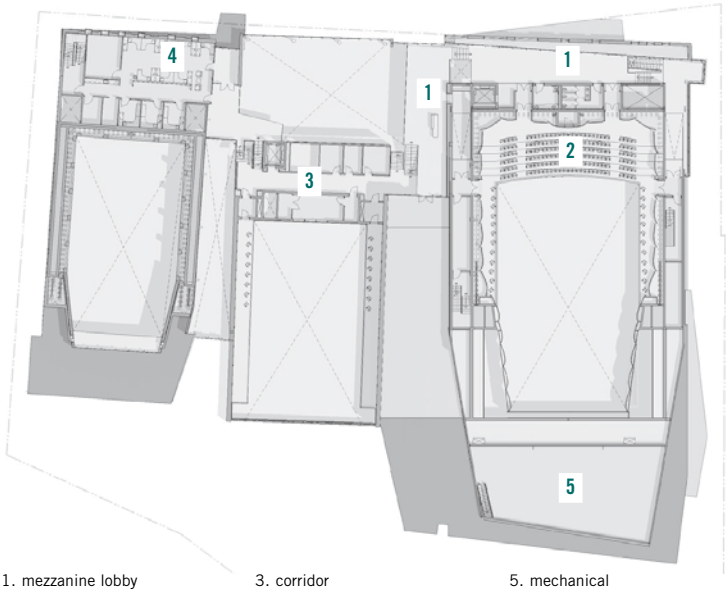
FirstOntario Performing Arts Centre is a 95,000-sq.ft. cultural complex comprised of four state-of-the-art venues that can host a wide range of functions. Situated at a key downtown intersection and extending a full city block, the center's facade conceals the overall size of the facility from its main street view. On the rear south side, the building responds to a sloping terrain and incorporates this elevation change in the program space. The architecture gets bigger and bolder with framed cantilever projections that cast a visible presence across the canal valley.

The wood-lined, 780-seat Partridge Hall is designed for many different types of performance. Concerts by symphony orchestras and smaller, unamplified ensembles can all be performed in this hall because it can be configured differently for each specific need. Wood was found to be the most effective material for the reflective surfaces. It enhances the acoustic clarity of the room and creates an atmosphere of quality and craftsmanship.

Locally sourced red oak is used extensively. It forms the curving panel elements on the walls and ceilings, giving acoustic shape to the room just as a finely tuned string instrument is crafted. Pivoting acoustic panels line the stage sides and ceiling and can be raised or lowered to carefully calibrate the performance to the hall's dimensions so that patrons not only hear well but also feel and experience the music within an intimate setting.

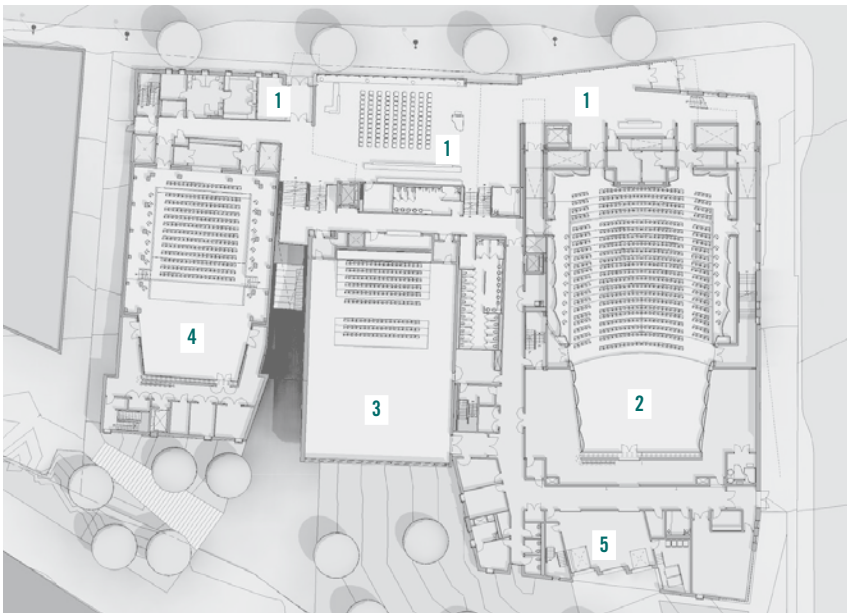
A series of hard-surfaced reflective elements have been integrated into the architecture of the room to enhance and direct sound towards the audience. These elements are fixed wood panel wall and ceiling reflectors, balcony fronts, pivoting wood-clad side panels at the stage, the pivoting wood-clad panels above the stage, and dense gypsum board and wood soffits. Above, smooth, curving wood panels are suspended from catwalks and fixed in place to help move lush sound down toward the audience. Fixed wood scallop panels above pivoting side stage panels are flared outwards to reflect sound towards the audience. Gently curving balcony fronts consist of a solid red oak shell that is acoustically lined and diffuses sound up and down within the room. Gypsum board soffit and upper wood fascia are designed as dense shells to reflect sound down toward the audience.

The large pivoting scallop panels at the sides of the stage flare out towards the audience and follow the form of the scallop panels lining the hall to allow for a variety of acoustic characteristics tailored to the performance on stage. One face of the scallop is a reflective red oak-clad panel while the other face is absorptive velour fabric. The panel has a special pivot indexing mechanism at the base that can set the panel at precise angles for different types of music. The three gently curving wood-clad ceiling panels above the stage can be raised, lowered, and rotated independently depending on the needs of the performance.



1. mezzanine lobby
2. Partridge Hall mezzanine
3. corridor
4. administration
5. mechanical

MEZZANINE FLOOR PLAN



1. lobby
2. Partridge Hall
3. Robertson Theatre
4. Cairns Recital Hall
5. loading

ST. PAUL STREET ENTRANCE LEVEL FLOOR PLAN

The wood stage itself acts as a resonator for bass-stringed instruments pegged into the floor. The wood stage is comprised of a fixed steel framework with a resilient wood floor system that has an open wood cavity. When heavy stringed instruments are inserted into the bass pegs, the open wood cavity amplifies the sound from these instruments.

In addition to Partridge Hall, wood is also used in the smaller, 250-seat recital hall and 180-seat film theatre to carry on the acoustic and aesthetic qualities for which this performing arts center has become known in its first year of operation. The effect creates a warm and resonant atmosphere for audiences and visitors throughout the facility.

CLIENT
FirstOntario Performing Arts Centre
St. Catharines, ON

ARCHITECT
Diamond Schmitt Architects
Toronto, ON

STRUCTURAL ENGINEER
Blackwell
Toronto, ON

GENERAL CONTRACTOR
Bird Construction
Mississauga, ON

PHOTOGRAPHY
Peter Legris
Toronto, ON

Residential Wood

Suspended 16 feet above the forest floor, central living spaces place the occupants within the tree canopy

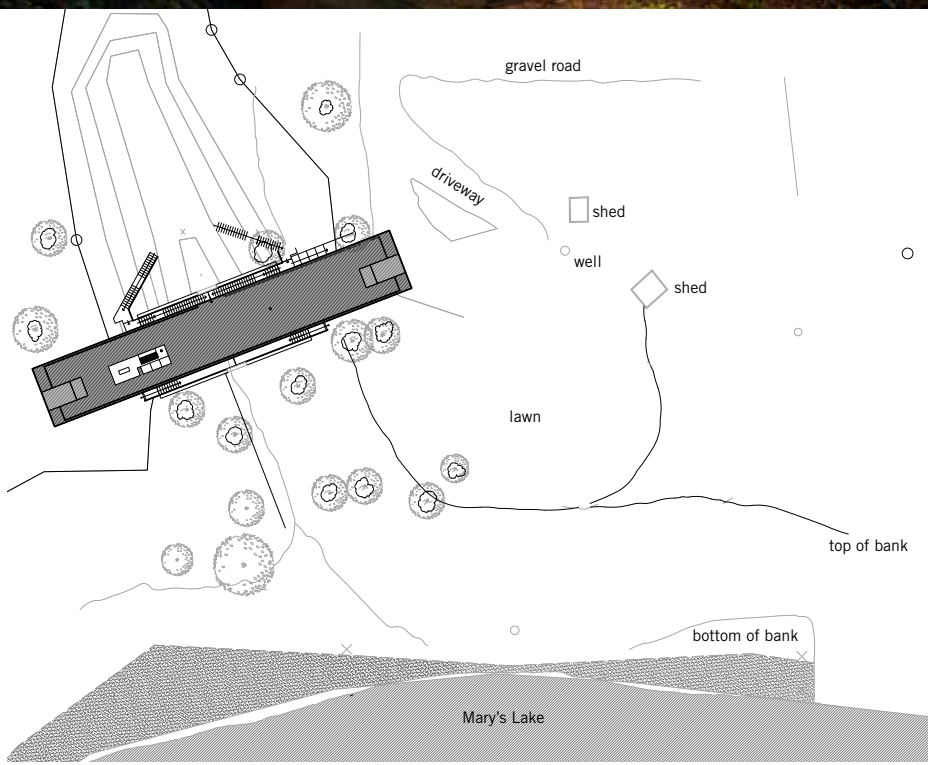
Bridgehouse

LLAMA Architecture and Urban Design

Conceived as a horizontal line to counterpoint its setting atop a ravine, the 2,400-sq.ft. Bridgehouse is both a dwelling and an object that complements and emphasizes its natural surroundings. In part, it does this by directly responding to its location in the heart of the Great Lakes-St. Lawrence Forest through the use of three prominent species on site: maple, cedar and birch. More striking, however, is the fact the living room at its center is suspended 16 ft. above the forest floor, acting as a viewing gallery that places the occupant within the tree canopy.

The key structural element is the glulam Douglas fir struts that enable the bridge to span 60 ft. across a ravine. The design permits the house to have a structure-free lakefront facade with a 39-ft. long sliding door system that converts the living room into a covered porch when opened. The rear strut doubles as the stringer for a staircase connecting the main floor to a 2,000-sq.ft. roof deck.

The house combines moments of openness with enclosed corners to provide spaces for shelter and comfort. A sense of warmth is added by the Douglas fir beams and the fireplace at the center of the house. The hearth sits flush with the birch floor, forming part of a continuous surface that runs the entire length of the building.



SITE PLAN

Unlike a traditional house, the Bridgehouse has a bottom facade. This, along with the exterior walls, is clad in unstained cedar, intentionally left to weather naturally. This treatment celebrates the resiliency of the material, giving the house a dynamic character that's designed to change over time. The alignment of the cedar siding continues across the four exterior doors, blending into the horizontal lines of the house.

Inside, Douglas fir beams span the width of the house every 20 in., establishing a strong visual rhythm while dampening the acoustics of the central living area. A series of cove lights illuminates the space between the beams, highlighting the material to generate a sense of warmth and comfort within the house.

All cabinetry, walls, and ceilings are finished in Ontario maple plywood. The maple creates a bright interior, while the veins of the rotary cut finish give an organic character and create a binary effect to the minimalist layout. The interior finishes integrate the lighting, heating vents and fixed furniture into the walls and floors, making the house appear as a giant piece of furniture dimensioned to a rigid structural grid.

ARCHITECT
LLAMA Architecture and Urban Design
Lima, Peru

STRUCTURAL ENGINEER
Blackwell
Toronto, ON

GENERAL CONTRACTOR
Darrin Lazenby
Utterson, ON

PHOTOGRAPHY
Ben Rahn/A-Frame
Toronto, ON


"In Your Neighbourhood"

Multi-Unit

Innovative incorporation of heritage buildings into a new mid-rise development sets example for sustainable and affordable urban densification

Templar Flats

Lintack Architects Inc.

Templar Flats is a six-story, wood-hybrid structure flanked by two restored heritage buildings. The new portion is five floors of wood and steel over one floor of concrete. The oldest portion of the project is the Templar building on the corner, which was erected in 1867 and lends its name to the development. The other building acquired for redevelopment was also more than 100 years old. The space between the two buildings, and site of the new construction, was a relatively small and irregularly shaped vacant lot.

Offering just over 25,000 sq. ft. of residential and commercial space, Templar Flats used hybrid construction to maximum advantage. The vertical structure is either masonry or steel, and the floors are wood. The floor system is comprised of engineered wood I-joists that span steel or concrete bearing points. Wood was also used for sheathing and interior framing. Construction sequencing and coordinating the presence of multiple trades onsite was complex, but the result was worth the additional effort.

Two units have a rooftop patio. Other units have balconies constructed of wood joists cantilevered from the wood frame structure. The joists of the balconies project five feet outside the building envelope and are waterproofed to protect them from the elements. Using wood for the balconies is an effective way to address thermal bridging. The sleek, cedar-clad roof overhang above the top floor balcony was constructed in the same manner.

Wood was used in the project in part because Canadians have a long tradition of building with wood. But as significant as wood is to heritage, it will play an even more important role in the future, as jurisdictions across the country strive for more rigorous environmental standards and seek solutions for affordable and sustainable densification. As a result, building designers are under significant pressure to balance functionality and cost objectives with reduced environmental impact, and wood construction is a strategic way to meet these goals.

For example, the use of wood in Templar Flats helped mitigate the cost of the building's foundation; the lightweight wood-hybrid construction solution enabled the team to maximize the development potential of the site. Had the team constructed a concrete building, the weight of the building materials would have limited the project to only three stories in height because of poor soil conditions.

CLIENT
Core Urban Inc.
Hamilton, ON

ARCHITECT
Lintack Architects Inc.
Hamilton, ON

STRUCTURAL ENGINEER
Strik Baldinelli Moniz
Arva, ON

GENERAL CONTRACTOR
Fortino Bros.
Hamilton, ON

TIMBER SUPPLIER
Turkstra Lumber
Stoney Creek, ON

PHOTOGRAPHY
Martinus Geleynse
Hamilton, ON

Institutional Commercial <$10 M

Innovative wood products enhance functionality and aesthetics of church

St. Elias Ukrainian Catholic Church

Zimmerman Workshop Architecture + Design

With its copper-clad domes reaching 76 ft. into the sky, St. Elias Ukrainian Catholic Church instantly became a distinctive addition to the Brampton skyline when it was completed in 1995. After it was destroyed by fire in 2014, Pastor Rev. Roman Galadza said the decision to rebuild the heavy timber church was made "almost immediately" by his congregation, whose members come from a wide swath of the Greater Toronto Area.

The primary challenge was capturing the spirit and style of the original church while incorporating new technologies and adhering to building code changes that had come into effect since 1995. Rebuilding was also an opportunity to find ways to use innovative wood products to improve the building's functionality and aesthetics.

The wood construction, sitting atop a concrete and stone base, comprises the entirety of the building, including each of the five domes. The timber construction portion of the building measures more than 75 ft. in height from the concrete and stone base up to the foot of the highest cross.

The primary difference between the new church and the old – and one that dramatically improves both function and aesthetics – lies in the main truss assemblies spanning the 43-ft. nave. With tension rings and angled struts (or braces), each truss weighs approximately six tons. The trusses are supported by four corner "mega" columns which, together with the diagonal struts, are designed to resist the enormous lateral forces that result from wind on the largest dome. These columns are almost 20 ft. tall and spread even further apart (an additional 10 ft. in both directions) than the columns of the original building. The new positioning provides for better sightlines and allows for an obstacle-free liturgical zone, much like the ones seen in traditional Boyko churches. Smaller versions of these trusses and beams are used to support the other domes throughout the church.

All of the post-and-beam structure is connected to the light wood-frame infill walls to make sure the wind forces are transferred to the new reinforced concrete foundation walls. (The original foundation was removed.) Treated lumber and sheathing was used for all light wood-frame portions of the building.

The dramatic copper-clad domes are built from a hybrid of glulam, dimensional lumber and curved plywood. The largest of the five domes weighs just under 20 tons and bears directly on a 43 ft. by 43 ft.-long span glulam space-frame truss. Domes and copper were constructed on the ground and lifted into position by crane.

The exterior siding is a combination of board and batten over Dolly Varden (shiplap) siding. One of the problems with the old building was that much of the horizontal shiplap was curling. To eliminate that problem in the new building a more robust section with a Dolly Varden profile was used to allow the back half of each board to rest flat against the furring strips. All exterior siding and soffits are treated pine.

All doors in the building are solid Douglas fir. Even the fire-rated assemblies are clad in Douglas fir, whereas the rest of the interior and exterior doors are solid Douglas fir built on-site with 2 x 6 solid lumber. The floors, also solid Douglas fir, were carefully designed and installed over a radiant floor system on a programmed control that will maintain a stable temperature year-round and minimal operating energy levels.

A passive gravity ventilation system takes advantage of the natural stratification of the tall interiors by redistributing the naturally warmed and cooled air throughout the building. The wood wall system carefully layers in closed-cell insulation that doubles as a tight air-and-water barrier for the building. The radiant system, passive gravity ventilation and exterior insulation systems all combine to create a highly energy-efficient building – one designed to stand the test of time.

CLIENT
St. Elias Ukrainian Catholic Church
Brampton, ON

ARCHITECTS
Zimmerman Workshop
Architecture + Design
Brooklyn, NY

DKStudio Inc.
Toronto, ON

STRUCTURAL ENGINEER
Moses Structural Engineers Inc.
Toronto, ON

GENERAL CONTRACTOR
Santoro Construction Inc.
Mississauga, ON

PHOTOGRAPHY
Janet Kimber
Toronto, ON

Institutional Commercial >$10 M

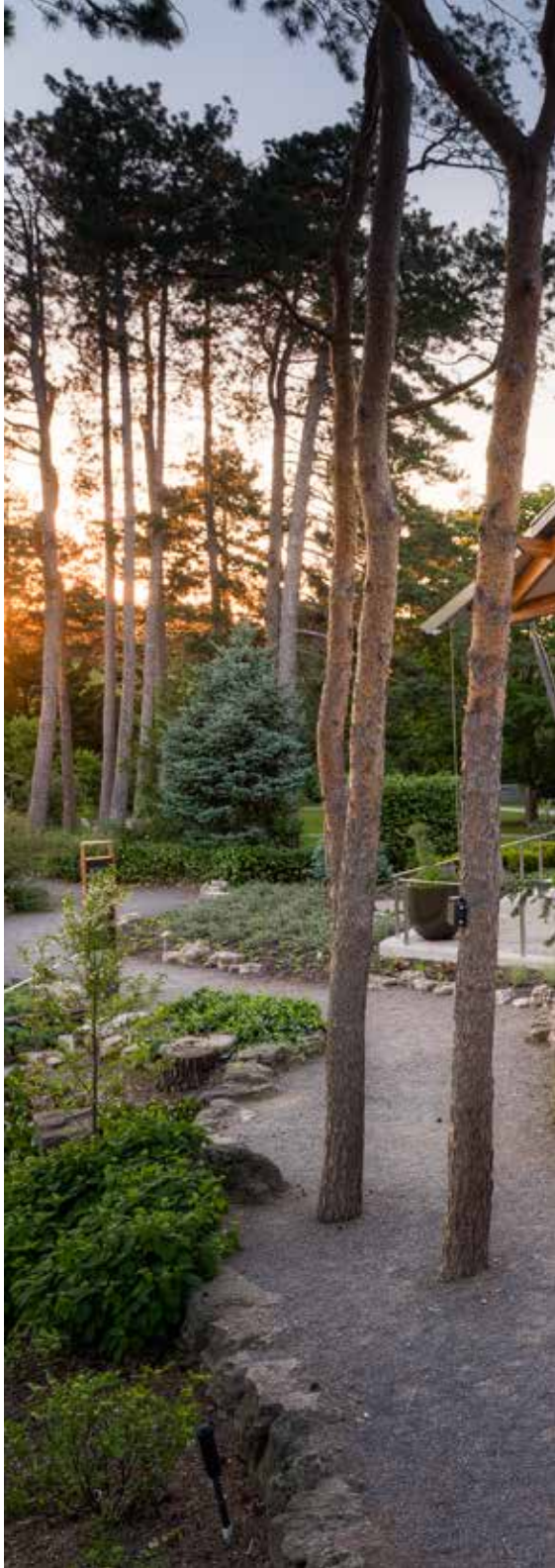
Visitor Centre is an integral part of unique garden

Rock Garden Visitor Centre

CS&P Architects Inc.

Originally constructed in 1931, the Rock Garden is one of the major venues of Hamilton's Royal Botanical Gardens (RBG). In 2016, RBG unveiled the newly renovated David Braley and Nancy Gordon Rock Garden, a three-year, $20-million transformation project. This new garden respects the heritage, look and feel of the iconic space while celebrating the beginning of a new era.

The goals of the design were to increase the public visibility and presence of the Rock Garden, improve accessibility of all areas, provide a memorable venue for RBG to host events in all seasons, introduce a rejuvenated planting plan that retains the prime specimens and adds extensive new planting, and address significant infrastructure issues to upgrade sustainability for the 80-year-old site.




JARDINS

As a key element of the transformation, the new Visitor Centre re-establishes the Rock Garden as the gateway to the cities of Hamilton and Burlington, giving it a new entrance and much stronger presence on York Boulevard. From the center, visitors can access the paths to the garden areas, the Daglish Family Foundation Courtyard with its elegant stone walls, the onsite restaurant, or simply view the gardens through the large floor-to-ceiling windows.

As the new entry point to the Rock Garden site, the shape of the building follows the natural curved forms of the walkway paths that lead into the garden. The building has a distinctive and memorable shape that evokes the trees and leaves of the garden and serves as a visible landmark from all areas of the surrounding garden pathways.

The Visitor Centre's entry facade is a long, curved stone wall; visitors cross a small footbridge over the entry water feature and under the overhang of the leaf-shaped roof before entering the center. Once inside, the high-ceilinged multi-purpose room, with its roof framed in heavy timber, serves as a year-round venue for public activities and special events. Interior finishes are limited and deliberately reflect the materials and qualities of the garden itself: stone, wood, sealed concrete floors and clear glass.

A heavy timber wood structure was selected for the large main spaces of the Visitor Centre for several reasons. The heavy timber framing could easily accommodate the complex curvilinear shapes of the proposed design, and the wood structure of columns and beams fit well within the context of a largely transparent pavilion-like building, sited in the middle of a natural garden setting. As all wood framing members were fabricated offsite, quality control was high and erection onsite was quick, even in winter. Finally, the timber framing appearance is attractive and memorable, providing a distinctive form that reflects elements of the surrounding landscape.

Viewed from the garden, the Visitor Centre reveals a meticulously sensitive and balanced design. The distinctiveness of the building makes it striking and unique, but it still is able to successfully blend with the look and feel of the historic garden. This helps ensure it is not perceived by visitors as simply a building surrounded by a garden, but rather as an iconic structure that is an integral and harmonious part of a sublime garden setting.

CLIENT
Royal Botanical Gardens
Burlington, ON

ARCHITECT
CS&P Architects Inc.
Toronto, ON

STRUCTURAL ENGINEERING
WSP Canada Inc.
Toronto, ON

CONSTRUCTION MANAGER
Ira McDonald Construction Ltd.
Hamilton, ON

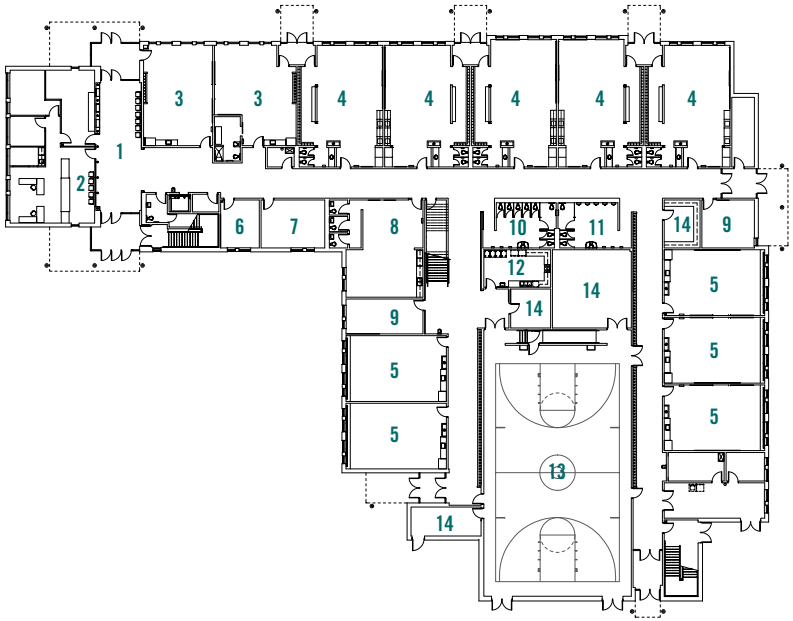
PHOTOGRAPHY
Jeff McNeill
Toronto, ON

Northern Ontario Excellence

Natural beauty of wood helps students find their way

Woodland Public School

Mitchell Jensen Architects

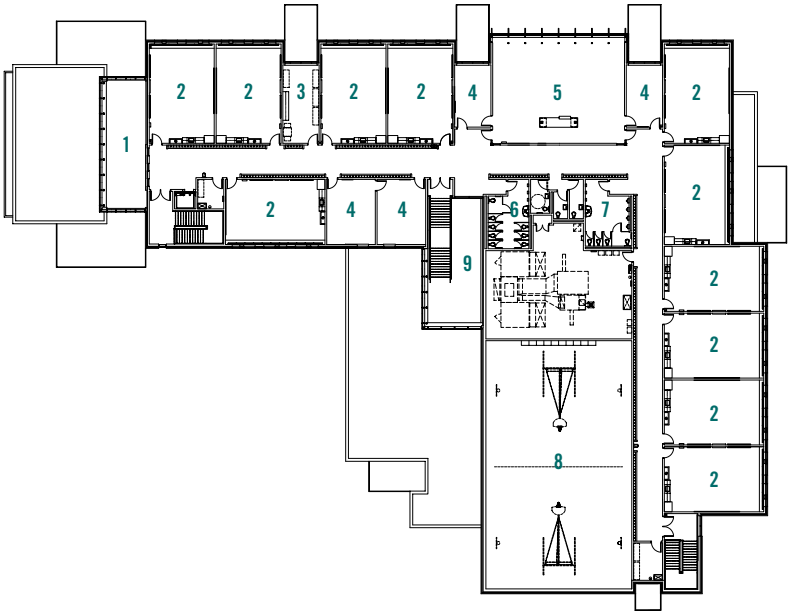


1. lobby
2. main office
3. special education classroom
4. kindergarten classroom
5. classroom
6. sensory room
7. meeting room
8. staff lounge
9. resource room
10. girls restroom
11. boys restroom
12. kitchen
13. gymnasium
14. storage

GROUND FLOOR PLAN

Located in North Bay, ON, Woodland Public School draws inspiration from the forest and rock landscapes of the surrounding Canadian Shield to create a learning environment filled with natural warmth and beauty.

Completed for the Near North District School Board, the building is situated in an established neighbourhood adjacent to an urban park filled with mixed forest and exposed granite outcroppings. The building is home to more than 500 students in grades K-6 and includes five kindergarten classrooms, two special needs classrooms and 16 traditional classrooms split between primary and junior students.



1. lobby below
2. classroom
3. workroom
4. resource room
5. library
6. girls restroom
7. boys restroom
8. gymnasium below
9. main stairway

SECOND FLOOR PLAN

The design of the school is anchored by two light-filled public spaces, the main lobby and stairway, that use extensive curtainwall windows and heavy-timber roof construction. Consisting of Douglas fir glulam beams with structural tongue and groove wood decking supported on round HSS steel columns, the wood roof structures create a warm and welcoming environment within the school while meeting code requirements. Walls in these high-traffic public areas are clad with maple veneer plywood panels to ensure a durable yet beautiful wall finish, while elements of the exterior limestone cladding extend through the vestibules and into the interior.

Corridors are animated with bright colors derived from the natural surroundings and lined with solid maple benches and maple veneer cubbies for student use. This palette of wall colors and maple veneer millwork carries into the classrooms, where each room employs a single color from the palette to aid in wayfinding and identification.

A highlight of the school is the second-floor library, which features a sloping heavy timber roof structure and large curtainwall windows that provide expansive views of the neighborhood and fill the space with light. Maple veneer millwork and colorful Muskoka chairs add warmth and whimsy to the library, making the library a favorite space of students and staff alike.

In addition to brick and Ontario limestone cladding on the exterior, heavy timber glulam columns are featured prominently as a facade element at the library, acting as sun-shading devices while evoking the verticality of the trees in the nearby park. Wood composite panels used in vertical elements on the facade further this design language, bringing the warmth and beauty of wood to the exterior while minimizing maintenance costs for the school board. To complete the palette of wood, soffits of the steel-framed entrance canopies are finished with fire retardant-treated Douglas fir cladding.

CLIENT
Near North District School Board
North Bay, ON

ARCHITECT
Mitchell Jensen Architects
North Bay, ON

STRUCTURAL ENGINEER
WSP Canada
Ottawa, ON

GENERAL CONTRACTOR
Kenalex
North Bay, ON

PHOTOGRAPHY
Mitchell Jensen Architects
North Bay, ON

Jury's Choice

Students and designers draw inspiration from the "tiny house" movement to come up with big ideas in mobile education

La Ruche

La Cité/Lumbec Inc.

La Cité is a French-language college based in Ottawa. La Ruche (The Hive) is a year-end project bringing La Cité professors and interior design students together with designers to create a mobile lab and learning space.

Situated within Ottawa's greenbelt, La Cité enjoys an intimate and natural setting, however, it lacks proximity to surrounding communities. La Ruche was conceived as an ideal solution to bring experiential learning opportunities to those communities through learning and interactive activities.

La Ruche is built on a 24-ft. trailer frame. Wood was an obvious choice for construction: the use of wood enhances and promotes natural materials, it's reminiscent of Canadian landscapes, it's easily recyclable, and it can be refinished as needed. The use of CLT was crucial for several reasons. It serves as a structure capable of withstanding multiple trips in and around the region, plus it was easy for the team to add non-standard glazing, ceiling cutouts, electrical layout and lighting schemes while maintaining a stylish finish. Custom millwork features a mix of European spruce CLT and cherry wood veneer.

The mobile lab has multiple uses on or off campus. It can be used as a learning/workshop space, collaborative/creative space, drop in or pop-up information center, student expo, student radio station or various participatory design events.

The use of CLT in this design is innovative and, as far as the designers are aware, has never been attempted in this context. Its use exemplifies new and innovative fabrication and construction methods resulting from the "tiny house" movement. In terms of design, it is fully accessible (with an access ramp), wi-fi ready and features a 55-in. TV, sound system and interactive lighting system. Its modular furniture can be moved around and adapted to various needs.

DESIGN TEAM
La Cité
Ottawa, ON
Lumbec Inc.
Gatineau, QC

STRUCTURAL ENGINEER
Francis Landry
Gatineau, QC

GENERAL CONTRACTOR
Lumbec Inc.
Gatineau, QC

PHOTOGRAPHY
Lumbec Inc.
Gatineau, QC

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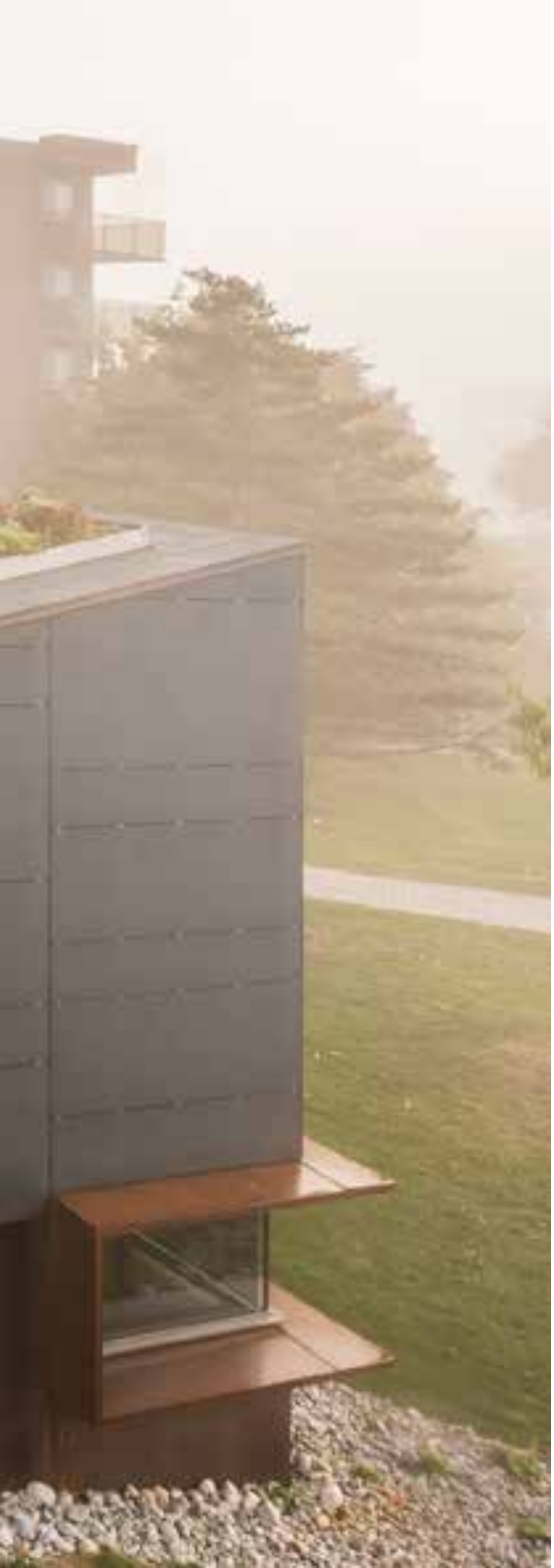
QUEBEC



Architectural Details

Wood blends gracefully with other materials
to create interesting mix of textures

The Pavilion at Les Tours de la Pointe

CARGO Architecture

Attention to detail is evident in all aspects of this pavilion designed to house administration offices for Les Tours de la Pointe, a new residential complex in Quebec City. The well-positioned openings, the harmony between the various materials and the architectural details are all executed with finesse, resulting in elegant and refined interior spaces.

Wood blends gracefully with other materials to create an interesting mix of textures. The use of wood enhances the various elements of the decor while also recalling the main glulam structure, which is left exposed inside. This is especially the case for the modern staircase, which charmed the jury with its cantilevered glulam wood steps and cherry veneer railing.

Besides the staircase, the integration of lighting fixtures in the lower portions of the beams (thanks to openings in the

beams allowing for the insertion of electric rails) is a meticulously and elegantly executed detail. The built-in furnishings, covered in yellow birch bark, represent another interesting design element that adds a unique touch to the decor.

CLIENT
S/C Tour de la Pointe Enr.
Quebec City, QC

ARCHITECT
CARGO Architecture
Quebec City, QC

STRUCTURAL ENGINEER
Douglas Consultants
Quebec City, QC

GENERAL CONTRACTOR
Construction Citadelle
Quebec City, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC

Commercial Building <1,000 M^2 and Light-Frame Construction

Reclaimed wood and innovative design help architects think globally, act locally

Head Office, STGM + Associés Architectes

STGM + Associés Architectes


SERVICE
LE MEILLEUR MOY
D'AVOIR UNE BONNE IDÉE EST D'AVOIR

Located in Quebec City's Écoquartier D'Estimauville, an eco-neighborhood minutes from downtown, this sleek, two-story building stands out thanks to its abundant use of wood.

The tone is set right at the entrance, where visitors are welcomed by a concave-shaped facade clad in eastern white cedar that will develop a natural silvery color over time. White cedar is also showcased in the lobby, where it covers the walls and ceiling.

The building is designed with the advantages of light wood frame construction, which proved to be the ideal solution due to the limited bearing capacity of the soil. On the second floor, the white-painted trusses are left exposed, contributing to the elegance and luminosity of the interior spaces while also proudly accentuating the use of this structural system. Simple, well-detailed and economical, the roof structure allows for 43-ft. free spans, creating a completely open working environment.

Reclaimed wood is also incorporated into the design. Cut from an old solid timber beam, salvaged wood is used for the steps of the interior staircases, and the volumes housing the associates' offices and the kitchen are clad in planks of rough lumber reclaimed from old houses in the region.

In addition to the abundant use of wood, the designers also integrated several innovative sustainable development technologies to help reduce the building's consumption of energy and drinking water. The result is an exemplary structure inside and out that aims to inspire the construction of other similar projects in this evolving neighborhood and beyond.

ARCHITECT
STGM + Associés Architectes
Quebec City, QC

STRUCTURAL ENGINEER
Groupe Alco
Notre-Dame-du-Bon-Conseil, QC

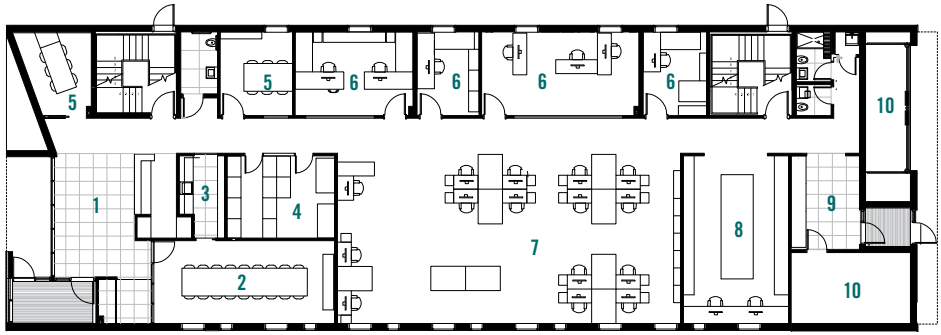
GENERAL CONTRACTOR
CEH Inc.
Saint-Étienne-de-Lauzon, QC

TIMBER SUPPLIERS
Structures RBR Inc.
Saints-Anges, QC

Scierie MS Bilodeau
Courcelles, QC

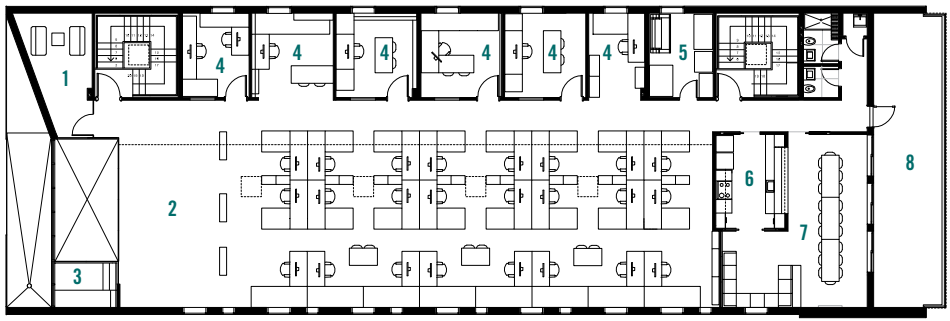
Arcotec
Quebec City, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC



1. lobby and reception
2. conference room
3. kitchenette
4. meeting room
5. office
6. archives
7. workshop
8. materials library
9. employee entrance and locker room
10. mechanical room

GROUND FLOOR PLAN



1. meeting room
2. workshop
3. meeting room
4. office
5. printing room
6. kitchen
7. staff room
8. terrace

SECOND FLOOR PLAN

Commercial Building >1,000 M²

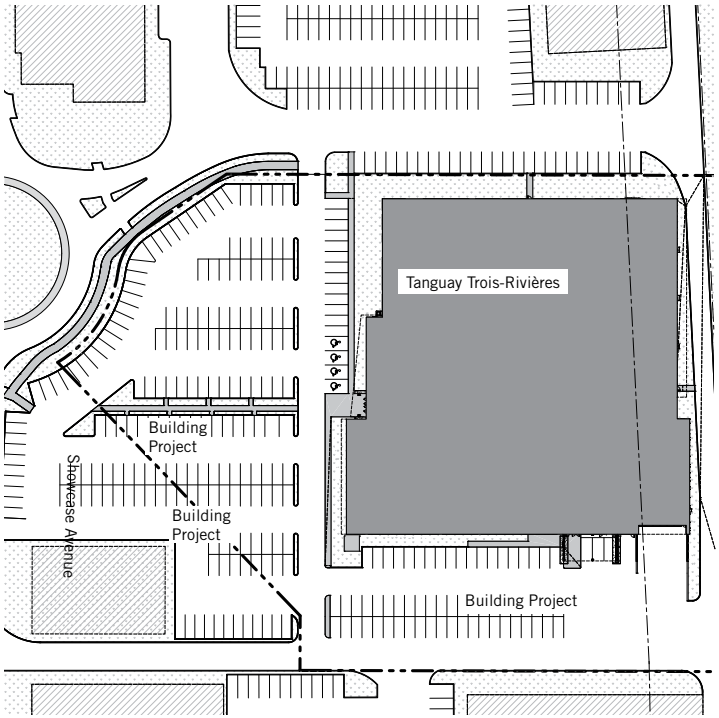
Furniture chain uses wood to create a distinctive retail space

Ameublements Tanguay, Trois-Rivières

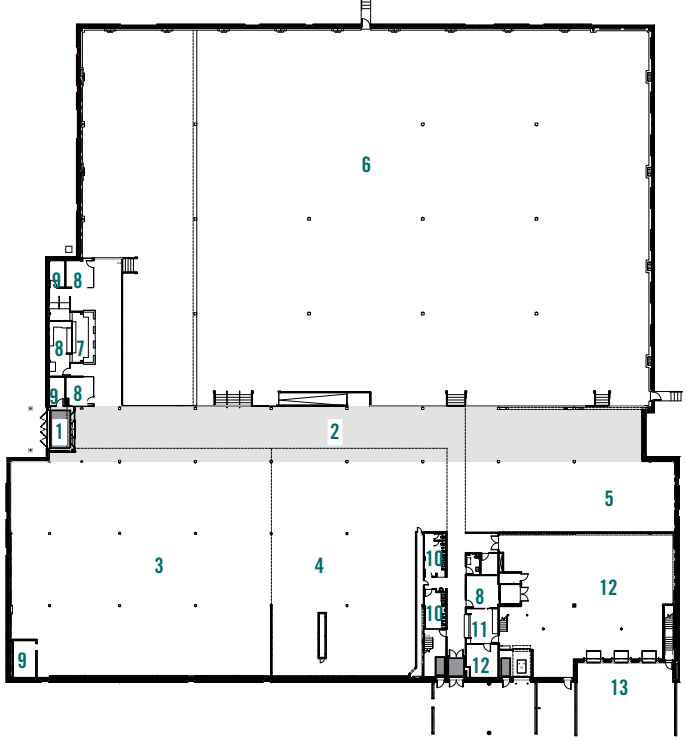
Coarchitecture

As the largest Ameublements Tanguay store built to date, the furniture retail chain's location in Trois-Rivières honors the rich forestry heritage of Quebec's Mauricie region.

Left exposed, the main glulam structure is designed to create warm, contemporary and bright interior spaces, providing customers with a distinctive shopping experience. In addition to contributing to the comfort of users, the structure also presents carefully designed architectural details that give the building an elegant, modern and refined character. This is particularly the case for the peripheral V-shaped columns, the discrete assemblies and the strategically positioned skylights. Harmonious integration of the mechanical and lighting elements enhances the beauty of the wood structure.



SITE PLAN



1. entrance
2. main circulation
3. home appliances
4. electronic section
5. mattress section
6. furniture section
7. check-out
8. office
9. technical area
10. restroom
11. service counter
12. storage
13. loading dock

GROUND FLOOR PLAN

This structural system also made it easy to reach spans of 49 ft., thereby reducing the number of columns inside the more than 4,700-sq.ft. store. This choice lends an air of lightness to the building, as well as providing greater flexibility in terms of layout of the sales floor.

The jury also commends the quality of the exterior finishes and the fact the wooden elements are well protected, ensuring their longevity.

CLIENT
Ameublements Tanguay
Quebec City, QC

ARCHITECT
Coarchitecture
Quebec City, QC

STRUCTURAL ENGINEER
Groupe SM Inc.
Montreal, QC

TIMBER SUPPLIERS
Nordic Structures
Montreal, QC

Prorez
Quebec City, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC

Scissored cedar roof transforms greenhouse into a small wooden cathedral

Le Projet Harmonie's Serre Urbaine (Urban Greenhouse)

Rose Architecture

Established in 1993, Le Projet Harmonie is a non-profit organization that provides support to the residents of the HLM "La Pépinière" housing complex in Montreal's Mercier-Ouest neighborhood by creating a stimulating and harmonious environment within the community.

This small community greenhouse pays tribute to the simplicity and durability of wood as a construction material. Used for both the exterior cladding and for the structure, cedar was chosen because of its durability and ability to age gracefully. The economical and ecological aspects of wood, as well as its warm character, played in favour of the abundant use of this material for the project.

The attention to detail is palpable, particularly in the roof trussing. The scissored cedar roof structure, spanning 18 ft., creates an aesthetic play of shadow and light while giving the building the appearance of a small wooden cathedral.

This three-season greenhouse on the site of a former parking lot functions as a community garden project and is used to promote environmental education. The jury appreciated the inspiring story surrounding this small project and was impressed by its overall quality.

CLIENT
Le Projet Harmonie / La Pépinière HLM
Montreal, QC

ARCHITECT
Rose Architecture
Montreal, QC

GENERAL CONTRACTOR
Construction Le Tournesol
Vaudreuil-Dorion, QC

PHOTOGRAPHY
Marie Philibert-Dubois
Montreal, QC

Exterior Cladding

Pine cladding brings durability and aesthetics together in tribute to Charlevoix's past

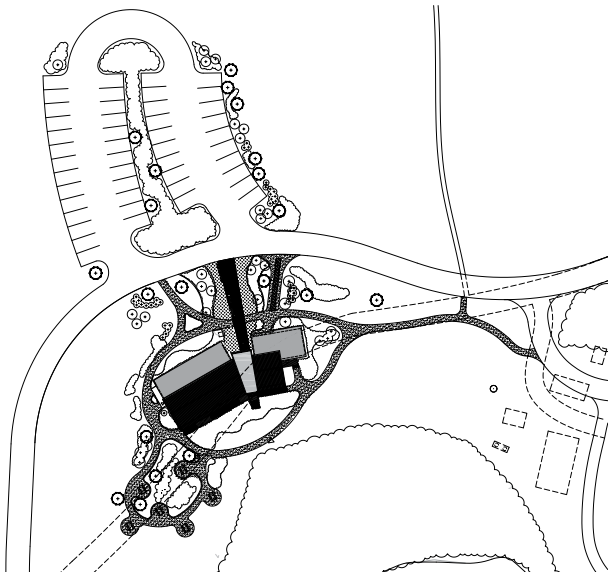
Arthabaska Discovery and Visitors Centre

BGLA Architecture + Design Urbain

Located in the Grand-Jardins National Park in Quebec's Charlevoix tourism region, this welcome centre takes its inspiration from the architecture of the existing buildings on the site, particularly the fishing cabins that were built there in years gone by. It is distinguished by its exterior pine cladding, which combines durability with an aesthetic quality and a refined finish.

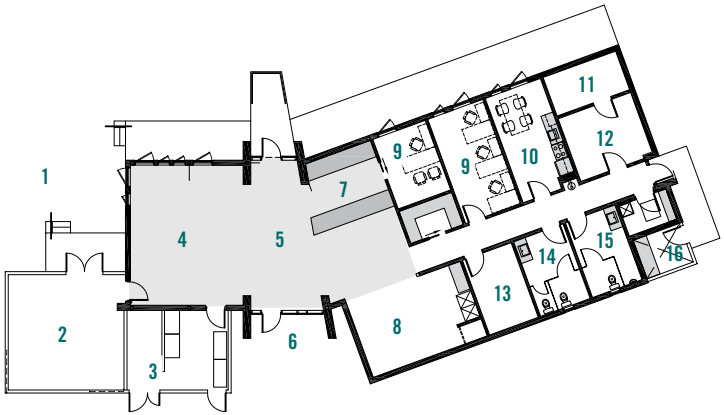
Taking inspiration from the traditional shingle style of the constructions of yesteryear, the building's wood cladding is composed of vertically laid planks. It also features several horizontal strips aligned mainly along the mullions of the windows, each strip overlapping the one below, creating a unique and interesting texture.

The cladding of the exterior lean-tos is characterized by the alternation of vertical planks and open-work, completed by the installation of mosquito screening which allows for natural ventilation. This play of transparency in the siding and the integration of the windows give rhythm to the facade.



N SITE PLAN

The recessed wall on the side of the building, paired with the natural color wooden soffit of the roof, is a careful design detail that also ensures proper protection of the whole. The installation of the siding in strips and the sufficient clearance of the cladding from the ground are other attributes designed to ensure its longevity. The choice of gray siding, which will not change color over time, is also particularly appropriate for this type of structure.



1. exterior terrace
2. community hall
3. sheds
4. discovery area
5. lobby
6. entrance
7. reception
8. shop
9. office
10. staff room
11. mechanical room
12. electrical room
13. storage room
14. women's restroom
15. men's restroom
16. fish hut

FLOOR PLAN

CLIENT
SÉPAQ
Quebec City, QC

ARCHITECT
BGLA Architecture + Design Urbain
Quebec City, QC

STRUCTURAL ENGINEER
BPR (now Tetra Tech)
Quebec City, QC

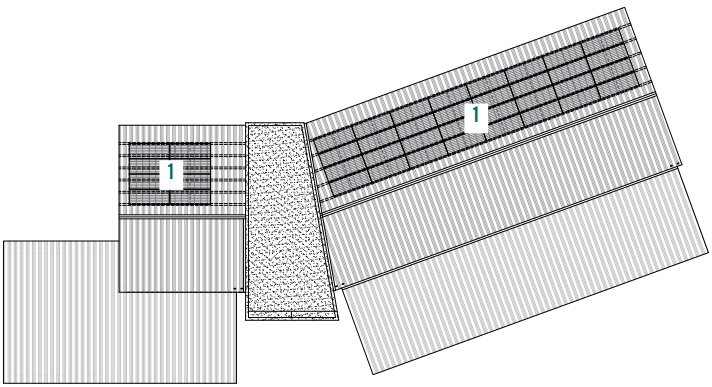
TIMBER SUPPLIERS
Groupe BMR
Boucherville, QC

Tecolam
Val-d'Or, QC

Goodfellow
Delson, QC

Ébénisterie René Daigle
Saint-Augustin-de-Desmaures, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC



1. solar panels

ROOFING PLAN

Heritage

Elegant simplicity bridges old and new

Montmagny Library

Lemay

The newly renovated Montmagny library – inspired by the flights of white geese that were dear to painter Jean-Paul Riopelle, the internationally acclaimed artist who lived in the region – is grafted onto a former presbytery, allowing for the continued use of this heritage building. Seated in the heart of the community, this sensitive project testifies to Montmagny's strong connection with its

history, its landscapes, its artists and its community.

The use of wood in this project is executed with delicacy. On the outside, the white-painted wood siding of the library reflects the architectural language of the area. This vertical clapboard is also featured in the interior. The resulting sober, pure white spaces allow the neighboring landscape to visually penetrate inside and be accentuated.

A large wood volume at the centre of the project helps to connect the various areas of the building with each other. Its delicate integration reinforces the user experience thanks to its warm tones and rich textures. In the old presbytery, the original exposed wooden structure serves as a beautiful reminder of the heritage architecture of the building and of the durability of wood.

The jury was charmed by the successful marriage between the old and the new, which testified to the project team's in-depth research with respect to integration. Completed for less than the originally planned budget, this project is a fine example of a significant heritage building that has become a regional attraction.

CLIENT
City of Montmagny
Montmagny, QC

ARCHITECT
Lemay
Montreal, QC

STRUCTURAL ENGINEER
Génivar (now WSP)
Montreal, QC

TIMBER SUPPLIERS
MEL Innovation
Montmagny, QC

Ébénisterie René Daigle
Saint-Augustin-de-Desmaures, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC

Industrial Building

Light-frame wood trusses and abundant windows showcase technological innovation within

Industrial Waste Technology Center

TRAME Architecture + Paysage
BGLA Architecture + Design Urbain

A showcase for technology in Quebec's Abitibi-Témiscamingue region, this research center dedicated to the reclamation of industrial waste and underutilized resources (including wood, an important local resource) serves as an example of thorough research in wood structural systems, integrating a light-frame wood structure and solid timber in advantageous and original ways.

This is particularly evident in the biomass laboratory, which features wide diagonal grid walls made from glulam. Thanks to abundant fenestration, passersby can admire this distinctive and contemporary design element from the outside. The realization of these grid walls represented an interesting technical challenge for both the designers and the manufacturers, and the result serves to highlight regional industry and know-how. The staircase, also made from glulam, further contributes to the richness of the interior spaces, a rarity in industrial buildings.

In addition to the glulam structure, the light-frame wood roof trusses used in several locations in the building proved to be an economical solution. These were left exposed in the biomass lab workshop, where they are used to support the glulam decking. The trusses are stained in a uniform translucent color that highlights the natural beauty of the wood.

CLIENT
Centre Technologique des Résidus Industriels (CTRI)
Rouyn-Noranda, QC

ARCHITECT
TRAME Architecture + Paysage
Rouyn-Noranda, QC

BGLA Architecture + Design Urbain
Quebec City, QC

STRUCTURAL ENGINEER
Stavibel Stavibel (SNC-Lavalin)
Rouyn-Noranda, Quebec

GENERAL CONTRACTOR
Hardy Constructions
Montreal, QC

TIMBER SUPPLIERS
Tecolam
Val-d'Or, QC

Freneco Ltée
Portneuf, QC

Charpentes Zéro8 Inc.
Rouyn-Noranda, Quebec

PHOTOGRAPHY
Christian Perreault and Guy Tessier
Montreal, QC

Innovative Solution

Wood contributes to durability and longevity of pedestrian bridge

Trois-Sœurs Pedestrian Bridge

ABCP Architecture

Requested by area residents for some time, this pedestrian bridge is part of a larger project to re-naturalize the banks of the Saint-Charles River.

The willingness of the Quebec municipal government to use wood for this project demonstrates the feasibility of such a structure and its ability to integrate into the urban environment. In addition to the aesthetic appeal of its asymmetrical configuration – consisting of a mast on only one of the banks, giving it a distinctive architecture – it also represents a great achievement from a technical standpoint. With a free span of 175 ft., its cable-stayed wood structure represents a rare use in Canada.

This project maximizes the use of wood in a judicious and innovative manner while respecting the qualities and strengths of each material used. Using guy wires, the double glulam A-shaped mast, inclined toward the river, retains two imposing 6-ft.-high glulam wood beams that act as a support for the cross-laminated panels of the bridge deck.

The jury especially commends the special attention given to the management of rainwater, an aspect of the design that ensures the protection of the structure and the longevity of the bridge. Among the elements included for this purpose is the slope of the support sealing membrane, ensuring proper drainage under the deck. Furthermore, the prefabrication of the decking in panels allowed for these to be affixed with screws from beneath. This limited the number of holes in the boards through which water can penetrate and prevents snow removal machinery from catching on the heads of the screws.

CLIENT
City of Quebec
Quebec City, QC

ARCHITECT
ABCP Architecture
Quebec City, QC

STRUCTURAL ENGINEER
EMS Ingénierie
Quebec City, QC

GENERAL CONTRACTOR
Constructions BSL
Saint-Augustin-de-Desmaures, QC

TIMBER SUPPLIER
Nordic Structures
Montreal, QC

PHOTOGRAPHY
ABCP Architecture
Quebec City, QC

Institutional Building <1,000 M²

Mix of wood species and colors give center lots of personality

Le Bonnallie Visitors Centre, Mont-Orford National Park

Anne Carrier Architecture

Nestled between the lakes and mountains of Mont-Orford National Park just west of Sherbrooke, QC, Le Bonnallie Visitors Centre is an excellent example of a building that takes its inspiration 00from – and blends in with – its surrounding environment.

In both the structure and exterior cladding, wood is featured in many different ways to create the unique architectural expression of this building designed for SÉPAQ, the provincial agency that oversees Quebec's parks and wildlife reserves. The successful mix of wood species and colors gives the structure personality while also clearly defining the various spaces.

Nestled on a narrow escarpment overlooking the beach at Lake Stukely, the building's insertion into its environment is executed with great care, as much by its well-designed volumes as by the judicious choice of colors. The first half of the building's main body follows the contour lines along which the exterior amphitheater is carved, with even its roof rising gently to mirror the topography of the park. The cedar cladding's color and texture resemble the bark of the trees in the surrounding forests.

Described by the jury as poetic, this building presents a magnificent balance between opaque and transparent. Its cantilevered roof and the elegant integration of its abundant windows give the roof the impression of floating, offering unobstructed views and affording visitors the opportunity to admire the beauty of the landscape that surrounds them.

CLIENT
SÉPAQ
Quebec City, QC

ARCHITECT
Anne Carrier Architecture
Lévis, QC

STRUCTURAL ENGINEER
exp
Brampton, ON

GENERAL CONTRACTOR
Construction Longer
Sherbrooke, QC

TIMBER SUPPLIERS
Construction Longer
Sherbrooke, QC

Structures ROYAL
La Guadeloupe, QC

Charpentes Montmorency
Saint-Raymond, QC

Groupe Concept PV
Magog, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC

Industrial Building >1,000 M²

Period meets contemporary with hickory courthouse walls

Montmagny Courthouse

CCM2 Architectes,
Groupe A / Annexe U,
Les Architectes Odette Roy
& Isabelle Jacques Inc.

Originally erected in 1865, the 10,000-sq.ft. courthouse in Montmagny was dramatically refurbished and expanded by adding another 36,700 sq.ft. of space. The result is a magnificently enhanced building thanks to the use of sober, contemporary architecture marked by refinement and a resolutely modern design.

The use of a glulam timber structure

not only pays tribute to one of the materials used in the original construction, its large spans also made it possible to eliminate the presence of columns in three new courtrooms. The refined appearance of the exposed wooden structure helps to harmoniously blend the period architecture with the contemporary architecture while also providing a sense of warmth.

1. waiting area
2. meeting room
3. courtroom
4. restroom
5. central circulation

SECOND FLOOR PLAN

In addition to the structure, this remarkable building integrates different species of wood in a balanced way to create modern and luminous interior spaces. Featured in well-balanced doses, the use of wood is executed in a sober, thoughtful and meaningful way. Clad in black-stained ash, the central staircase establishes a wonderful contrast of colors and materials while reinventing

1. hall
2. waiting area
3. meeting room
4. courtroom
5. administration
6. restroom

GROUND FLOOR PLAN

this traditional symbol of large public institutions with a touch of modernity. As for the built-in furnishings, especially those found in the courtrooms, the vast majority are built from hickory. This species of wood is also used to clad sections of the courthouse walls, punctuating the visitors' experience immediately as they enter the building.

CLIENT
Société Québecoise des Infrastructures
Quebec City, QC

ARCHITECTS
CCM2 Architectes
Quebec City, QC

Groupe A / Annexe U
Quebec City, QC

Les Architectes Odette Roy & Isabelle Jacques Inc.
Saint-Georges, QC

STRUCTURAL ENGINEER
CIMA+
Laval, QC

GENERAL CONTRACTOR
Decarel
Quebec City, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC

Interior Design

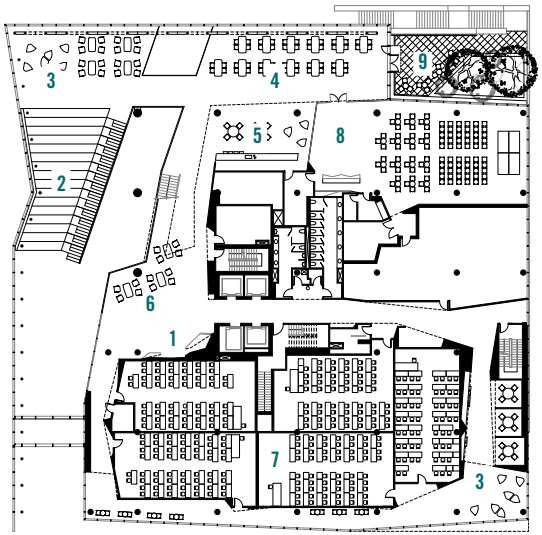
Suspended wood ceiling creates
a welcoming ambience for students

Student Center, École de Technologie Supérieure (ÉTS)

Menkès Shooner Dagenais LeTourneux Architectes

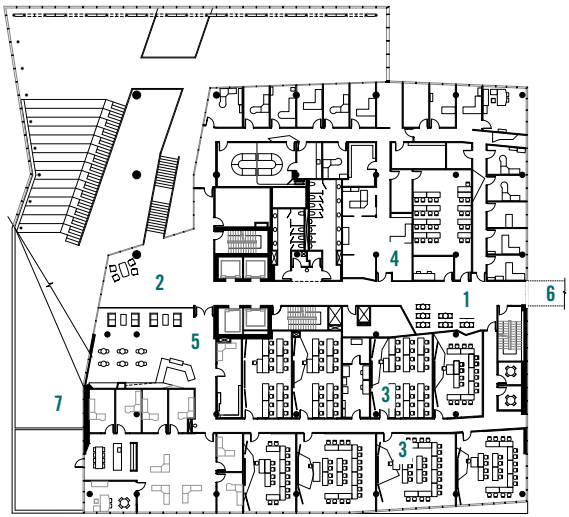
Inspired by the ice storehouse that once stood on the site, the ÉTS student center is designed with a light, open and airy crystalline form.

Upon entering the building, visitors are struck by an impressive ceiling presents itself as a vast interior landscape, clad entirely in wood, evoking an inverted topography. As a central element of the interior design, this



1. alcove
2. terrace
3. lounge
4. collaborative workspace
5. future cafe
6. balconies
7. classes
8. graduate lounge
9. exterior terrace

SECOND FLOOR PLAN



1. lounge
2. balconies
3. classes
4. student services
5. ETS training residences
6. walkway to
7. green roof

THIRD FLOOR PLAN

suspended ceiling spans 8,700 sq.ft. and infuses the interior spaces with a warm light, generating a welcoming ambiance. It also provides a beautiful continuity between the interior and exterior landscapes by emulating the appearance of the adjacent park.

This innovative use of wood gives the building a unique signature. It beautifully celebrates the singular geometry and almost sculptural quality of the ceiling by elegantly accentuating its lines. This use of wood is remarkable for its scale, its complex geometry and the precision of its installation.

The choice of using birch laths means the interior space benefits from the warm tones of this emblematic Quebec species, which, contrasted with the punctuations of red throughout the project, is also a nod to the colors of the school.

CLIENT
École de Technologie Supérieure (ETS)
Montreal, QC

ARCHITECT
Menkès Shooner Dagenais
LeTourneux Architectes
Montreal, QC

STRUCTURAL ENGINEER
SDK
Montreal, QC

TIMBER SUPPLIER
Héritage Ébénisterie Architecturale inc.
Saint-Jean-sur-Richelieu, QC

PHOTOGRAPHY
Stéphane Brügger
Montreal, QC

Interior Design

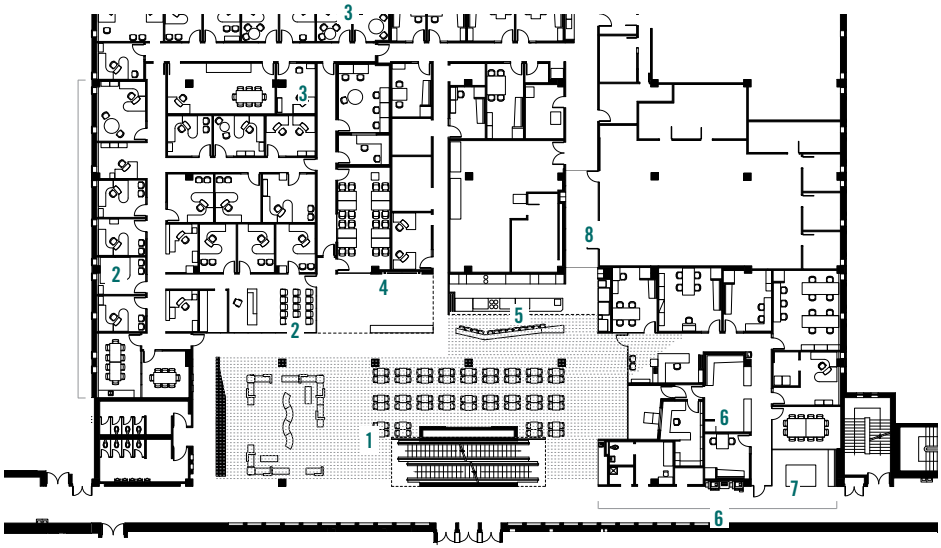
Birch slats form both furniture and ceiling

Student Zone, Polytechnique Montréal

Menkès Shooner Dagenais LeTourneux Architectes

The Vitrine Étudiante (student zone) at Polytechnique Montreal opens on a magnificent public space featuring an impressive wood ceiling that serves several functions.

Composed of 641 undulating slats of birch wood, this structure serves alternately as built-in furniture and as ceiling, acting as a canvas that connects the different meeting areas and service areas while also defining the space. This unique use of wood immediately generates a bright, warm and modern ambiance in this academic environment.



1. student showcase: public place
2. SPS zone (services for polytechnic students)
3. CRS zone (communication and recruitment)
4. zone ER (success space)
5. cafe
6. AEP zone (association of polytechnic students)
7. living room
8. access to student co-op – wooden structure

FLOOR PLAN

The craftsmanship of the wood elements gives the project an elegant and extremely tailored appearance, worthy of a work of art. Resembling the rippling of a sail, the undulations of the immense structure are inspired by the dense circulation typical in this space. The meticulously integrated lighting adds to the sense of movement of the structure by tracing luminous shapes on its surface.

The jury also commends the careful concealment of the electromechanical elements, which are hidden in such a way so as to avoid affecting the undulation and curves of the structure – demonstrating the project team's close attention to detail.

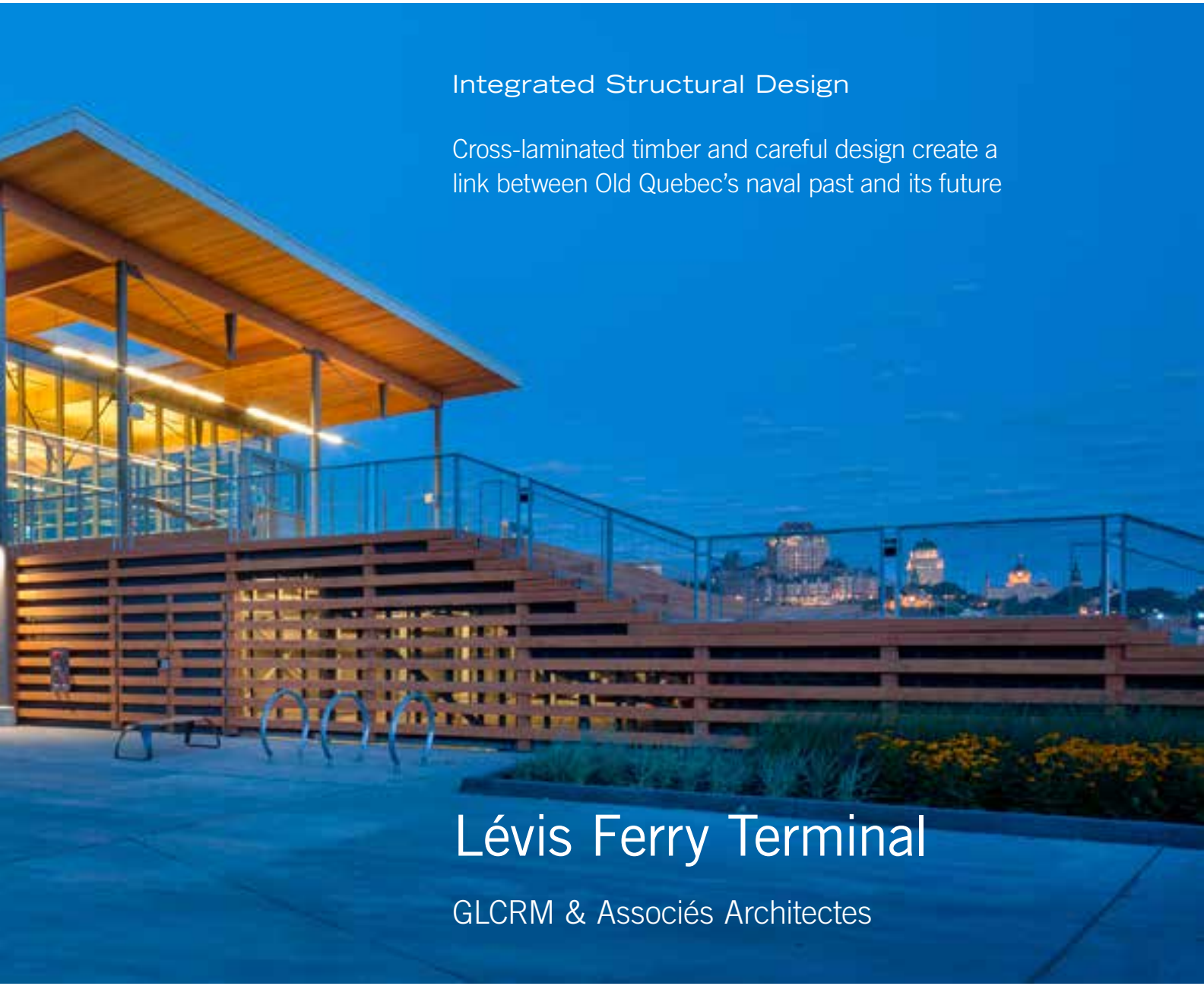
CLIENT
Polytechnique Montreal
Montreal, QC

ARCHITECT
Menkès Shooner Dagenais
LeTourneux Architectes
Montreal, QC

STRUCTURAL ENGINEER
Pasquin St-Jean & Associés
Montreal, QC

TIMBER SUPPLIER
Ébénisterie Hi-Teck
Saint-Christophe-d'Arthabaska, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC
Yien Chao
Montreal, QC



Integrated Structural Design

Cross-laminated timber and careful design create a link between Old Quebec's naval past and its future

Lévis Ferry Terminal

GLCRM & Associés Architectes

The new Lévis ferry terminal, located across the river from Quebec City's historical neighborhood of Old Quebec, draws its inspiration from the naval and industrial history of the area. The careful design of the structure also speaks to the close collaboration between the project's architects and engineers. The structural elements are elegant, well-detailed and perfectly harmonized with the overall architecture.

Steel is used for the column and bracing system to allow for the thinnest columns possible, making them nearly invisible. In order to ensure the maximum thinness of the roof, the height of the beams was maintained uniform for all the frames by using trussed beams for the longest spans of 30 ft. This structure gives an air of lightness to the building while highlighting the magnificent wood structure of the ceiling. The use of cross-laminated timber as a decking material for the roof resulted in large spans and large overhangs reaching up to 6 ft. in both directions.

The terminal takes advantage of the different qualities of wood and steel to use the right material in the right place. The details of the connecting systems between the wood and steel were carefully studied to ensure the proper performance of both these materials. The connectors used for the steel tie rods provide an elegant finish.

CLIENT
Société des traversiers du Québec
Quebec City, QC

ARCHITECT
GLCRM & Associés Architectes
Quebec City, QC

STRUCTURAL ENGINEER
Stantec
Lévis, QC

GENERAL CONTRACTOR
Constructions Béland & Lapointe
Saint-Nicolas, QC

TIMBER SUPPLIERS
Nordic Structures
Montreal, PQ

Maxi-Forêt
Saint-Jérôme, QC

Éloi Moisan
Saint-Gilbert, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC

GLCRM & Associés Architectes
Quebec City, QC

Multi-residential Building

Pine clapboard siding allows music school to exist in harmony with its surroundings

Paul Lafleur Pavilion, Domaine Forget

Bisson et Associés Inc.

Located in the majestic landscape of Quebec's Charlevoix region this 30-room building functions as residential housing for students at St-Irénée's Domaine Forget, an academy for music and dance.

Bold yet sober, the 12,000-sq.ft. building features an ingenious use of light-frame construction, which considerably reduces the seismic loads while also allowing for the integration of several cross walls between the rooms. The steel structure, which was used for the garden level, supports 5-ft. overhangs in the front and 3-ft. overhangs at the back of the building.

This building is distinguished by the creative play in the composition of its facades, which creates an interesting texture and rhythm. The pine clapboard siding acts as the dominant visual element; installed vertically and in varying widths, it alternates beautifully with the windows. In addition to mirroring the appearance of the trees in adjacent forests, the wood cladding also ensures the pavilion's harmonious integration with nearby heritage buildings. The addition of movable shutters also allows users to transform the appearance of the facades depending on the season and individual preferences.

The building demonstrates great sensitivity to its natural environment and built environments, the latter visible both in the choice of materials used and in the building's architectural details. For instance, its cantilevered overhang gives the building the impression of floating above the magnificent landscape that it overlooks.

CLIENT
Domaine Forget
St-Irénée, QC

ARCHITECT
Bisson & Associés
Quebec City, QC

STRUCTURAL ENGINEER
LGT
Quebec City, QC

GENERAL CONTRACTOR
Constructions Béland & Lapointe
Saint-Nicolas, QC

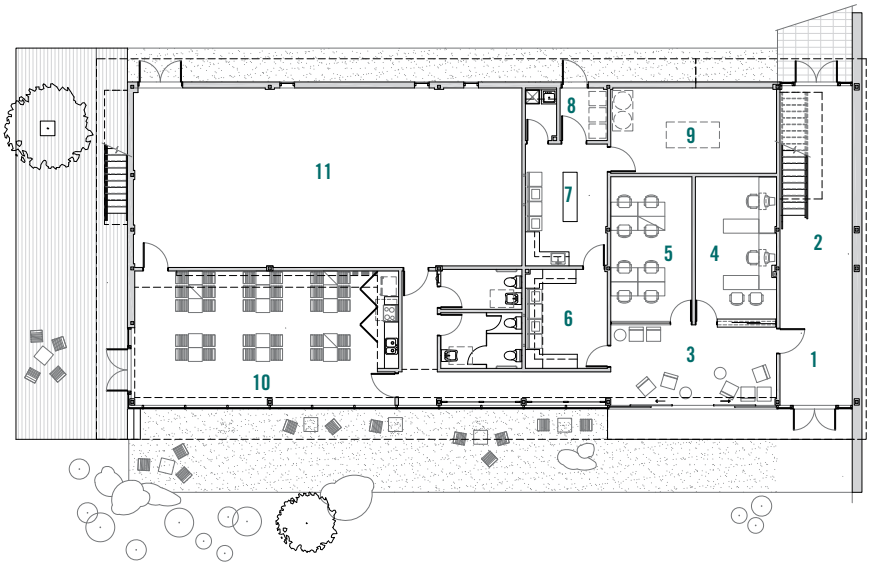
TIMBER SUPPLIERS
TMS Construction
St-Henri, QC

Goodfellow
Delson, QC

Matériaux Bomat
Saint-Nicolas, QC

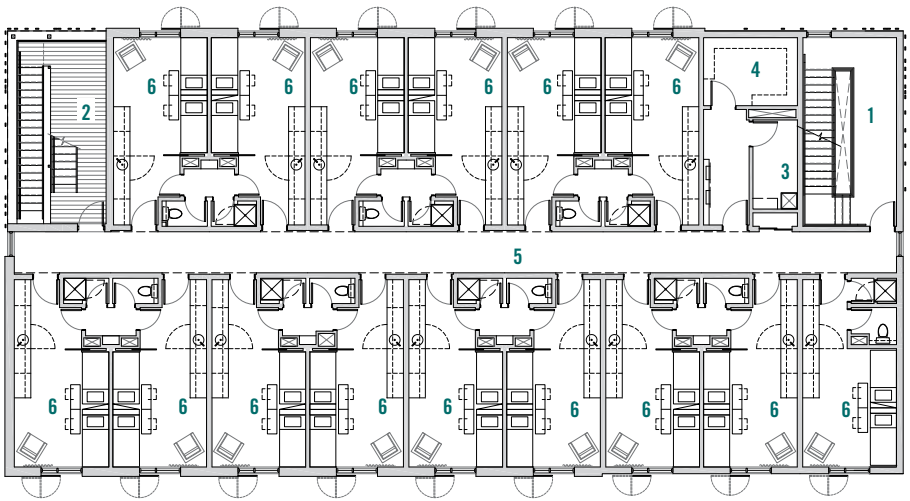
Spécibois
Château-Richer, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC and Montreal, QC



1. hall
2. main stairs
3. lobby
4. reception office
5. multi-functional office
6. student laundry
7. main laundry
8. recycling and waste
9. mechanical room
10. kitchen/dining room
11. undeveloped space (future practice booths)

GROUND FLOOR PLAN



1. main stairs
2. exterior exit stairs
3. janitor room
4. bedding storage
5. common hallway
6. twin room

SECOND FLOOR PLAN

Sustainable Development

Wood proves a natural choice in
collaboration of eco-construction expertise

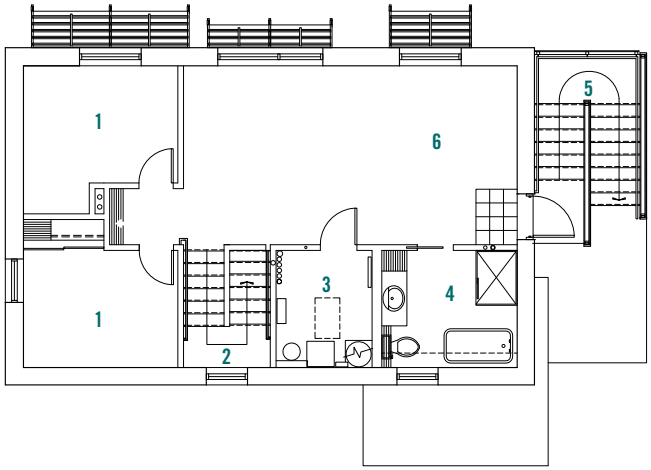
ERE 132 Eco Home

Architectes Goulet & Lebel
Groupe Architecture MB

As home to the International Garden Festival, an annual rendez-vous for admirers of contemporary gardens and design, Jardins de Métis/Reford Gardens – a national historic site at the confluence of the St. Lawrence and Mitis rivers in southern Quebec – was the natural choice to present the ERE 132 Eco Home, a showcase for excellence in eco-construction.

Certified LEED Platinum and Novoclimat 2.0, the ERE 132 Eco Home boasts a wide variety of eco-responsible products and technologies derived from the know-how of the Lower St. Lawrence region, marking it as a place of discovery and research in the field of sustainable building.

This integrated design project was executed by a multi-disciplinary team from the region, with the support of Rimouski's Créneau Écoconstruction and Montreal's Écohabitation. In all, these groups represent more than 80 organizations and businesses who have mobilized behind the challenges of sustainable development and aim to revitalize the regional economy through green construction.

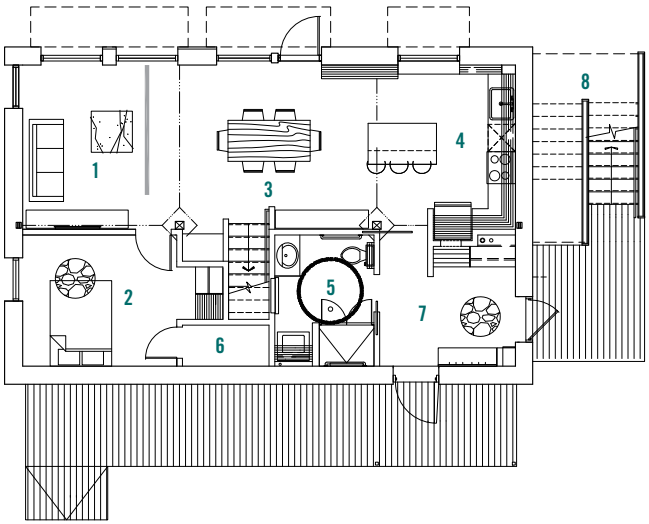


1. bedrooms
2. stair 1
3. mechanical room
4. washroom
5. stair 2
6. area of interpretation

SECOND FLOOR PLAN

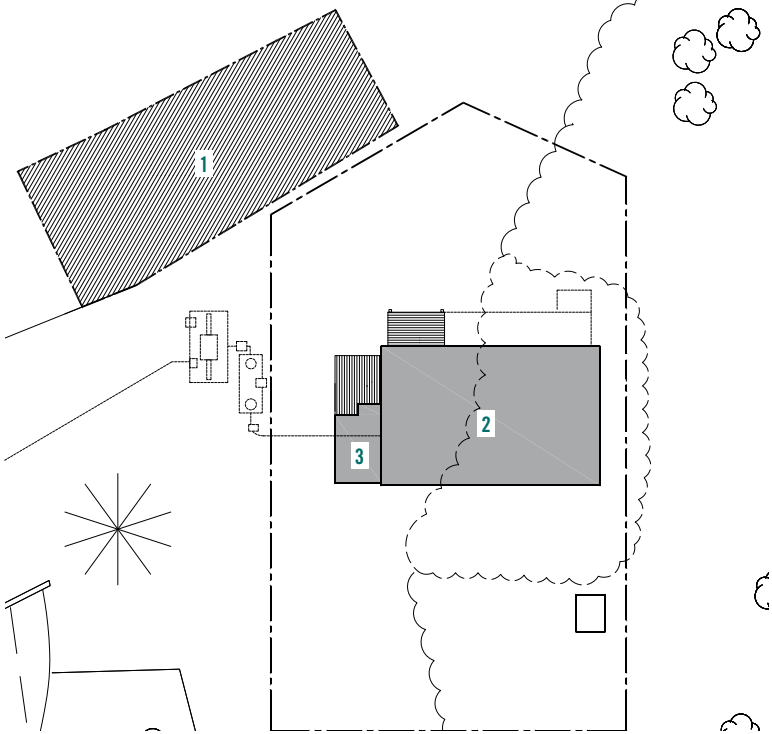
The building benefits from the maximum use of wood products, both for the structure and for the interior and exterior cladding, and is constantly monitored to analyze energy performance. In addition to incorporating a passive solar design, the building features a high-performance envelope with an insulation factor higher than R40, as well as simple and functional solar occlusion systems and a rainwater recovery system. Several local materials containing recycled content and low- or zero-VOC emissions, including many wood species, are also heavily represented.

A true flagship project, the ERE 132 Eco Home is an example of a unique and dynamic regional synergy that seeks to showcase the sustainable architecture of the Lower St. Lawrence region, the know-how of its professionals and its industries, and its regional eco-construction throughout Quebec.



1. living room
2. bedroom
3. dining room
4. kitchen
5. shower
6. storage
7. hall
8. stair 2

GROUND FLOOR PLAN



1. storage area, parking lots
2. projected new building
3. exit stairway

SITE PLAN

CLIENT
Les Amis des Jardins de Métis/Reford Gardens
Grand-Métis, QC

ARCHITECT
Architectes Goulet & Lebel Inc.
Rimouski, QC

Groupe Architecture MB Inc.
Rimouski, QC

STRUCTURAL ENGINEER
Tetra Tech
Rimouski, QC

GENERAL CONTRACTOR
Kamco Construction
La Pocatière, QC

TIMBER SUPPLIERS
Produits PBM Ltée.
Saint-Germain-de-Grantham, QC

ConceptMAT
Matane, QC

Art Massif
Saint-Jean-Port-Joli, QC

Groupe Lebel
Cacouna, QC

Tremtech
Témiscouata-sur-le-Lac, QC

Bégin & Bégin
Lots-Renversés, QC

Contact Signature
Saint-Elzéar-de-Bonaventure, QC

PHOTOGRAPHY
Maud Fillion

Gisèle Fournier

Sylvain Legris

Louise Tanguay
Gatineau, QC

Jurors

ED MACAULAY
Project Advisor
WOOD *WORKS!* ATLANTIC
www.atlanticwoodworks.ca

DAVID MOSES
Principal
MOSES STRUCTURAL ENGINEERS INC.
www.mosesstructures.com

STEVEN STREET
Technical Manager
WOOD *WORKS!* ONTARIO
www.wood-works.ca/ontario

Sponsors

Nova Scotia – Non-Residential

Lodge at Cabot Links
Halifax, NS
Fowler Bauld & Mitchell Ltd.

Please see page 106

ATLANTIC


qplex

New Brunswick – Non-Residential

Wood truss and purlin systems reaffirm building's intention as a showcase of sustainable design for the community

qplex

Murdock & Boyd Architects

As a signature building for the Town of Quispamsis, qplex creates an exciting environment that encourages physical activity and unifies the community as a whole. At the same time, the facility showcases the town's desire and commitment to provide a sustainable recreation complex. For this project, the client insisted the building be unique, colorful and the first LEED Gold arena complex in Atlantic Canada.

The facility houses both indoor and outdoor family recreation facilities. The exterior features include an outdoor leisure and junior Olympic swimming pool, a playground, nature trails and a one-acre dog park. The placement of the brilliant green and blue tones on the curved wall complement the green grass of the playground and blue water of the pool. With the aid of color, the architecture of the building reaches out and embraces these outdoor spaces, having them become as much a part of the building as those on the building's interior.

The interior facilities include a year-round NHL-sized ice surface, three-lane indoor walking track, a child care facility, change facilities and canteen for the outdoor pool, and administration offices for the town's recreation department. Anticipating growth of the community, the facility is also designed to accommodate future twinning.

At the physical and metaphorical center of the building is the ice surface, capped by the impressive glulam/steel hybrid truss system and wood purlin arched roof structure that spans across the ice surface and seating areas. The color and texture of the wood elements work to create an aesthetic that simultaneously contrasts and complements the building's program without overpowering it. This is also present in the way the wood and steel components of the trusses function, with wooden members acting in compression and the steel members acting in tension.

The design of the building respects the idea of sustainable development and the ecological integrity of the natural environment. The project has achieved LEED Gold designation and features sustainable systems such as geothermal heat recovery (which heats the arena and pool), several water conservation systems, a storm water management pond, and systems to measure and monitor the facility's energy performance.

The use of wood for the trusses is also fitting for a facility located in the natural setting of the Kennebecasis Valley. Although Quispamsis has seen much population growth and development in recent years, the qplex is located on a site that remains surrounded by Acadian mixed forests. It is through these forested areas that the nature trails wind and visitors connect with the natural landscape of the valley. Having that natural site environment represented on the interior of the building, through the wooden truss and purlin systems, reaffirms the building's intention to be a showcase of sustainable design for the community.

CLIENT
Town of Quispamsis
Quispamsis, NB

ARCHITECT
Murdock & Boyd Architects
Saint John, NB

STRUCTURAL ENGINEER
Eastern Designers & Company Limited
Fredericton, NB

GENERAL CONTRACTOR
Marco Maritimes Limited
Dartmouth, NS

PHOTOGRAPHY
Murdock & Boyd Architects
Saint John, NB

Newfoundland and Labrador – Non-Residential

Simple lines and simple design principles turn park building into a functional attraction

Cobb's Pond Rotary Park Building

Woodford Sheppard Architecture Ltd.

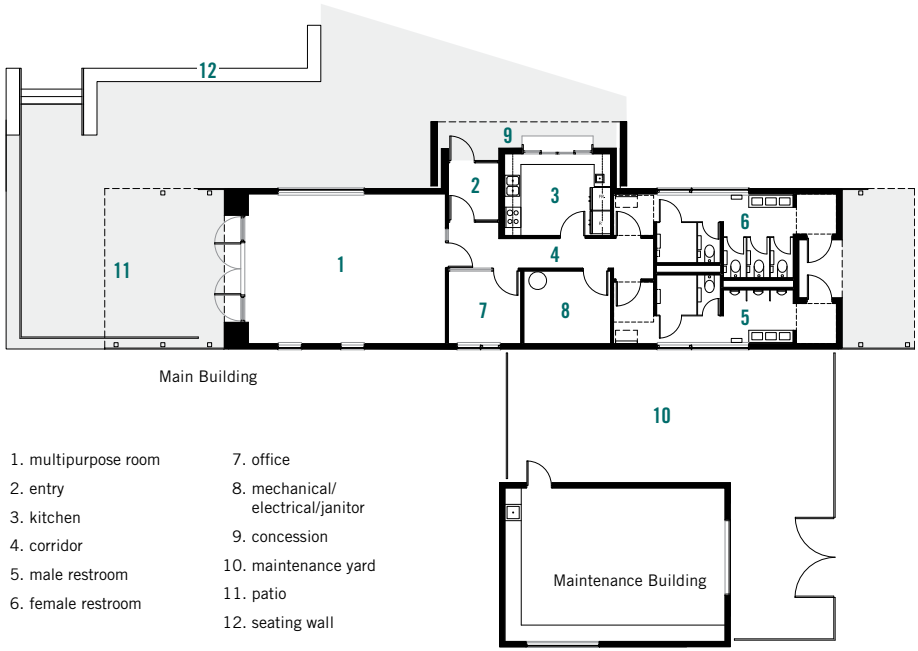
Situated as the gateway to the redeveloped Cobb's Pond Rotary Park in Gander, NL, the design of this new, 1,500-sq.ft. community building is focused on creating a structure that both complements the surrounding landscape and provides a dynamic experience for park users. The single-story, wood-framed building consists of a multi-purpose community room with covered exterior viewing deck, kitchen and concession window, public toilets with exterior access, a small office, and a mechanical and electrical room housing controls for exterior park lighting.

The challenge was to create a unique building that would not only address the park's program requirements but would also enhance the user's experience of the park. This is achieved by using wood both as structural elements and cladding material, well-proportioned window openings, large roof overhangs and site orientation, while keeping the building's form simple and compact.

The centerpiece of the design is a slatted, wood-framed canopy framing the building's main entry and concession window. This canopy contrasts the shape of the main building in a non-traditional way, and it emphasizes how simply wood construction can be used to create a unique design. The main roof continues from the public washroom to extend over the community room's viewing deck, providing shelter while gesturing towards the water.

The building's orientation bridges the site from the entrance/parking lot across to Cobb's Pond itself, inviting visitors through the park and onto the main walking trail. The wood cladding and unique roofing system both extend beyond the length of the building to provide covered spaces for users while highlighting the entrances.

The roof is comprised of a system of asymmetrical, pre-manufactured wood scissor trusses that, when combined with a structure of heavy LVL beams, provide a dynamic cantilever over both ends of the building. The cantilevers elongate the building's form while providing practical cover from Newfoundland's traditionally wet and snowy weather. This effect is augmented with the addition of a horizontal wood screen, which continues the rhythm of the wood cladding while providing shelter from prevailing winds.



FLOOR PLAN

CLIENT
Town of Gander
Gander, NL

ARCHITECT
Woodford Sheppard Architecture Ltd.
St. John's, NL

STRUCTURAL ENGINEER
DBA Consulting Engineers
Paradise, NL

GENERAL CONTRACTOR
R & D Construction Ltd.
Bonavista, NL

PHOTOGRAPHY
Chris Woodford
St. John's, NL

Atlantic –
Hybrid Award

Wood plays both a practical and important role in this center, challenging perceptions of mental health care

Simpson Landing

William Nycum & Associates Limited

Perched near the eastern shores of Halifax Harbour with views of the water and the city to the west, Simpson Landing challenges assumptions about mental health care by negotiating a potentially difficult transition of physical and emotional scale between the Nova Scotia Hospital and the surrounding residential community.

The architecture of this 40-bed transitional housing project supports mental health patients preparing to re-enter the outside world by providing an intuitive hierarchy of space, where scale reflects private, semi-private, semi-public and public spaces that reinforce healthy socialization. The interior layout and exterior massing reduce the facility to more intimate and home-like scales, while providing staff with the ability to monitor residents in efficient and minimally intrusive ways. A variety of private, semi-private and group-oriented spaces within the households provide the inhabitants with didactic spaces in which to re-socialize and re-integrate. This allows patients of varying levels and stages of recovery to utilize the spatial environment as a tool in the management of their recovery.

The residential scale of the interior lends itself well to traditional dimensional framing. Spaces were designed to evoke feelings of home, most of which are wood framed. The wood framing was combined with plywood sheathing to provide shear walls in an economical and easy-to-construct manner.

The unwelcome potential for the building to appear as a large institutional facility was mitigated by introducing traditional peak-roofed houses, dissolving the large facility into smaller units. Each "house" is home to 10 residents, and all houses are linked together to allow care and support staff access to individuals and groups, while encouraging healthy socialization among residents. Prefabricated engineered wood trusses were a natural and economic fit for this residential vocabulary in an institutional setting, and the material easily accommodated complex shapes.

The client wanted the exterior of the building to relate to the adjacent residential community, helping the project fit in with its neighbors and reduce the stigma for people entering a hospital for mental health care. Prefinished wood siding is a durable and attractive cladding that relates to vernacular wood-sided houses in Nova Scotia, and the variety of finishes and profiles available allowed the design team to further break down the mass of the project using pattern and color.

While the choice of wood was a practical one with respect to the bones of this project, it also performs an important emotional and psychological role, normalizing the building and helping to challenge perceptions of mental health care.

CLIENT
Capital District (now Nova Scotia) Health Authority
Halifax, NS

ARCHITECT
William Nycum & Associates Ltd.
Halifax, NS

STRUCTURAL ENGINEER
CBCL Ltd.
Halifax, NS

CONSTRUCTION MANAGER
PCL Construction
Halifax, NS

PHOTOGRAPHY
Deborah Nicholson
Canning, NS

Blend of wood and other native materials allow this modern residential complex to blend in with nearby traditional Maritime housing

Harris East

Michael Napier Architecture

Located in a vibrant neighborhood in central Halifax, Harris East is a 56-unit, 43,600-sq.ft. condominium building serving the city's first-time owner market.

Wood frame construction was chosen for both speed of erection and economic reasons. Structurally, the designers were able to choose a variety of wood products that minimized the need for interior bearing walls, which aided in achieving the open plan concept characteristic of smaller (450-sq. ft.) urban suites.

Keeping in mind building code limitations for a four-story combustible building, mezzanines were incorporated into five upper level suites to provide access to private rooftop terraces. Continuous, engineered wood framing members satisfied the various structural requirements of these double height spaces and assisted in the ease of construction.

Through massing, scale and materiality, the building was able to blend in with the more traditional housing units in the neighborhood while also addressing the area's industrial mixed-use components. The harder and brighter materials, such as galvalume and HPL panels, were inspired by the industrial context. The use of wood speaks more to the residential context and softens the facade.

All outdoor living areas are backed by vertical walls of stained shiplap siding, while all soffits above these spaces seamlessly incorporate the same wood product. This results in the areas most frequented by residents benefitting from the warmth and texture of this native, natural product.

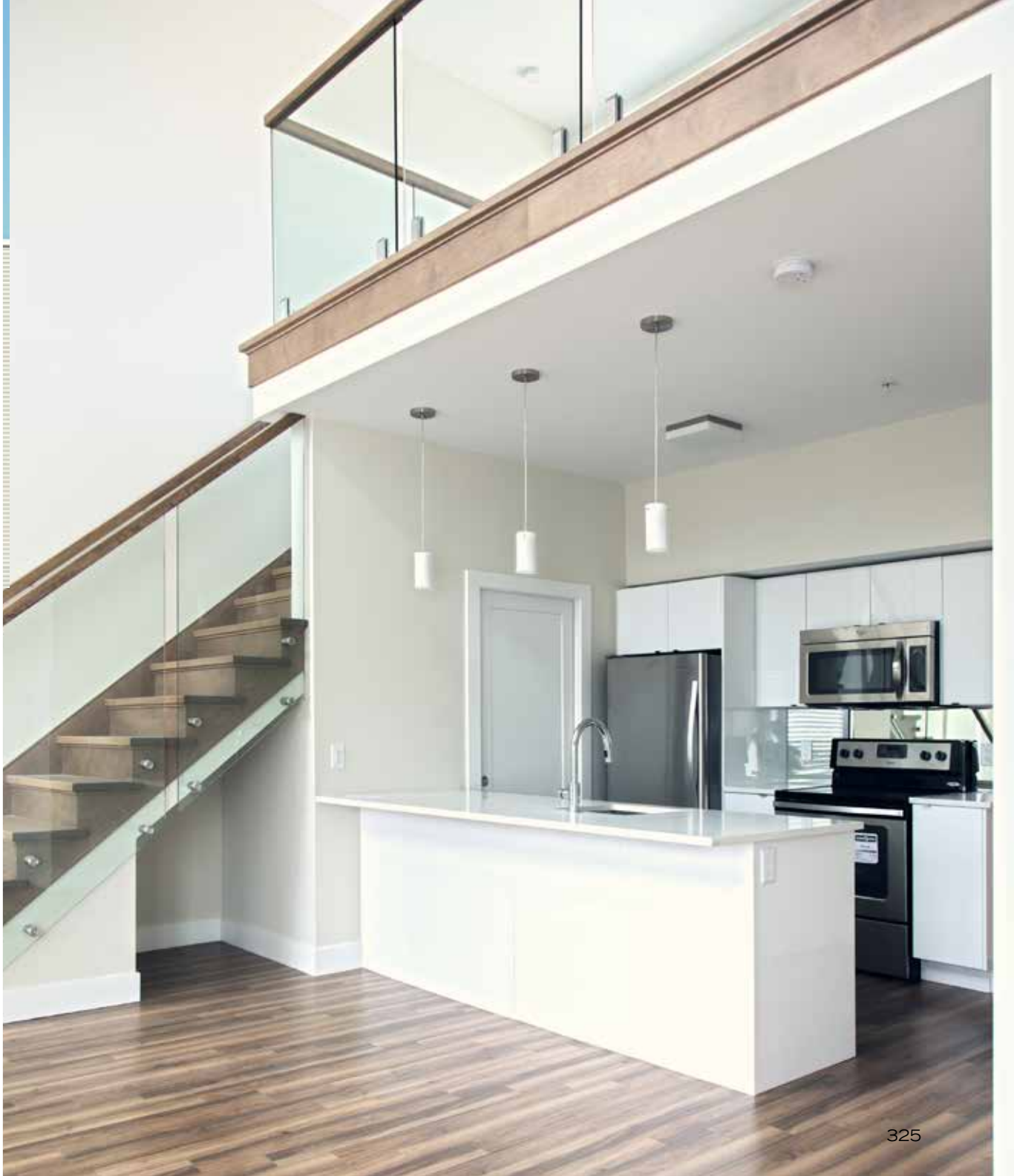
CLIENT
Atlantic Developments Inc.
Halifax, NS

ARCHITECT
Michael Napier Architecture
Halifax, NS

STRUCTURAL ENGINEER
Pinto Engineering
Halifax, NS

GENERAL CONTRACTOR
Atlantic Developments Inc.
Halifax, NS

PHOTOGRAPHY
Two Sqware Foto
Halifax, NS



Atlantic Residential

Rugged terrain and fierce suetes of Cape Breton
inspire designers to take innovation to new heights

Rabbit Snare Gorge Cabin

Omar Gandhi Architect Inc. and Design Base 8

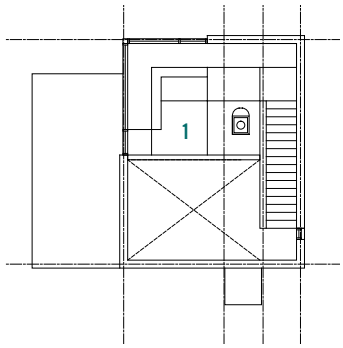
On a trip to Nova Scotia, the client became fascinated with the built typologies of the region. After working closely with the client through numerous design iterations, Design Base 8, a design collective based in New York City, reached out to Omar Gandhi Architect Inc. to collaborate on the final design, detailing and construction process. The cabin at Rabbit Snare Gorge is the result.

The cabin is the primary dwelling on a 46-acre parcel of land on the rugged wooded coastline of rural Cape Breton Island. It is a gently adapted gabled tower, allowing the structure to reach above the forest canopy with two major viewing platforms: one oriented directly towards the ocean and the other along the length of the convergent brook valley.

The landscape of Rabbit Snare Gorge is defined by the steep slopes of the Cape Breton Highlands, deep gorges cut by a babbling brook, and the rocky cliffs of the Northumberland Strait. The elevated position of the site allows for a long, wide view of the entire property, including the head of the gorge leading towards the ocean. The procession from this rough landscape into the cabin begins with the entry and bedrooms on the ground floor, a double-height kitchen and dining room on the second floor, and the living space on the third floor with the final lookout view of the entire property.

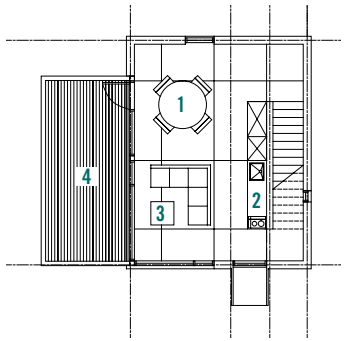
The structure is linked to the local vernacular by a number of formal elements. The archetypal gable and shed forms of the cabin are combined to open views and follow the path of the sun, emphasize the major interior spaces, and accentuate the verticality of the tower, while efficiently shedding snow and rain. The project is framed entirely of nominal lumber from the local hardware store. The interior material is made up of birch plywood, with the natural grain and tone left intact. Traditional, locally sourced eastern white cedar cladding is used on the exterior. The cabin's steel entry hoop takes its shape from the entry windbreaks unique to Cape Breton and Newfoundland coastal communities.

An avid outdoorsman and hobby arborist, the client has a deep respect for the natural landscape, which meant a sensitivity to site and ecological preservation was a major design parameter. To that end, the tower typology of the cabin offers elevated views and ample programming within a minimal footprint. However, the exposure of the sloped site means it endures the full brunt of heavy Atlantic rainstorms, winter nor'easters, corrosive salt spray from crashing swell and suetes – local south-easterlies that can accelerate down the Cape Breton Highlands escarpment up to speeds of 125mph.



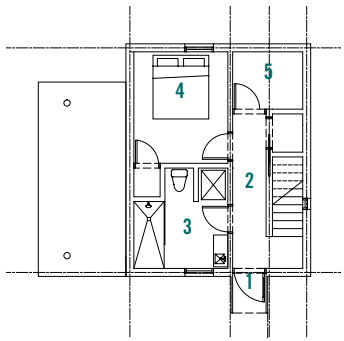
1. sunset room

THIRD FLOOR PLAN



1. dining 2. kitchen 3. living 4. deck

SECOND FLOOR PLAN



1. entry 2. hallway 4. bedroom
3. washroom 5. mechanical

GROUND FLOOR PLAN

These strong suetes demand a robust structural system to withstand major lateral and uplift loads. The tall cabin combats the high winds through redundant sheathing: all solid planes, including the interior partition wall, contribute as shear walls, diaphragms and stacked compression rings. The windbreak, constructed out of welded weathering steel, is then hung from the framing.

ARCHITECTS
Omar Gandhi Architect Inc.
Halifax, NS

Design Base 8
New York, NY

STRUCTURAL ENGINEER
Andrea Doncaster Engineering Ltd.
Dartmouth, NS

GENERAL CONTRACTOR
Joseph MacGee MacFarlane
Margaree, NS

PHOTOGRAPHY
Doublespace Photography
Ottawa, ON

Jury's Choice

Wood proves a cost-saving option for a building dedicated to saving lives

St. John Ambulance Regional Headquarters and Training Centre

William Nycum & Associates Limited

The St. John Ambulance Regional Headquarters and Training Centre is a one-story building designed to combine several functions under one roof: to create a memorable experience for students learning first aid, to provide instructors with flexible teaching spaces, and to support the organization's outreach and daily remote training functions with dedicated facilities.

A clear floor plan carefully arranges the functions to be discrete yet linked where they enhance one another. This straightforward design means that students, instructors and administrative staff are all accommodated and supported within the space. Through planning, development of multi-use spaces and careful material selections, the new headquarters provides highly functional, low-maintenance and cost-effective facilities for all stakeholders.

Student-focused spaces include a lounge, informal gathering spots that can accommodate various sizes of study groups, and classrooms with natural daylighting. The warehouse includes processing, cleaning and storage areas for equipment used to teach first aid and direct access from the exterior for travelling instructors dropping off or picking up supplies. The administrative area includes meeting rooms, open and closed offices, and a staff kitchenette in a more private portion of the building.

Wood provided a familiar building material and economical choice for smaller-scaled portions of the building. The administration wing of the project is primarily standard dimensional framing – easily adaptable and configurable for a standard office layout for private and shared workspaces. The wood trusses in the classroom wing provide column-free learning spaces and enhance the aesthetics of the exposed tongue and groove structural pine decking. Clerestory windows are spaced between each of the classrooms' trusses with light fixtures integrated into the truss forms themselves, providing an integrated approach to daylighting and artificial lighting strategies. As an interior finish in classroom spaces, wood also helps create warm and engaging spaces in which to teach and learn.

The frame of the building is a hybrid steel and wood construction to take advantage of efficiencies for different spans, provide character to interior spaces where exposed, and offer an easy-to-source and easy-to-work-with material. The steel post and beam structure provides the framework within which a curving and expressive exterior curtain wall is implemented: wood trusses continue from the interior to provide a generous and protective overhang that helps keep the interior spaces at the curtain wall comfortable, while connected to the exterior. The use of steel in this area minimized the number and size of columns and allowed them to be more easily located outside the building envelope.

The standard dimensional framing of the administrative area was a cost-effective and easy-to-construct approach that helped keep onsite activities moving. Plywood was used in conjunction with standard dimensional framing to provide shear walls as part of the overall structural solution.

The building maintains a low, single-story profile, consistent with the low-scale nature of its surroundings, and maintaining views for the residents of nearby apartment buildings. Variation in massing, expressive roof lines and materials are employed to break the building into interesting forms and develop an approachable, decidedly non-strip-mall public face for St. John Ambulance.

CLIENT
Capital District (now Nova Scotia) Health Authority
Halifax, NS

ARCHITECT
William Nycum & Associates Limited
Halifax, NS

STRUCTURAL ENGINEER
CBCL Limited
Halifax, NS

GENERAL CONTRACTOR
PCL Construction
Halifax, NS

PHOTOGRAPHY
Deborah Nicholson
Canning, NS


DUKE FACULTY CLUB

U.S. WoodWorks Wood Design Awards

U.S. WoodWorks Wood Design Awards

It's a fun exercise, each year, to examine the award-winning projects for what they say about the state of wood design in the U.S. Are there clear themes? Glimmers of emerging trends? Is there something to be learned from what isn't represented?

This year, given widespread interest in mass timber, and the new opportunities it presents to the design community, I expected to see a lot of these systems. I wasn't disappointed, but I was also struck by the range of projects being built. At seven stories, T3 Minneapolis is what its architect calls a "game changer" for commercial building. Albina Yard and Common Ground High School exemplify trends toward mass timber offices and schools. A CLT building addition and research project show that interest comes at every scale.

When design teams talk about mass timber, they often mention structural performance, aesthetics and environmental benefits such as reduced carbon footprint. What's interesting is that these attributes transcend mass timber. They're wood attributes and they're common to most of this year's winners.

MOTO is a wood-frame, mid-rise building – but its use of wood as a design element sets it apart. The unique curves of the Karuna buildings at One North are achieved with heavy timber post-and-beam construction. At the Tashjian Bee and Pollinator Discovery Center, the use of wood was critical to realizing both design and performance goals.

Once again, I am honored to celebrate the individuals who design wood buildings that excel, in terms of their beauty, performance and many other attributes, and whose creativity continues to expand the possibilities for wood.

Jennifer Cover, PE
President & CEO
U.S. WoodWorks

Jurors

TOM S. CHUNG, AIA, LEED BD+C
Principal and Design Leader
LEERS WEINZAPFEL ASSOCIATES ARCHITECTS
www.lwa-architects.com

GREGORY R. KINGSLEY, PhD, PE, P. Eng.
President and CEO
KL&A STRUCTURAL ENGINEERS AND BUILDERS
www.klaa.com

LISA LAMKIN, FAIA, LEED AP BD+C
Principal
BROWN REYNOLDS WATFORD ARCHITECTS
www.brwarch.com

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WESTERN RED CEDAR LUMBER ASSOCIATION REAL CEDAR WRCLA
www.wrcla.org

Weyerhaeuser

Special Achievement

T3
Minneapolis, MN
MGA | Michael Green Architecture

Please see page 96

UNITED STATES

Environmental charter school chooses a CLT structure as it aims to practice what it preaches

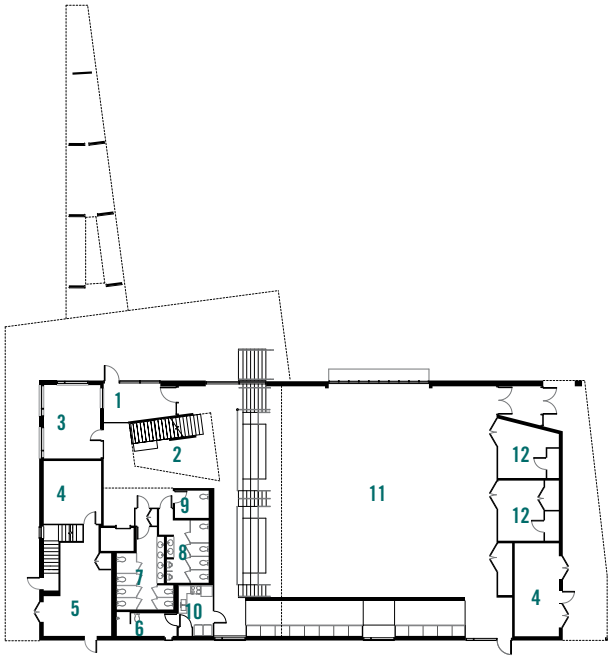
Common Ground High School

Gray Organschi Architecture

This environmental charter school in New Haven, CT, combines urban agriculture and sustainable land-management practices in an innovative curriculum that serves 225 teenagers during the day and younger children and adults through after-school programs in the afternoons and evenings.

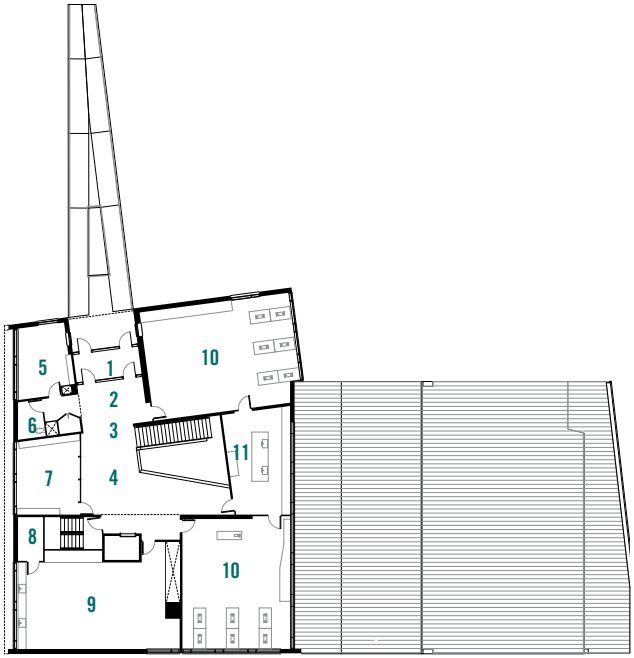
The project brief challenged the design team to weave the new building and its exterior spaces into the fabric of farm buildings, agricultural fields, upland forests, and wetland habitat that lie at the city's edge and serve as the school's working landscape and outdoor classroom. A primary objective was a pedagogical one; the building itself – which includes an art studio, science classrooms, and a community meeting and recreation facility – had to be an environmental exemplar that integrated new ecological concepts and building technologies in a legible and instructive way.

In addition to its on-site energy production and stormwater treatment, natural illumination and passive ventilation, the new building at Common Ground exploits the structural capacities and ecological benefits of wood fiber. It is one of the first buildings in the U.S. to use CLT as its primary structure. CLT provides the tension surface in the cellulose-insulated stressed skin panels that span the school's classrooms and circulation spaces, and 65-ft. glulam black spruce timber ridge trusses and roof rafters span the multi-purpose room that functions as gymnasium,



1. vestibule
2. lower foyer
3. office
4. mechanical room
5. mechanical & electrical room
6. shower
7. women's restroom
8. men's restroom
9. restroom
10. kitchen
11. multipurpose room
12. storage

N GROUND FLOOR PLAN



1. vestibule
2. lobby
3. print. closet
4. upper foyer
5. office
6. restroom
7. break out room
8. kiln room
9. art classroom
10. science classroom
11. prep. space

SECOND FLOOR PLAN

theater and community meeting space. Visible in the public spaces and classrooms, these mass timber elements and surfaces serve as reminder to the faculty and students who use the spaces, of the forests 600 miles to the north that generated the material.

One notable benefit of this aggregation of construction biomass is that the carbon sequestered in the building's structural system offsets the annual emissions of 107 cars, making the building carbon-neutral in its first decade of operation. This integrated use of renewable material and low-impact construction technique enhances the health and ecological function of the immediate site. It also protects more distant productive landscapes, optimizing their biological and hydrological processes so that they may continue to provide valuable environmental services such as clean air and water (and a steady supply of renewable building material) to our cities and, more specifically, to important emerging institutions like Common Ground.

ARCHITECT
Gray Organschi Architecture
New Haven, CT

STRUCTURAL ENGINEERS
Bensonwood Structures
Walpole, NH
Edward Stanley Engineers
Guilford, CT

GENERAL CONTRACTOR
Newfield Construction
Hartford, CT

TIMBER SUPPLIERS
Goodfellow Inc.
Manchester, NH
Nordic Structures
Montreal, QC

PHOTOGRAPHY
David Sundberg
New York, NY

Artful wood accents link lifestyle and architecture in mixed-use apartment building

Multi-Family Wood Design

MOTO

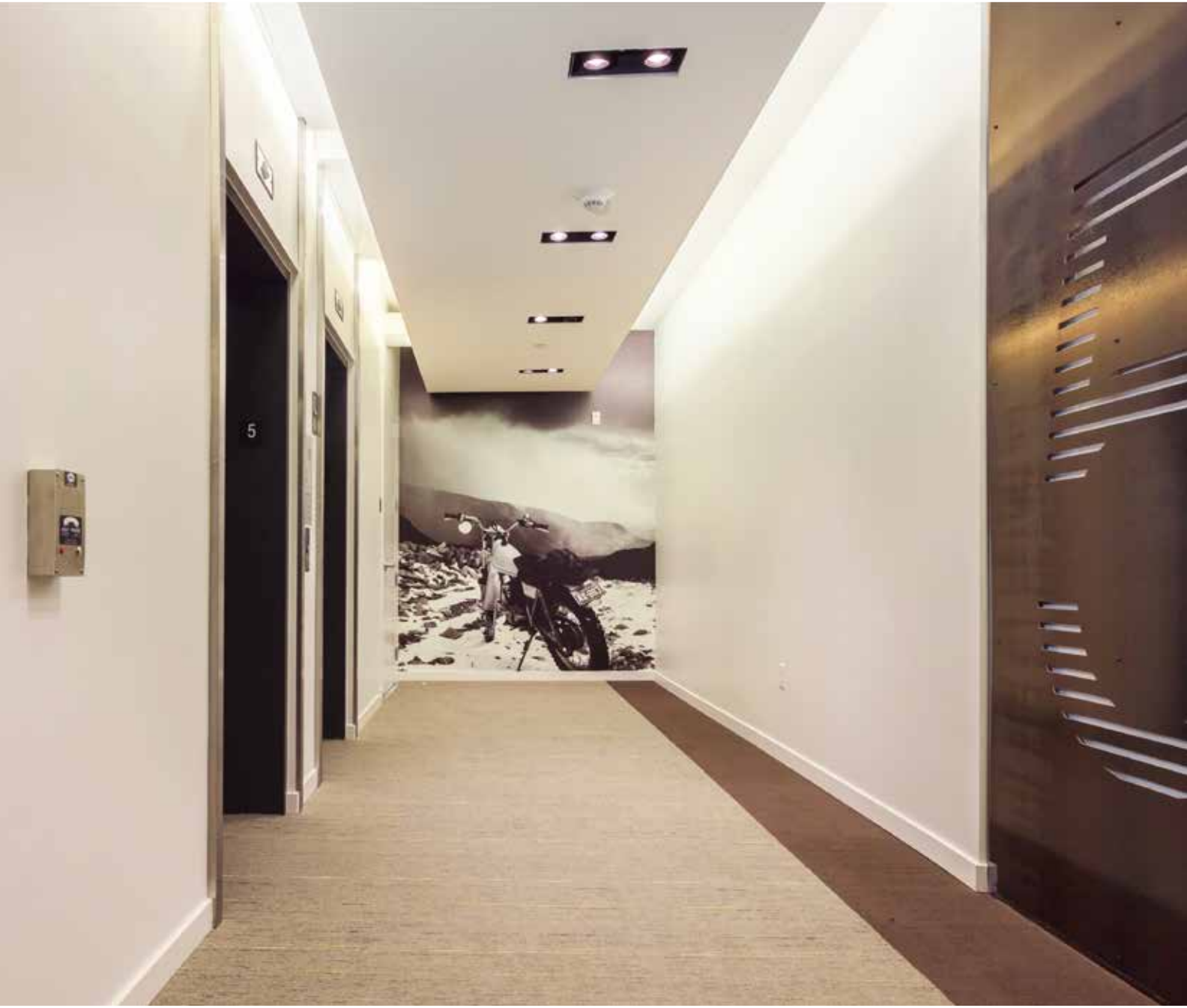
Gensler

MOTO is a mixed-use, 64-unit apartment building located at the convergence of the Capitol Hill, Golden Triangle and Governor's Park neighborhoods in Denver, CO, an area known for its rich cultural, artistic and musical offerings. The goal of the design is to reflect and enhance the lifestyle of the area in a unified concept between architecture, interiors, branding and graphics with an innovative and cost-effective solution.

MOTO responds to the idea of constant change and impermanence through massing relationships, use of gracefully aging materials, and playful details that evoke movement and temporality. Even the name MOTO, or "Middle of Town", implies a convergence and integration unique to this 82,000-sq.ft. development. Each residential floor level slides forward or back to reveal a clear stained cedar soffit, a small detail with a large impact when viewed from below.

MOTO's lobby is designed to help foster a sense of community among tenants, becoming a gathering place that serves as more than a place to pass through. The communal table is a place to meet up with friends, have a beer, play a game or enjoy an alternate place to work from home. A feature wall contains reclaimed wood veneer and shelves with books and games to give it a living room feel.

To further the dialogue between public and private, the pool deck was viewed as an opportunity to link the lifestyle of the tenants with the architecture of the building. The cedar pergola on the pool deck turns down the side of the building to engage the public and soften the concrete walls. Instead of separating this space from the city, the strategy is to create a dynamic relationship with the units and adjoining city while maintaining a degree of privacy.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To support the residents' lifestyle, the street level has two unique retail amenities: Black Eye Coffee and Proper Barber Shop. These small but popular Denver-based businesses were sought out because they are a perfect fit for this location and tenants.

ARCHITECT
Gensler
Denver, CO

STRUCTURAL ENGINEER
Monroe & Newell Engineers, Inc.
Denver, CO

GENERAL CONTRACTOR
PCL Construction
Denver, CO

PHOTOGRAPHY
Gensler
Denver, CO

Ryan Gobuty
Denver, CO

Michelle Meunier Photography
Denver, CO

Commercial Wood Design – Multi-Story

Project aims to inspire greater adoption of renewable mass timber construction technologies

Albina Yard

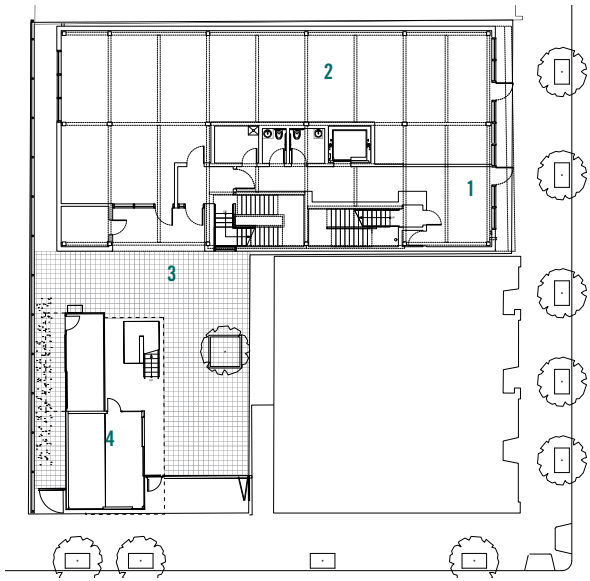
LEVER Architecture

Albina Yard is a new, 16,000-sq. ft. speculative office building with ground-floor retail located in North Portland. The building utilizes mass timber construction, with a glulam timber frame and CLT panels manufactured and prefabricated in Riddle, OR.

The project's primary goal was to utilize domestic CLT in a market-rate office building that would pave the way for broader market adoption of renewable mass timber construction technologies in Portland and across the U.S. The design approach reflects a commitment to this sustainable technology. The architecture focused on economy and simplicity, material expression, and the careful resolution and integration of all MEP building systems to foreground the beauty of the exposed Douglas fir structural frame.

At the street level, the floor plan is organized with the goal of activating a small L-shaped infill site in a mixed residential/light industrial neighborhood. The side-loaded structural core connects the public entry to a day-lit CLT egress stair that opens onto a private south-facing courtyard. The retail space also connects to the street with a cafe/bar adjacent to the courtyard space. The upper floors have expansive views of Mount Hood and downtown Portland, and are also divisible into four smaller units.

Two different structural systems were designed in parallel for pricing: one with standard tongue and groove wood decking and one with CLT. Working with engineers and fabricators, the architects optimized costs by simplifying details and leveraging CLT's superior two-way spanning capacity to



1. lobby
2. retail
3. courtyard
4. accessory building

FLOOR PLAN

utilize fewer glulam beams. The wood columns and beams were prefabricated off-site to 1/8-in. tolerances, allowing components to be assembled on-site five times faster than a conventional wood decking system.

The dynamic form of the street-facing facade is a direct expression of the 4-ft. cantilevering capability of a 4-in. thick three-ply CLT panel. Aluminum composite metal panels trim out the angled floor plates, framing four levels of a structural Douglas fir glulam wood window wall system. Viewed from an oblique perspective, the window frames resemble a wall of wood.

CLIENT
Albina Yard LLC
Portland, OR

ARCHITECT
LEVER Architecture
Portland, OR

STRUCTURAL ENGINEER
KPFF Consulting Engineers
Portland, OR

GENERAL CONTRACTOR
Reworks
Portland, OR

TIMBER SUPPLIER
D.R. Johnson Lumber Co.
Riddle, OR

PHOTOGRAPHY
Jeremy Bittermann
Portland, OR

Commercial Wood Design – Low-Rise

Dramatic spin on barn concept blurs lines between architecture and structural engineering

The Barn

!melk landscape architecture & urban design

The Barn is the pilot project for The Bridge District in the City of West Sacramento, CA – a new 178-acre mixed-use neighborhood one mile from the California State Capitol. Positioned along the Sacramento River, The Barn is a multi-use structure designed to blur the disciplinary boundaries of architecture, landscape architecture and structural engineering.

Situated within the larger northern California agricultural zone, the sculptural form of The Barn is inspired by a sprouting vegetable seed. This form is further informed by sun angles, in that The Barn's orientation on the site and the ultimate shape of its canopy maximizes the amount of shade created for the benefit of its users. The overall architectural concept is facilitated by a contemporary interpretation of traditional barn building components with the aid of parametric design.

Structurally, the building is designed to seemingly defy gravity. As a double cantilever, the superstructure springs upward from two independent foundations, meeting at a dramatic apex that forms a sinuous canopy. The beams and trusses are constructed from glulam.

Intermittent steel reinforcements join the various trusses into beautifully expressed trestles visible from within the two enclosed "pods" and from the exposed underside of the canopy. The shell of the structure is achieved by using nominal wood members, laid side-by-side in a singular direction, to create straight line-generated curves upon which the shingle roofing can be applied.

Programmatically, the project is comprised of two "pods" (one with 2,300 sq.ft. of interior space, the other 900 sq.ft.) from which each side of the superstructure contacts the ground, an open-air canopy, and a larger landscape that connects to the river walk and new development. These "pods" introduce a level of flexibility to the facility. The larger pod is outfitted to accommodate a restaurant and the smaller pod can accommodate a secondary use of the same tenant, or can be operated by a completely different tenant. Each pod has ample outdoor seating within the building's 9,100-sq.ft. footprint that is protected from the sun beneath an 80-ft. canopy that soars 20 ft. in the air.

CLIENT
Fulcrum
West Sacramento, CA

ARCHITECT
!melk landscape
architecture & urban design
New York, NY

STRUCTURAL ENGINEER
Magnusson Klemencic Associates
Seattle, WA

GENERAL CONTRACTOR
Brown Construction
West Sacramento, CA

PHOTOGRAPHY
Chad Davies
Sacramento, CA


WRITERS THEATRE

Second-floor canopy walk's structural system shines a spotlight on local theater's innovative design

Writers Theatre

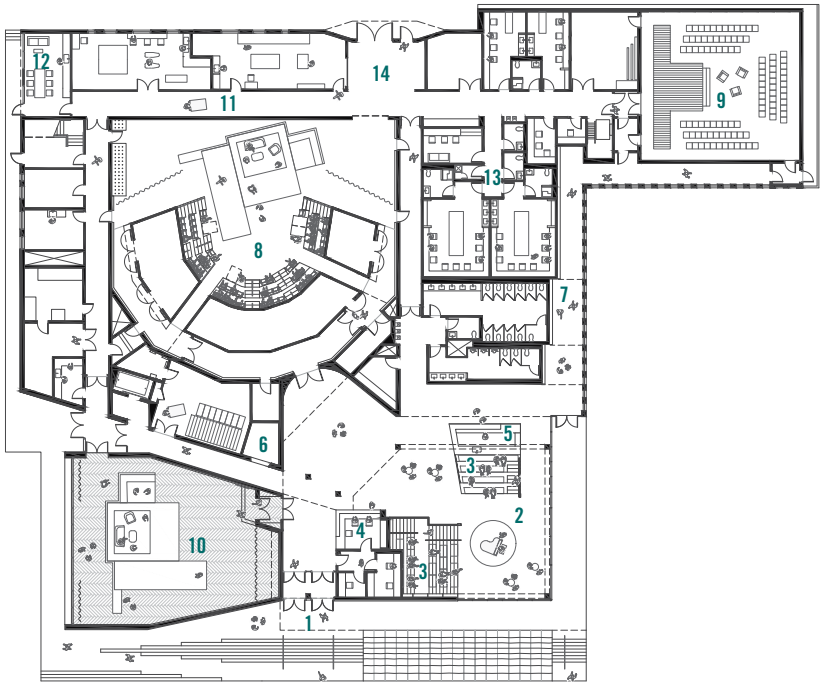
Studio Gang Architects

Theater's ability to bring people together across social boundaries makes it an important aspect of urban living. Writers Theatre in Glencoe, IL, is designed to build on that as a 21st-century theater company that serves as a cultural destination for the region.

Organized as a village-like cluster of distinct volumes that surround a central hub, the building's form resonates with the character of Glencoe's downtown. The theater's two performance spaces, a main stage and a smaller black box venue, employ staging and seating configurations to maximize the sense of intimacy between actors and audience and enhance the immersive experience. Both performance venues, in addition to rehearsal space and public zones, open onto the central gathering space of the lobby.

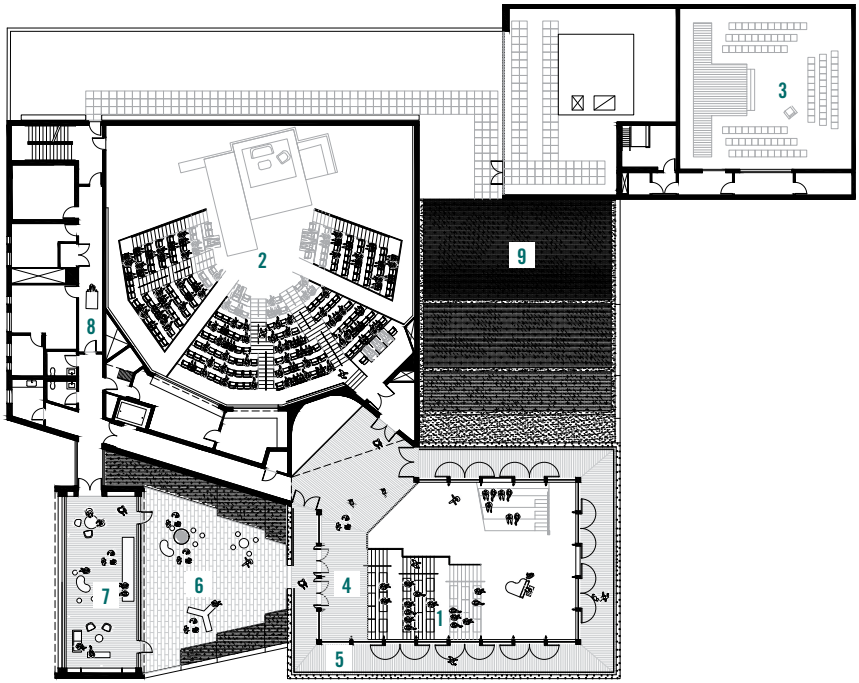
Designed to accommodate informal performances, talks and community events, the lobby is structured by great timber Vierendeel trusses with a lighter wood lattice supporting its second-floor canopy walk. This walk employs an innovative structural system, putting wooden members into strict axial tension. Using Port Orford cedar battens with a 2 x 3 cross-section, the canopy walk is hung from wooden glulam roof beams. An outer layer of battens connects to the suspended glulam beams below without mechanical fastening, instead relying upon the material properties of wood to produce a flared wedge connection. The connection is designed to fit into matching grooves cut into the lower glulam beams, akin to traditional Chinese and Japanese wood joinery methods; a slight undercut prevents the batten from slipping forward when in its locked position. The shape of the detail likewise ensures this strong connection.

Animating the facade through its pattern and experiential quality, the canopy walk creates an iconic identity for Writers Theatre while also providing a dynamic space for people to gather. It works to extend the drama of performance from the main stage to the lobby to the streetscape beyond, revealing the forces and materials that make the structure possible. Lowering the project's overall carbon footprint by replacing steel structural systems with wood, the canopy walk also improves the environmental performance of the building through self-shading.



1. entry
2. lobby
3. lobby seating
4. box office
5. concessions
6. coat check
7. library
8. 250-seat theater
9. black box theater
10. rehearsal room
11. theater back-of-house
12. green room
13. performers' suite
14. loading

GROUND FLOOR PLAN



1. lobby seating
2. 250-seat theater
3. black box theater below
4. gallery
5. grand gallery walk
6. event terrace
7. donor lounge
8. offices
9. green roof

SECOND FLOOR PLAN

An alternating pattern of Port Orford cedar clads the exterior of the 99-seat theater, complementing the wood detailing of the canopy walk. On the interior, stained elm harvested on-site was used to clad the lobby's tribune seating and concessions, contributing to its inviting ambience. It was also used for woven millwork, which serves as a natural marquee, and bookshelves that house playbills, programs, and past scripts, invoking both the history of the theater company and the site.

The theater itself engages its surroundings through transparent visual connections and ivy-covered backdrops to the surrounding parks. In fair weather, the lobby can open to the adjacent Women's Library Club Park, allowing the energy and interaction of the theater to extend outward into the community beyond. At night, the theater glows from within, drawing interest and activity to this important civic and cultural anchor.

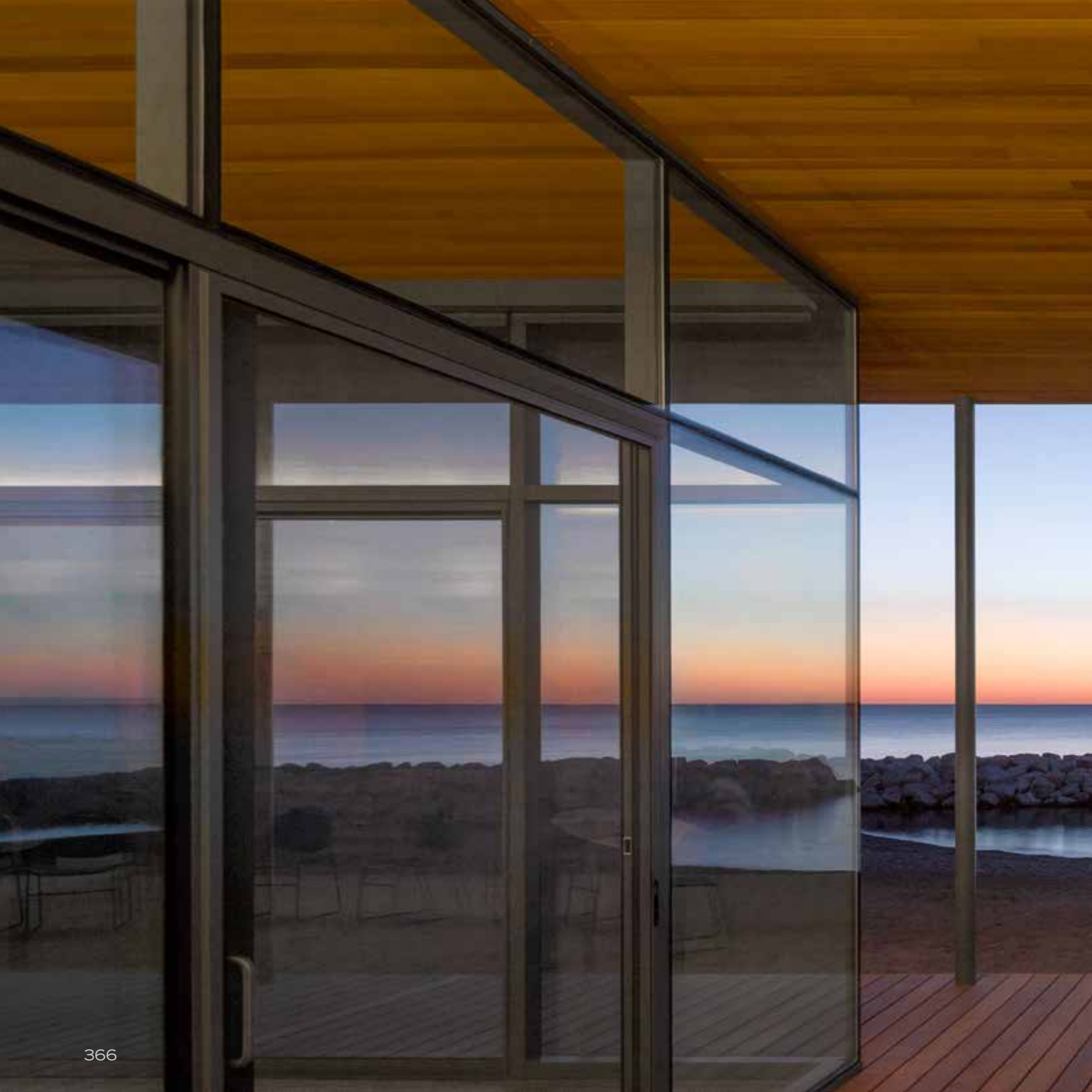
ARCHITECT
Studio Gang Architects
Chicago, IL

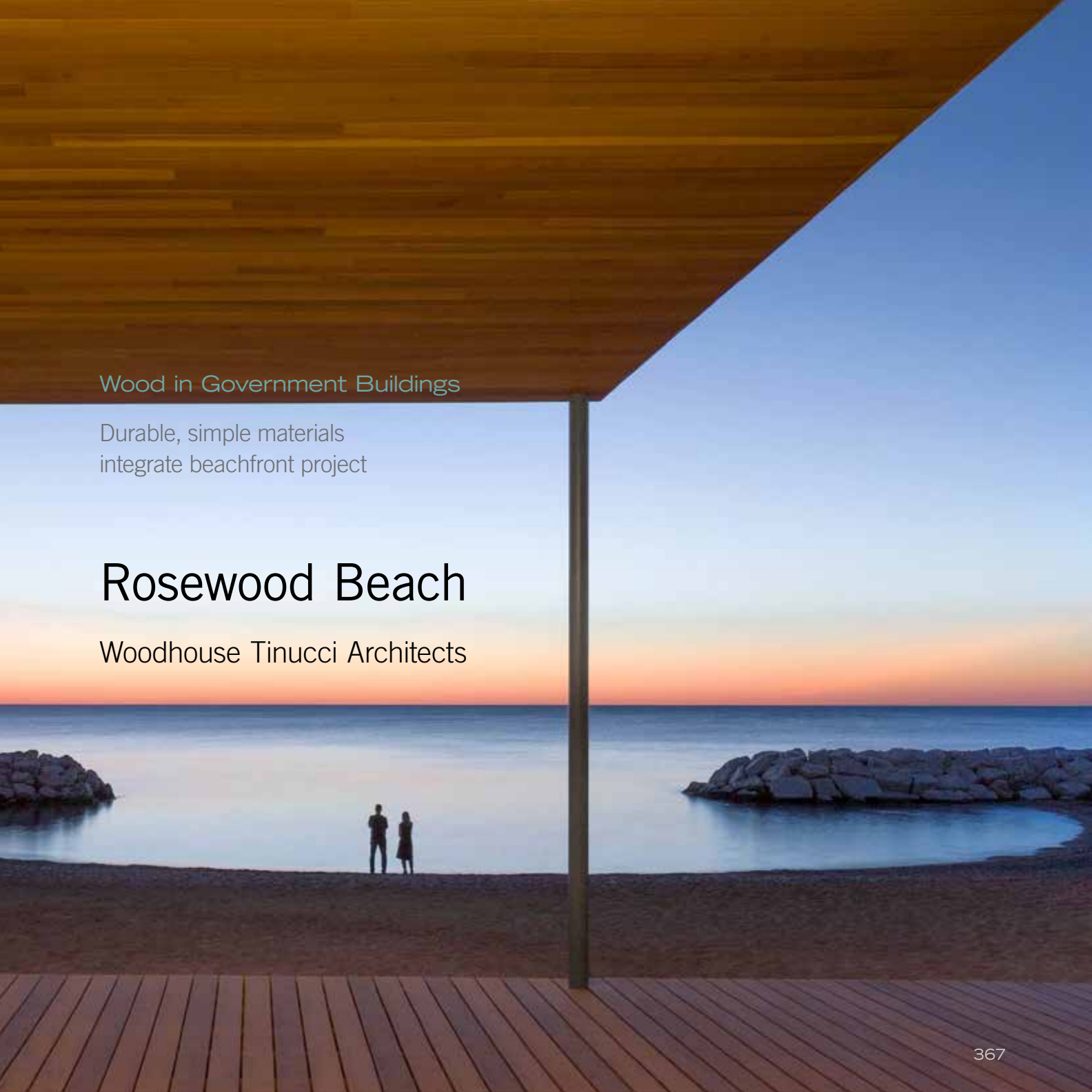
STRUCTURAL ENGINEER
Halvorson and Partners
Chicago, IL

GENERAL CONTRACTOR
W.E. O'Neil Construction
Chicago, IL

TIMBER SUPPLIER
Trillium Dell Timberworks
Knoxville, TN

PHOTOGRAPHY
Steve Hall/Hedrich Blessing
Chicago, IL



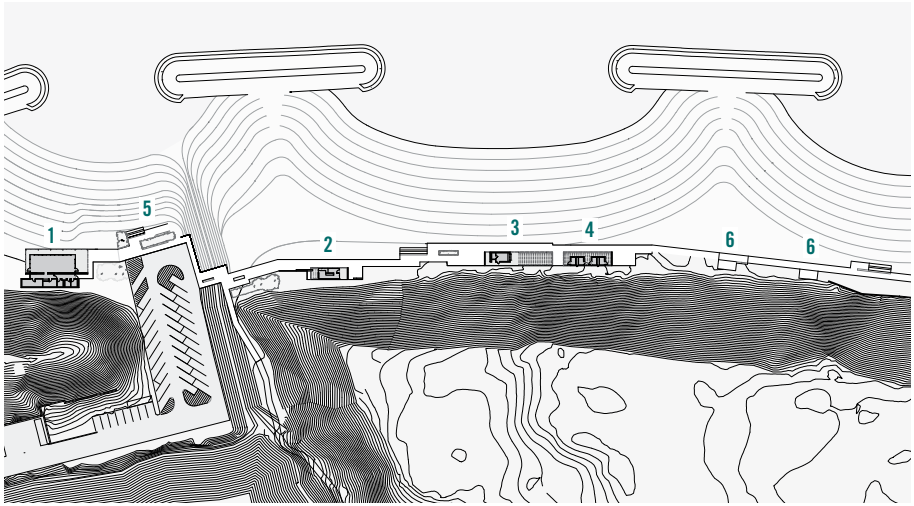


Wood in Government Buildings

Durable, simple materials
integrate beachfront project

Rosewood Beach

Woodhouse Tinucci Architects



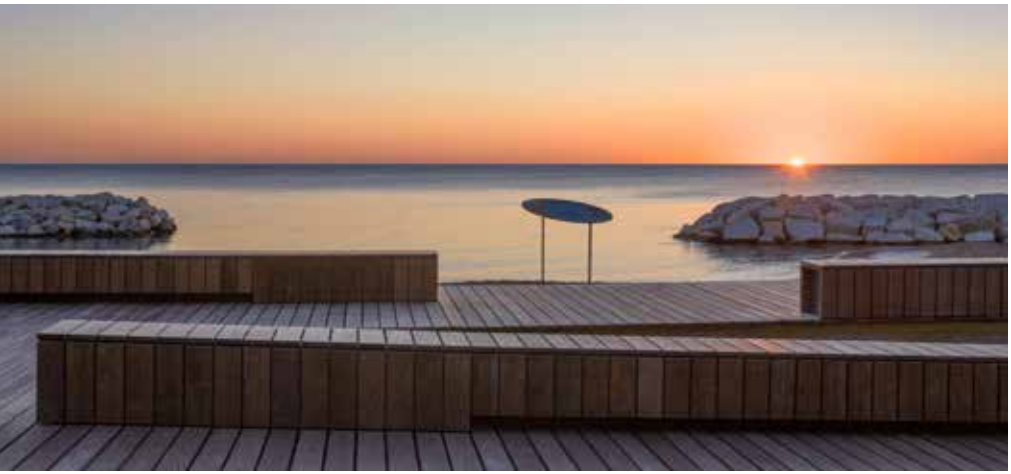
1. interpretive center
2. lifeguard pavilion
3. snack bar pavilion
4. restroom pavilion
5. lookout
6. picnic area

N SITE PLAN

The Rosewood Beach development project integrates four new buildings into Rosewood Park's beachfront by blending them into a canonical waterside element, a 1,500-ft.-long boardwalk that hugs the bottom of the bluff, connecting access points at each end and opening to Lake Michigan along its east side.

Program elements are housed in simple, small-scale, low-profile units strung out along the boardwalk. Building elements are long, low and thin, largely transparent in the north-south direction, and topped with boardwalk planks so that all views up and down the beach and from the park above are fully preserved. At the north, the environmental education pavilion is a large, open space, backed up by a thin service bar containing restrooms and storage. The pavilion's north and south walls are sliding glass doors that open to decks outside, fully connecting it to the boardwalk and allowing views right through its structure. Its east wall is mullionless glass, giving an unimpeded view of the lake.

Walking south, park users pass tree-shaded benches to reach the welcome pavilion and lifeguard office, then move on to an outdoor dining area with seating and tables defined by the refreshment pavilion and the beach restroom pavilion.



CLIENT
Park District of Highland Park
Highland Park, IL

ARCHITECT
Woodhouse Tinucci Architects
Chicago, IL

STRUCTURAL ENGINEER
Enspect Engineering Consultants
Merrillville, IN

GENERAL CONTRACTOR
WB Olson, Inc.
Northbrook, IL

TIMBER SUPPLIER
Evanston Lumber
Evanston, IL

PHOTOGRAPHY
Bill Timmerman
Highland Park, IL

Materials are natural, simple, durable and "beachy." Local stone was quarried from southern Wisconsin to clad the buildings, blending them into the natural habitat of the bluff beyond. Ipe decking and cedar siding form the boardwalk and cladding of the individual pavilions and large quantities of operable glass blend interior and exterior and allow for panoramic views of the lake. The glazing on the project is provided with a micro-ceramic frit that's invisible to the human eye, but able to be seen by birds and reducing bird strikes to a minimum.

Building structural framing is a mix of steel and light-frame lumber. Hybrid steel and wood framing was used to develop extra-thin profile roof and wall assemblies. The boardwalk is light-frame lumber over heavy timber driven piles, designed in such a way that the boardwalk and buildings would survive a 100-year storm that would remove much of the sand from the beach.

Green Building with Wood

A new standard for sustainability in West Texas draws inspiration from surrounding ranches

Josey Pavilion

Lake | Flato Architects

With aspirations to be the first Living Building project in Texas, this 5,400-sq.ft., open-air pavilion is an education and meeting center for the Dixon Water Foundation. The West Texas project physically embodies the foundation's mission to promote healthy watersheds through sustainable land management, ensuring the preservation of our water resources.

The building's simple, low-lying forms speak to the surrounding native prairie as the pavilion works in concert with nature. The complex consists of two similarly scaled buildings connected by a shady porch; one features an herbarium, restroom and kitchen, while the other houses a multi-purpose space for education events. Designed to be flexible and adapt to climatic conditions, the structure captures cool breezes in summer and blocks cold winter winds. The structure's deep overhangs and existing heritage live oak provide shade and shelter in the central gathering space. Gapped wood doors can be opened to allow maximum ventilation through the central gathering space and along the porches. The rooftop cupola provides daylight for the central pavilion while also drawing hot air out.

The material palette is simple and durable, yet tactile and natural. The materials used are left in an unfinished state to display their natural character and beauty. The grain of the wood is exposed, the steel is allowed to rust naturally, and the concrete is unfinished. The materials used are no different than those that you would find on most Texas ranches, which evokes a comfortable authenticity not commonly found in the modern built environment. Sinker long leaf pine is used for the structure and siding, and is detailed so the wood is protected from the elements by the deep overhangs. Column bases are raised well above the ground plane to further protect the wood from rain and sun. The perimeter concrete wall that supports these raised column bases serves a dual purpose by creating bench seating along the porches.

The foundation wanted a low-maintenance building and preferred wood cladding over other options. The team had assumed the structure and siding would be Eastern red cedar, which is locally available and naturally durable; however, the Living Building Challenge requires not only locally sourced material but that all wood either be reclaimed or FSC-certified. After challenges locating a source for FSC-certified Eastern red cedar, the team turned to sinker long leaf pine. The wood is cut from 100-year-old logs dredged from the bottom of South Texas rivers and bayous.

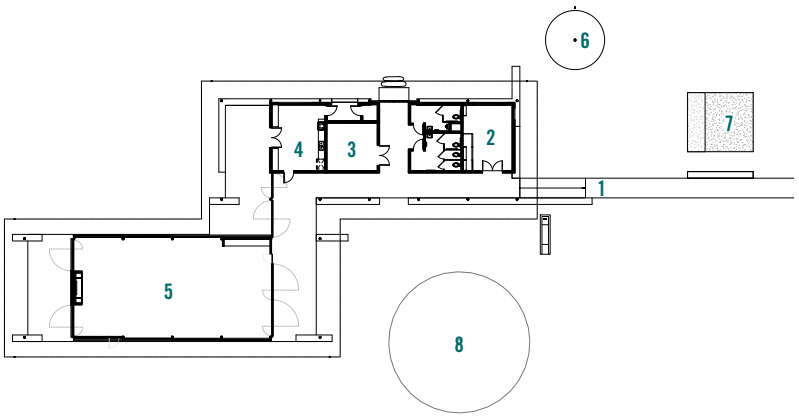
Designed as a fully restorative Living Building, Josey Pavilion represents the most advanced measure of sustainability in the built environment. All wastewater is treated on-site and returned to the natural water cycle, all the energy used is produced by solar panels, and testing has confirmed that indoor air quality is almost indistinguishable from the air outside. Only building materials that have a low environmental impact and no adverse effects on human health were used in the project. Natural materials and human-scaled spaces create a tranquil environment that connects people with the landscape in a holistic, non-intrusive way that supports the foundation's mission.

ARCHITECT
Lake | Flato Architects
San Antonio, TX

STRUCTURAL ENGINEER
Datum Engineers
San Antonio, TX

GENERAL CONTRACTOR
Lincoln Builders
Ruston, LA

PHOTOGRAPHY
Casey Dunn
Austin, TX



1. entry walk
2. herbarium
3. storage
4. kitchen
5. education center
6. water cistern
7. constructed wetland
8. heritage live oak

N
FLOOR PLAN

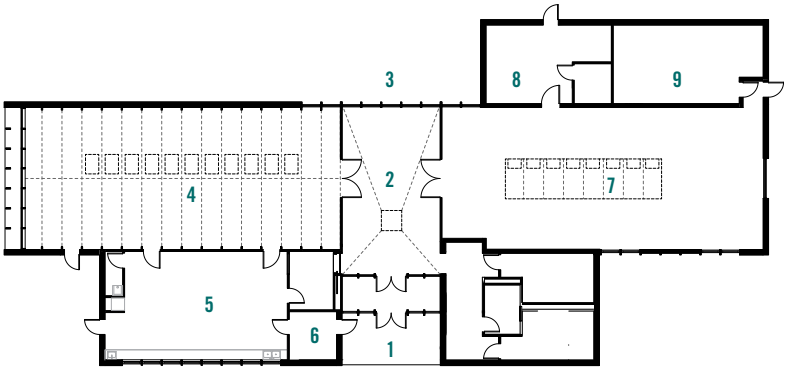
Modern technology and passive design strategies create a building that works as hard as the insects it studies

Tashjian Bee and Pollinator Discovery Center

MSR Design

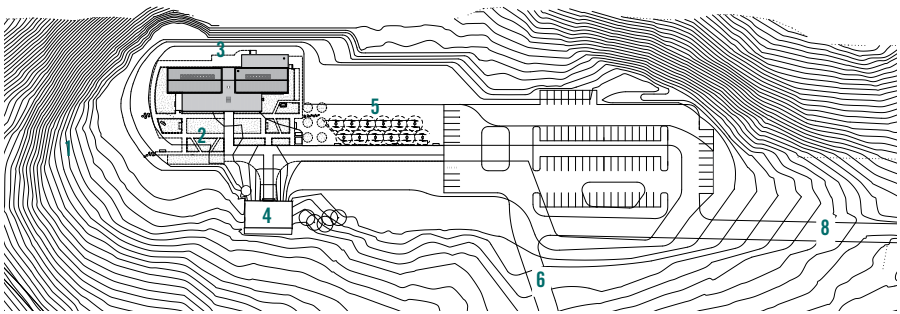
Along with their importance to flowering plants, honey bees and other pollinators play a crucial role in the production of the food we eat. However, the health of pollinators is in danger from pesticide use, lack of forage, destruction of nest habitats and colony collapse disorder. Serving as the outreach arm of the University of Minnesota's Bee and Pollinator Research Lab, this new 7,680-sq.ft. center will offer future generations an opportunity to learn about the intricate and essential world of pollinators.

Located on the Red Barn Farm site at the Minnesota Landscape Arboretum, the center features exhibit space for telling the story of honey bees, Monarch butterflies and other pollinators, while inviting visitors of all ages to sense the world from their vantage point. A learning lab provides space for interpretation and educational activities, while a honey house provides demonstration workspace for honey extraction. The design connects interior program spaces to an outdoor environment of demonstration pollinator gardens and bee hives.



1. porch
2. the apiary
3. hives
4. exhibit gallery & event space
5. honey house
6. hot room
7. learning
8. storage
9. mechanical

FLOOR PLAN



1. wildflower meadow
2. pollinator gardens
3. bee hives
4. red barn
5. geothermal
6. arboretum drive
7. parking
8. entry drive

SITE PLAN

The center's design language was developed as a working aesthetic, reinterpreting the vernacular strategies inherent in an adjacent historic wood barn to create a beautiful and sustainable building with a connection to the history embedded in its site. The project and adjacent barn have most of their openings on the south façade to provide natural daylight and passively heat their interiors through direct solar gain. Passive natural ventilation is facilitated by combining their gabled volumes with high openings.

The center integrates modern technology with its passive design strategies to create an extremely high-performing building. Daylight analysis helped shape beautiful and performative interior spaces that are naturally lit, use integrated exterior wood shading and provide visual connections to the surrounding arboretum.

The use of wood was critical to realizing the project's design and performance goals. A robust and well-insulated envelope is paramount in Minnesota's cold climate. The center uses structural insulated panels that combine wood studs and polyurethane insulation into prefabricated panels that can be easily modified and installed on site. The low embodied energy of wood helps offset the higher embodied energy of insulation. Thermal bridging and air infiltration were minimized by the inherent thermal resistance of wood, by providing continuous insulation and by using exterior plywood sheathing to create an air barrier.

The interior of the project is clad in plywood paneling and the structural glulam trusses are exposed and integral to the character of the interior. The resulting project is a modern reinterpretation of the working aesthetic that is expressly right for today.

CLIENT
University of Minnesota/
Minnesota Landscape Arboretum
Chanhassen, MN

ARCHITECT
MSR Design
Minneapolis, MN

STRUCTURAL ENGINEER
Meyer Borgman Johnson
Minneapolis, MN

GENERAL CONTRACTOR
Loeffler Construction & Consulting
Lakeville, MN

PHOTOGRAPHY
Richard Brine
Minneapolis, MN

Regional Excellence

Pine and cedar frame private swim, tennis, and fitness facility for Duke employees

Duke Faculty Club

Duda | Paine Architects

Set amid the 7,060-acre Duke Forest, the Duke Faculty Club had always identified itself as being "a place in the woods", and this core tenet is enhanced by the prominence of wood in the architecture of its new campus improvement project.

An 18-ft. vertical screen of pine harvested from the forest mimics its stand of pines, marking the building entrance and acting as a primary circulation spine. A relief of arcs carved into the screen's elements and visible across the entry procession echoes the natural setting. At the apex of the spine, visitors pass through the screening to the building's entry or head to outdoor amenities such as the pools, tennis courts and garden terrace.

The interplay of vertical and horizontal wood elements shapes a rich sense of place for the club's outdoor recreational amenities beginning in the pool area. The entry screen's vertical lines turn horizontally to frame wooden shade structures and define the pattern of clear red cedar siding. The shade structures mediate light on south facing facades and define secondary, east-west circulation along the garden terrace, which leads to locker rooms and other amenities. Polished masonry provides aesthetic contrast and functionality.

Cedar siding extends seemingly uninterrupted from exterior to interior walls, and connects the surrounding forest for building users. Patterning in paneling, ceilings, doors and partitions repeats the vertical and horizontal exterior rhythm in the fitness center, locker rooms, offices and game room. Wood is also used in tabletops, cubbies, millwork and other elements, further enriching the natural aesthetic. The vaulted, wood paneled ceiling lets in abundant natural light along the circulation spine, and thoughtfully framed views bring natural sensibilities to interior activities. The polished concrete floor echoes the masonry contrast found in exterior cladding.

The architecture is focused around movement, allowing paths of daily circulation to carve out places to rest and relax between active program spaces. A sense of extending into the landscape is achieved with roof overhangs, site walls that double as seating, and several back porch-like spaces where members sit in rocking chairs under shade trellises.

The design incorporates many sustainable elements, including the use of reclaimed pine from Duke Forest in the cladding of the interior circulation spine, daylighting through clerestory windows and high-performance glass, solar shading with deep roof overhangs and wood trellises, and the incorporation of two energy recovery ventilation units.

Much of the building is light-frame wood construction with laminated veneer lumber support at larger openings. Steel reinforces columns for some of the major roof trusses. Manufactured wood trusses support plywood decking. The fitness floor is an elevated double-layer plywood deck on manufactured wood trusses. Clear pressure-treated pine timber forms the shade canopies.

The design of the Duke Faculty Club creates a warm and welcoming environment that blends with and complements the natural forest surroundings. The liberal use of wood elements and the infusion and interplay of natural light provide a seamless transition between indoor and outdoor spaces and activities for its users.

CLIENT
Duke University
Durham, NC

ARCHITECT
Duda | Paine Architects LLC
Durham, NC

STRUCTURAL ENGINEER
Gardner & McDaniel, PA
Durham, NC

GENERAL CONTRACTOR
Romeo Guest Associates, Inc.
Durham, NC

PHOTOGRAPHY
Robert Benson Photography
Hartford, CT

Regional Excellence

Innovative commercial development aims to exceed efficiency and sustainability standards

Karuna at One North

Holst Architecture

One North is an innovative commercial development that was designed with a clear set of values involving community, environment, and resiliency. The project provides office and retail space on a brownfield site, with a focus on maximizing energy efficiency, reducing waste and consumption, and sharing resources with the community. Coupled with a strong commitment to neighborhood values and collaboration, One North represents an entirely different approach to commercial buildings.

Composed of three mixed-use office buildings with ground-floor retail, the development surrounds a new 14,000-sq.ft. courtyard intended to create a vibrant community space for use by both tenants and the neighborhood. Purpose-built to achieve exceptional energy efficiency through a blend of leading-edge strategies, the Karuna East (four stories) and Karuna West (five stories) buildings at One North feature concrete construction on the retail ground floor, with exposed heavy timber post and beam structure at the office spaces above the elevated post-tensioned concrete podium. Both buildings were also modeled to perform 50 per cent more efficiently than a typical new building in Oregon.

The expression of the curved and cantilevered building forms presented a few challenges for wood framing. The primary structure consists of glulam columns and beams, and the architect and contractor worked together to ensure the complex framing geometries were accurate and achievable. Once the primary structure was in place, the cantilevered apertures, framed of galvanized light-gauge steel because of weight and weather exposure considerations, were attached to the wood frame via a handful of steel knife plates. The knife plates were one of the few thermal bridges in the building envelope, but because they were connected to a wood frame instead of steel or concrete, the overall impact of the thermal bridge was minimized.

The project's unique curves are complemented by its Western red cedar siding. It was important to the developer to know precisely where the siding material was coming from. The project team visited a private co-op of landowners in western Washington that manages its forestlands sustainably and was willing to work on a custom specification for the siding.

Other sustainability strategies include a super-insulated airtight building envelope, exterior shading and highly efficient mechanical systems. The Karuna East and West buildings both have photovoltaic arrays for on-site electrical production, thermally broken doors and windows for energy efficiency, and insulation on all sides of the buildings, including the foundation.

1. lobby
2. tenant space
3. bike storage
4. community courtyard
5. parking

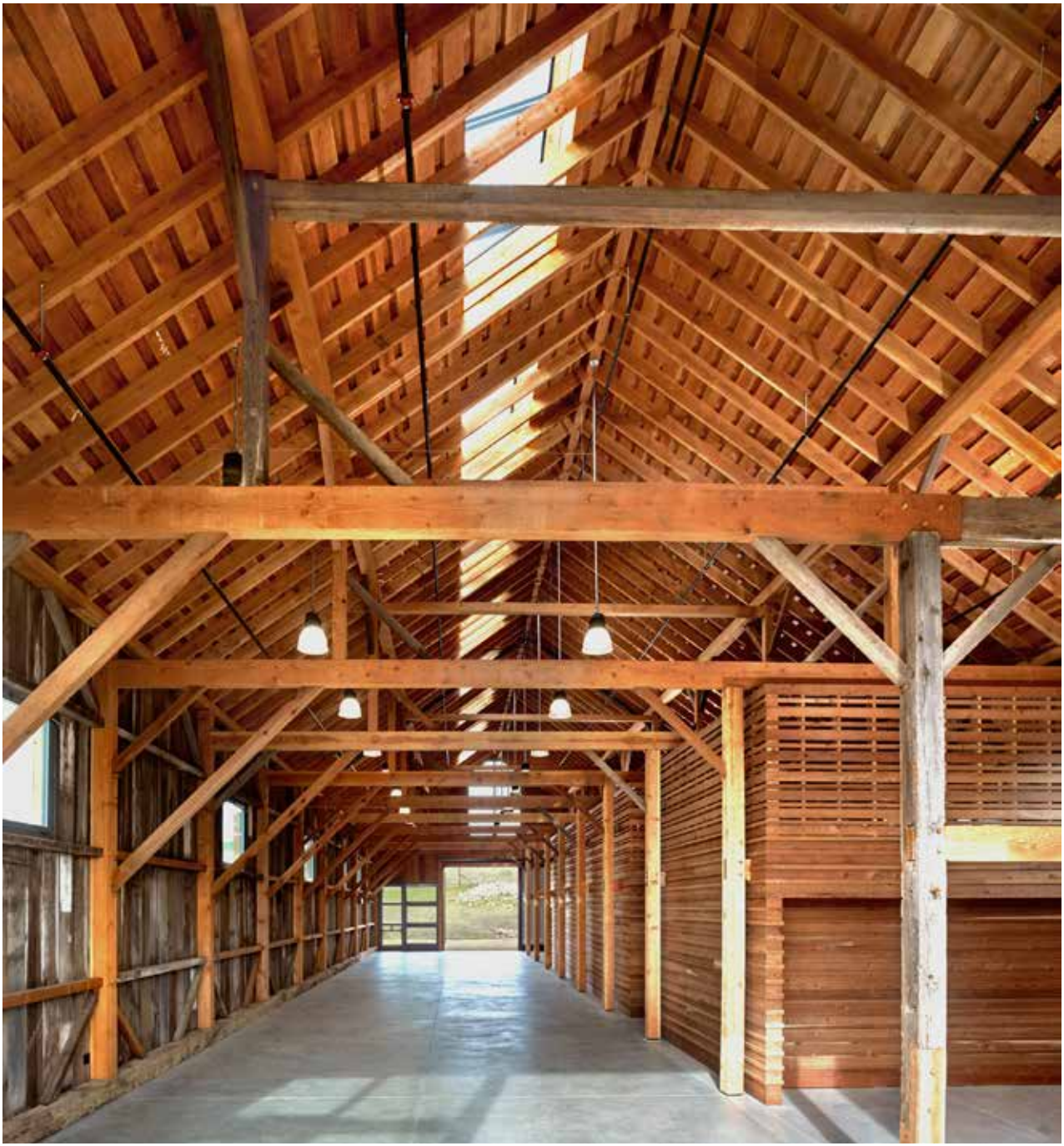
GROUND FLOOR PLAN

ARCHITECT
Holst Architecture
Portland, OR

STRUCTURAL ENGINEER
Froelich Engineers Inc.
Portland, OR

GENERAL CONTRACTOR
R&H Construction Co.
Portland, OR

PHOTOGRAPHY
Andrew Pogue
Seattle, WA



Regional Excellence

A beloved barn retains its historic character while meeting aggressive sustainability goals

Cowell Ranch Hay Barn

Fernau & Hartman Architects, Inc.

The project is a rehabilitation of an 1860s hay barn located at the entry to the University of California, Santa Cruz. It is primarily used as the headquarters of the Center for Agroecology and Sustainable Food Systems (CASFS), as well as public events and programs. As home to one of the university's most progressive programs, the Hay Barn is both an emblem of the campus' origins and a reassertion of its commitment to innovation.

The original barn structure was in major disrepair when the reconstruction was commissioned, and a collective effort was made to preserve and salvage as many of the original members as possible. The approach to the project was one of rehabilitation rather than strict preservation. The goal was not to embalm the Hay Barn, but to extend its longevity through utility. After careful documentation and disassembly, the design team evaluated which structural members could be salvaged. The overriding principle was to look back and forward in time, expressing what was old as old, and new as new.

The reconstruction had to meet current codes and aggressive sustainability goals. To that end, it entailed exhaustive documentation, piece-by-piece deconstruction, painstaking re-assembly of the historic structure by weaving together new and old elements, and the incorporation of contemporary program. To preserve both the massive scale of the barn and the spatial experience of the overall volume, enclosed spaces (which include a kitchenette, meeting room, restrooms and an open office area) were condensed into a service core along one side of the barn. This new service core is visually distinct without diminishing the barn's historic character.

Design and careful detailing replicate the hand-cut joinery found in the original structure. Hand-selected trees were felled and milled to meet original timber dimensions, and the mortise and tenon joinery was hand-cut and assembled by master timber framers. The local timber framers precisely reconstructed the frame with salvaged members knit together with new, specially milled members. The post-and-beam heavy timber framing, interior spatial organization, exterior openings and wood construction that characterized the original barn were preserved. The new interior partitions are compatible with the character of the building yet are easily differentiated from the original post-and-beam frame.

New redwood was used for siding, doors and shutters on the exterior and to clad the new service core. Reclaimed redwood from the original structure was used for siding on the interior side of the exterior walls, and Douglas fir was used for new heavy timber mortise and tenon frames and braces, as well as on the ceiling.

The project was conceived as a model for sustainable and adaptive re-use, and is on track for LEED Gold certification. The exterior envelope has been thickened with 2 x 6s to include a layer of insulation. Details at the eaves and openings cleverly conceal this added thickness. Massive steel sliding doors with infill were installed on the inside of the reconstructed wood doors, while skylights were added to the western half of the gable roof, out of sight from the campus entry. Additional windows at workspaces also provide light and ventilation for users, and the entire space is passively cooled through natural ventilation.

CLIENT
University of California, Santa Cruz
Santa Cruz, CA

ARCHITECTS
Fernau & Hartman Architects, Inc.
Berkeley, CA

STRUCTURAL ENGINEER
Tuan and Robinson
Structural Engineers, Inc.
San Francisco, CA

GENERAL CONTRACTOR
Cen Con, Inc.
Santa Cruz, CA

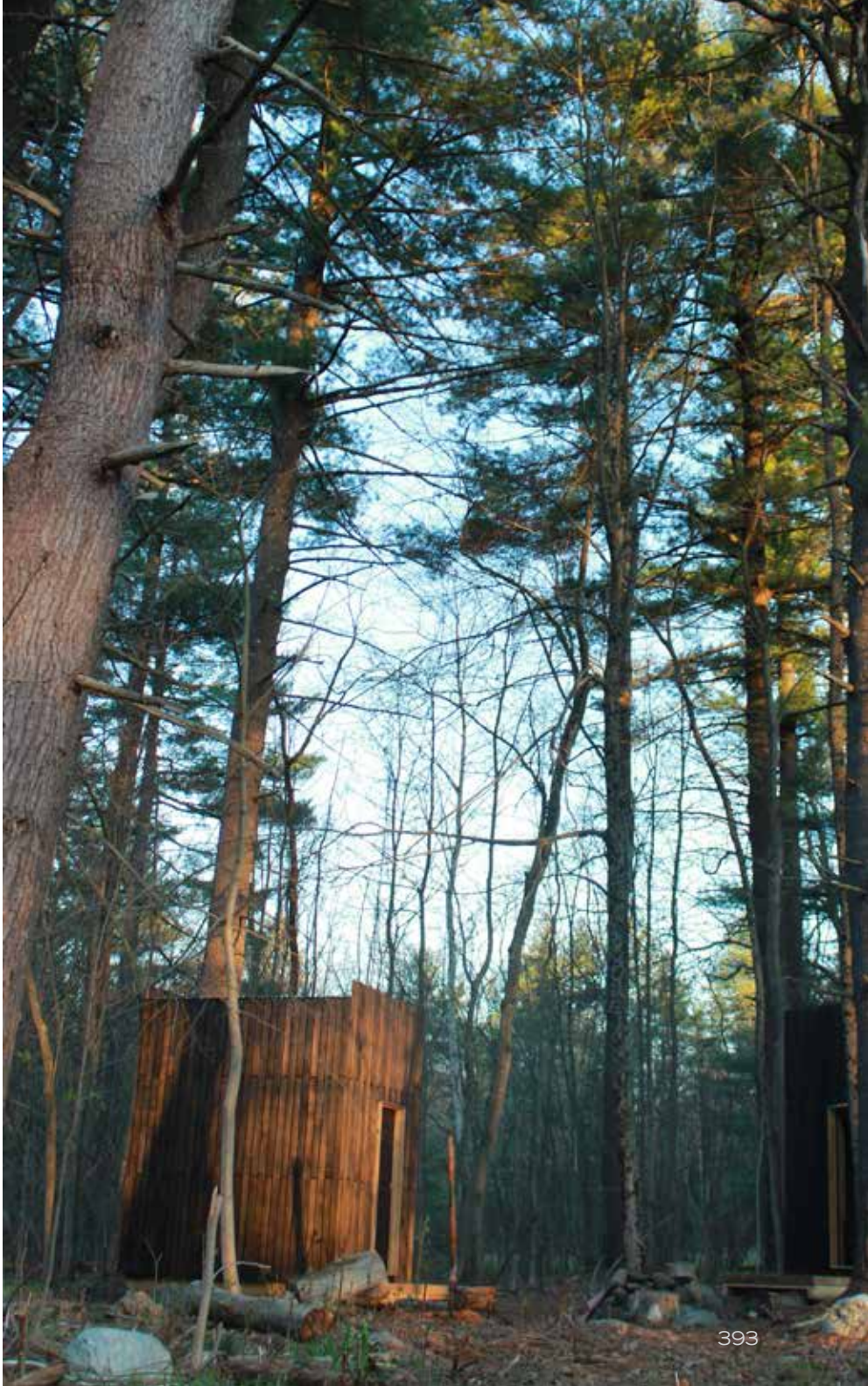
PHOTOGRAPHY
Cesar Rubio
Fernau & Hartman Architects, Inc.
Berkeley, CA
Joop Rubens
Santa Cruz, CA

Regional Excellence

Architectural investigation into regionally specific mass timber construction seeks to support both design and resource decisions

The Littleton Trials

Decentralized Design Lab (DDL)



The Littleton Trials is an ongoing architectural investigation into regionally specific mass timber construction in New England. The work investigates impacts at multiple scales: forest, building and material. These scales are correlated with modes of inquiry: harvesting and milling, assembly and thermal testing, respectively. Two huts have been constructed to date, and a third exists as a pile of drying, site-milled lumber.

The long-term use of the structures is to monitor the capacities for environmental control intrinsic to mass timber techniques. Different species and construction logics are deployed in each hut. These were initially tested for baseline thermal performance. With an infrared imaging method, diffusivity values were determined for the species in each hut. With heat flux sensors, conductivity values were determined. Long-term testing is both objective and subjective. An array of temperature and relative humidity sensors will monitor the internal environment and build multi-seasonal data. For a more humanist understanding, invited guests will stay overnight in the huts and record their comfort experiences.

The construction of the structures was its own "use;" that is, the necessity of forming lumber into mass timber at the scale of a small production yielded unique techniques of assembly and erection. Nominally dimensioned softwood species, including Eastern white pine and spruces, were assembled in different orientations with nail and dowel fasteners. In one of the two huts, hardwood species formed the inner

layer of several panels. Pursuing these techniques at scale allowed them to be evaluated for their quality and efficacy in construction.

The third "use" of the project is to investigate the possibilities of matching the needs of small-scale, multi-species forestry with the needs of architecture. The immediate grounds of the Littleton Trials, Prouty Woods, is a mixed-species forest. An income-generating property, its owners face an issue common to many small forest landowners: commercially viable species are often suppressed by more aggressive, less valuable species. With little incentive to harvest these trees, a negative feedback loop ensues. The owners cannot access or accelerate the true value of their property. Add to this the state of less aggressive, equally low-valued, diseased species (such as hemlock attacked by hemlock woolly adelgid), and a picture of an unrealized, unhealthy forest emerges.

It is with this in mind that the third use of the Littleton Trials is formed. By conceiving of an architecture where the "quality" (soundness and size) of its parts is uncoupled from the "quality" (aesthetics and performance) of its formation, we create a positive feedback loop where design decisions are made in cooperation with resource decisions. As multi-piece, flexible assemblages, the mass timber panels do not require high-quality or large pieces. Production therefore does not depend on selecting only the most traditionally valuable trees or species for harvest. Nor does it depend on using the most traditionally valuable parts of the tree. The usefulness of this approach lies in liberating small landowners and their resources from the normative one-way demands of the building industry. More than that, it elucidates formerly muddied relationships among design, fabrication, resource extraction, and small economies.

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Regional Excellence

Curving planes of plywood add light and warmth
to once-dark brick spaces of former firehouse

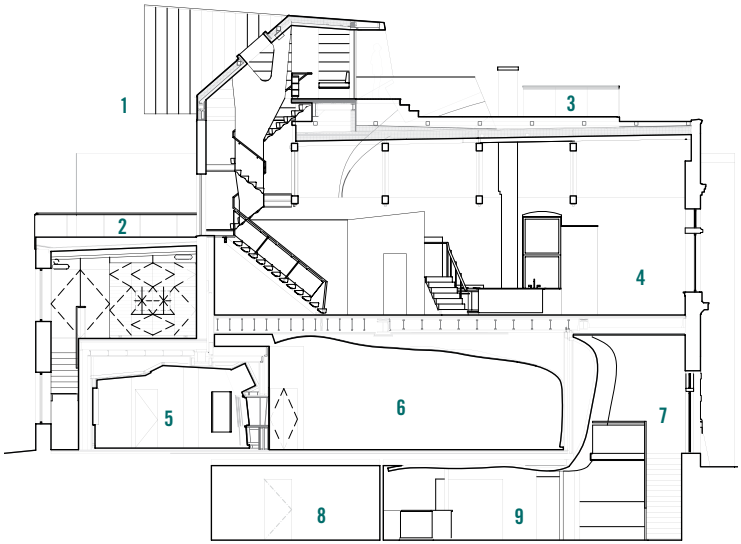
Firehouse 12

Gray Organschi Architecture

Situated within the abandoned shell of an early 20th-century fire station in New Haven's Ninth Square Historic District, this commercial recording studio doubles as a performance space. The client, a jazz pianist and music producer committed to his venture's role within the cultural life of the city, required this dual-purpose "live room" to develop a performance series that greatly expands New Haven's live music scene. The design approach highlights the integrity of the original building by adding discrete architectural elements that act in counterpoint to the brick shell.

The design and construction took place in two phases. The first phase entailed the adaptive reuse of the fire station, into which the design team inserted a state-of-the-art recording studio and performance space, green room, offices, a commercial bar and small kitchen, and an apartment. A continuous plywood shell solves the conflicting acoustical requirements posed by the live room; at the back of the proscenium stage, the shell splits and distorts to act as a diffuser. Above the primary recording area, it undulates to refract high frequency sound. From the lobby, the plywood shell forms the exterior of the auditorium, providing a kind of internal "marquee" for the theater that wraps down to create the ceiling of the basement bar. In the residence, another large birch shell arcs down from a skylight to reflect light into the depth of the room and to form a physical divider between the living room and bedrooms. As these great curving planes of plywood weave through the interior, they add light and warmth to the once dark brick spaces of the firehouse.

For the second phase, the task of creating additional bedrooms and spaces for a larger group of visiting musicians presented a unique challenge. Lacking sufficient space in the existing building shell, which was already jam-packed with program and technical infrastructure, the design team proposed a 650-sq. ft. rooftop addition constructed from structural mass timber. Taking advantage of CLT's light weight, stiffness and amenability to prefabrication, the team



1. musician's dormitory
2. terrace
3. rooftop terrace
4. residential loft
5. recording studio
6. performance space
7. lobby
8. commercial kitchen
9. bar

BUILDING CROSS SECTION

developed an innovative timber structural assembly, produced off-site and then anchored to the existing masonry walls, with the additional lateral loading distributed through a rooftop diaphragm formed by a horizontal steel truss. Thanks to the well-coordinated production and delivery of the prefabricated timber elements, a carpentry crew was able to assemble the enclosure in its rooftop site in less than 12 hours, substantially reducing the project's overall construction time.

In addition to the fully exposed CLT floor and roof deck, a large, tapered glulam slab of black spruce hangs from the roof structure, carrying sculptural maple stair treads that weave from the spaces below to the new penthouse. A new timber deck at the top of the original building provides views of the historic urban neighborhood and, on a clear day, glimpses of Long Island Sound.

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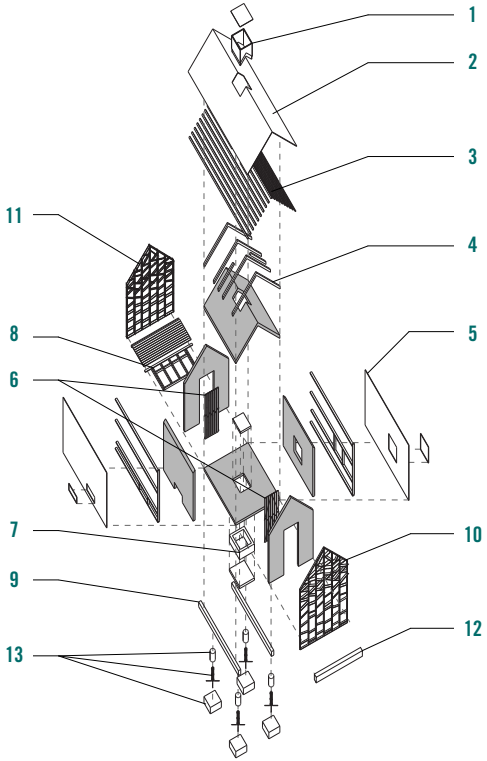
Regional Excellence

A simple structure in the forest tells the story of how a tree becomes architecture

Emerge

Jason Griffiths Architecture/College of Architecture,
University of Nebraska-Lincoln



1. skylight assembly
2. cedar shingle roof
3. roof running boards
4. roof furring
5. douglas fir siding
6. door assemblies
7. table foot well
8. rear deck assembly
9. glulam beams
10. front rainscreen
11. rear rainscreen
12. pressure treated wood footing
13. footing and pier assemblies

EXPLODED AXONOMETRIC

Emerge is a 100-sq.ft. structure designed to hold small gatherings of teachers and students visiting the Bauman Tree Farm. A collaboration between the College of Architecture at the University of Nebraska-Lincoln, the tree farm and the D.R. Johnson Lumber Co. of Riddle, OR, it's located in a forest to draw students into contact with new- and old-growth trees and to expose them to the diversity of the surrounding woods.

The structure's walls are made from cross-laminated timber, and the floor and roof are a combination of CLT, glulam and dimension lumber. The structure is clad on the roof and sides with a simple build-up of CLT, shingles and timber siding.

Emerge was designed to provide an aesthetic narrative that allows visitors to appreciate the project's relationship to forestry production in the Pacific Northwest. Visitors experience this narrative in various ways, including the building's front and back screens. Here, timber elements are arranged in an ordered pattern at the lower level but become increasingly disordered as they go up.

This framework can be directly understood by the modeling of the gable-end screens and the lightwell, both of which establish a pattern that commutes a chaotic natural state through to delineated order by applying geometric transformations in sequence. The juxtaposition of these elements against the forest is intended to mesh and (when seen from various positions) disappear into the forest backdrop. In this way, the building is intended to reveal at a glance the process that forestry production undergoes to change a tree into architecture.

The CLT gable ends are left exposed, protected by the screen of slats at either end of the building. These slats respond to angles of rain by gradually increasing their pitch the higher they are on the screen. This screen describes the way dimension lumber "emerges" from the natural environment of the forest. This narrative continues on the inside, where the visitor's attention is drawn up to the roof light and views of the forest canopy above.

Emerge is the third in a series of five projects for the farm that demonstrate the diverse uses of timber in a range of forestry settings. Each project enhances the farm's education program through the tactile, phenomenological and spatial qualities of architecture. Through these projects, the Bauman Farm integrates the latest developments in the lumber industry with the traditions of forestry in the American Northwest.

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Regional Excellence

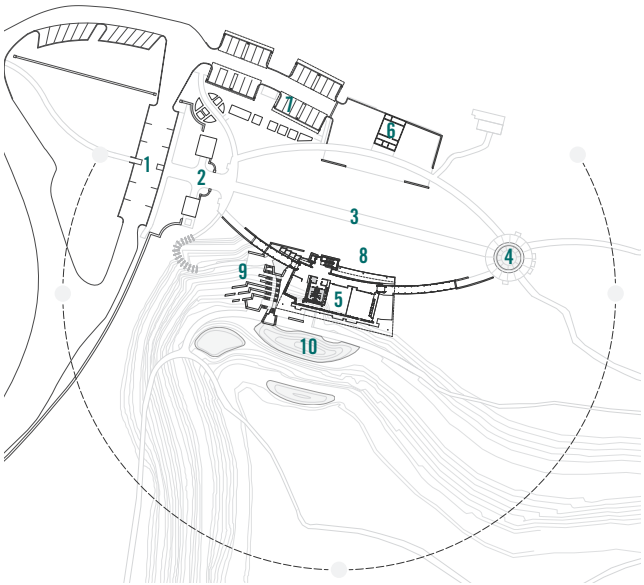
Public gathering space takes “neighborhood to nature” ideal to the next level

Frick Environmental Center

Bohlin Cywinski Jackson

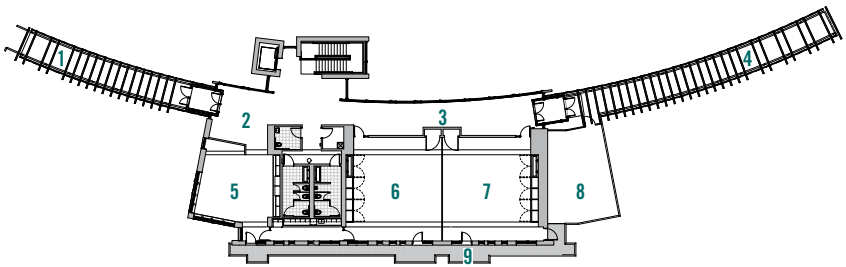
As the world's first Living Building Challenge-targeted project that is both municipally owned and free to the public, the Frick Environmental Center for experiential environmental education is focused on the sustainable future of our environment. A joint venture between the City of Pittsburgh and the Pittsburgh Parks Conservancy, the center acts as a gateway to the 644-acre Frick Park and embodies the "neighborhood to nature" ideal that served as inspiration for the park's creation more than 80 years ago.

The entrance to the site from the Squirrel Hill neighborhood leads to a formal allée of native trees and plantings. The main facility, a 15,600-sq.ft. building, sits along the southern rim of the site, and features a public living room and gallery, classrooms for K-12 environmental education programs, and offices, storage and support space for staff. Nestled within the hillside, the multi-story building is accessed at its upper level by a pair of bridges, providing an immediate and distinct awareness of being elevated off the ground plane. Inside the building, the gallery, slender and scalloped in shape, leads visitors through the building while offering choreographed views to the exterior landscape. The south-facing balcony and outdoor classroom feature sheltered perches overlooking the surrounding park.



1. park entry
2. restored gatehouse
3. allée
4. restored fountain
5. environmental center
6. barn
7. photovoltaic & parking
8. rain veil & cascade
9. hillside classroom
10. wetlands

SITE PLAN



1. gatehouse
2. entry
3. gallery
4. park bridge
5. living room
6. classroom
7. classroom
8. porch classroom
9. forest balcony

UPPER LEVEL PLAN

The materials palette for the facility has been carefully selected and designed in a fashion that showcases the beauty in natural materials. Wood is used as a primary feature in both exterior and interior applications, allowing the building to harmonize with its verdant surroundings. On the exterior, the building is clad in a reverse-board-and-batten black locust siding, which is the outer layer of the rain screen assembly. A dense and robust wood native to the eastern United States, black locust is weather-resistant and has excellent dimensional stability, making it ideal for use in exterior applications. Over time, the black locust will weather to a beautiful silvery gray, allowing the building to blend within the heavily forested landscape. On the interior, wood is used throughout the project, from the floor-to-ceiling wood windows that allow for expansive views of the park from the elevation of the tree canopy,

to the interior doors, casework and millwork. The interior wood is lightly stained and sealed, creating a beautiful exposed wood finish that emanates warmth and liveliness.

Reclaimed wood from trees removed when the site was cleared for construction was used by local artists and craftspeople to make furniture for the facility. This furniture includes the main reception desk, as well as several seating elements throughout the public living room and gallery. Intricately detailed yet durable, the furniture epitomizes the level of craftsmanship and design excellence used throughout the project.

The use of wood as a primary design element is fundamental to creating an atmosphere conducive to environmental education and stewardship. Showcasing natural wood, with its warmth and versatility, allows the space to become a richer, more powerful and evocative architecture.

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WOOD CHAMPION AWARD

Dana Westermark, Oris Consulting

Richmond, BC

ENGINEER AWARD

Fast + Epp

Vancouver, BC

ARCHITECT AWARD

HCMA Architecture + Design

Vancouver, BC

Ontario

ENGINEER WOOD ADVOCATE AWARD

Michael Baldinelli, Strik Baldinelli Moniz

London, ON

ARCHITECT WOOD ADVOCATE AWARD

Ian McDonald Architect

Toronto, ON

WOOD CHAMPION AWARD

Mike Yorke, President, Carpenters & Allied Workers Local 27

Woodbridge, ON

Atlantic Canada

ATLANTIC ENGINEER AWARD

Andrea Doncaster, Andrea Doncaster Engineering

Dartmouth, NS

ATLANTIC ARCHITECT AWARD

Tom Emodi, TEAL Architects+Planners

Halifax, NS

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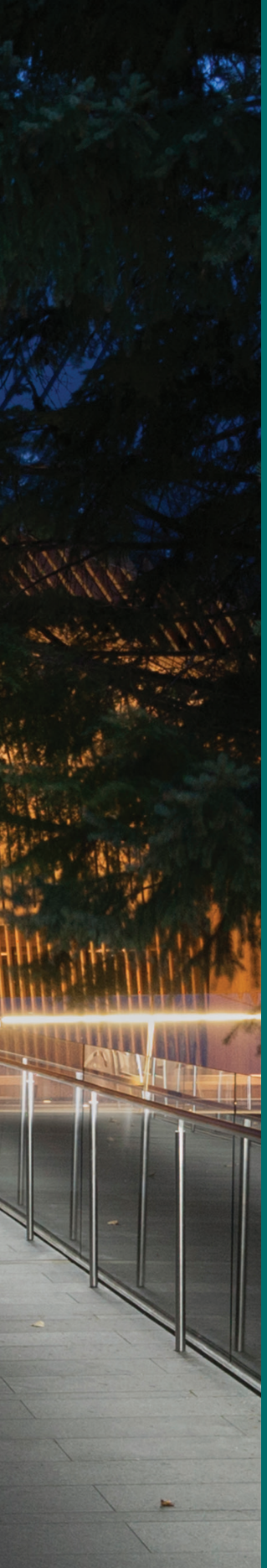

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