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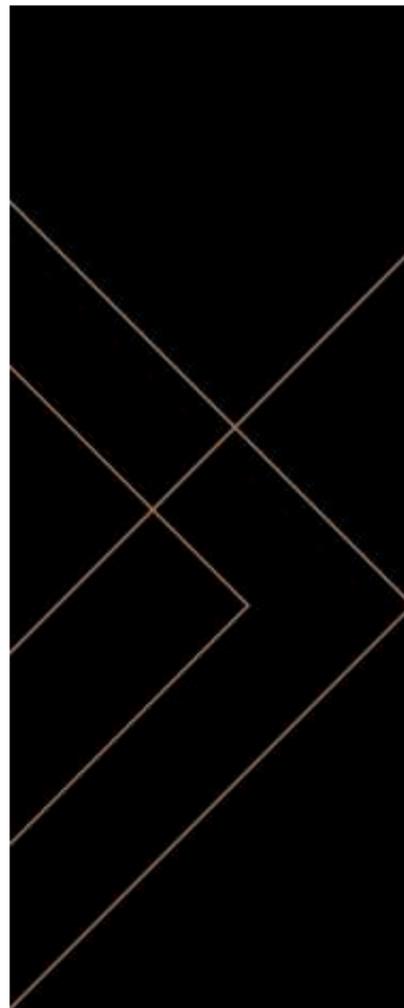
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## Editor's Note

PAUL JONES

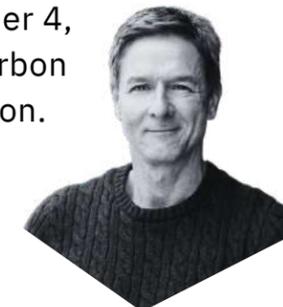


## Timber!

As we wrap up another year filled with insightful discussions with leaders in their respective fields, we invite you to dive into this edition. In this issue we feature the first installment of a two-part series detailing how Graham Construction built The Lawson Centre for Sustainability at the University of Toronto's St. George Campus, within Trinity College. The four-story hybrid structure combines mass timber components including: Glulam post and beam, cross-laminated timber (CLT) demising walls, geothermal heating and cooling, an underground cistern for rainwater collection and reuse, and locally sourced materials, including limestone and bricks.

Sean Carroll, Site Superintendent from Graham Construction, takes us on a deep dive on what went into the innovative technologies, building materials and systems implemented at Lawson Centre as it targets Toronto Green Standards Tier 4, LEED Platinum and CaGBC Zero Carbon Building (ZCB) Design v3 certification.

For that story a more, keeping turning the turning pages as we continue to Build Canada.



Email Paul at [editor@build-canada.ca](mailto:editor@build-canada.ca)

## BuildCanada

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**WHO IT'S FOR:** Industry professionals seeking advanced technical knowledge in building science.

### Net Zero Builder

**WHAT IT'S ABOUT:** In this course, participants learn the latest developments on approaches to Net Zero/Ready Homes focused on optimizing performance and costs. Attendees will gain insight into Net Zero/Ready design principles, equipment options, emerging technologies, and construction practices.

**WHO IT'S FOR:** Builders and site supervisors aiming to deliver Net Zero Homes.

### Net Zero Renovator

**WHAT IT'S ABOUT:** In this course, participants learn the latest developments on approaches to Net Zero/Ready renovations focused on ensuring customer comfort and satisfaction. Attendees will review the Net Zero/Ready design principles, equipment options, emerging technologies, and construction practices and learn to identify effective strategies to renovate existing homes to Net Zero performance levels.

**WHO IT'S FOR:** Renovators committed to energy-efficient retrofits.

### Net Zero For Building Officials

**WHAT IT'S ABOUT:** You'll explore technical aspects such as wall assemblies, building envelopes and ventilation systems that underlie the Net Zero Home Labelling Program (and that meet and can exceed the National Building Code 2020 9.36 Tier 4 compliance).

**WHO IT'S FOR:** Municipal building officials and inspectors preparing for tiered codes.

### Net Zero Market Advantage

**WHAT IT'S ABOUT:** Participants will explore the evolution of high-performance housing in Canada, understand the drivers behind energy-efficient homebuilding, and learn how to communicate the benefits of Net Zero Homes to diverse buyer segments.

**WHO IT'S FOR:** Builders, renovators, and sales professionals looking to stand out and attract energy-conscious clients.

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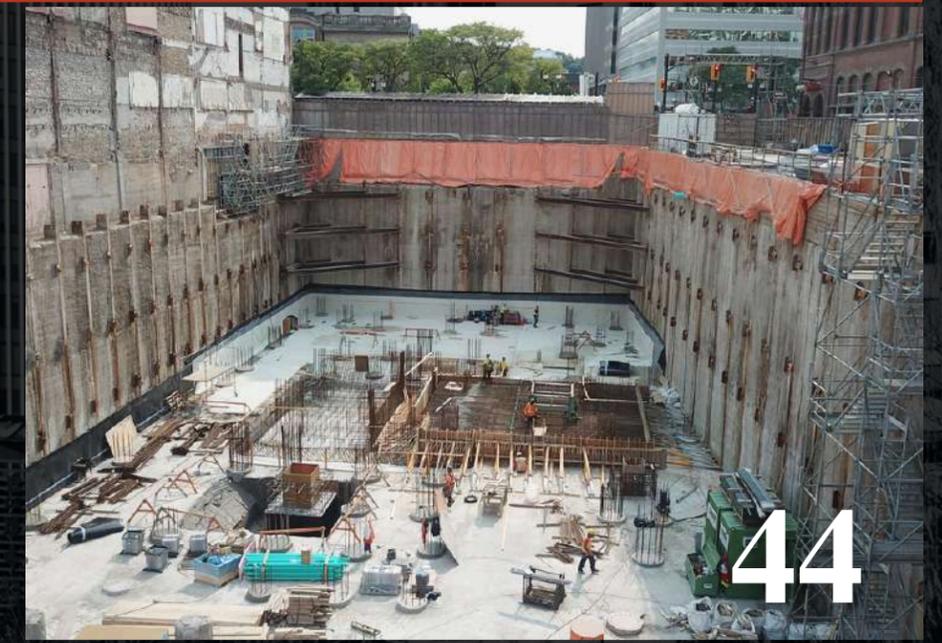
The Lawson Centre for Sustainability is designed as a model of sustainable building practice, targeting LEED Platinum and Zero Carbon Building certification. Story, page 58.



**58**

## The Lawson Centre for Sustainability

State-of-the-art building will help integrate the principles of sustainability into daily life at Trinity College.





## BMO Field unveils latest upgrades ahead of FIFA World Cup 2026

**Construction for 17K seats to begin in December**

The upgrades are meant to meet FIFA requirements in time for the 2026 games, where Toronto is set to host 6 at BMO Field, which will be renamed to Toronto Stadium during the games. As part of the upgrades, four new 50 x 30 video boards have been attached to the stadium’s corner columns which includes improved resolutions across more than 50 million LED pixels. In addition to the new scoreboards, the field also built a new 80-person capacity New Centre Field Lounge to fulfill FIFA hospitality requirements.

## Ontario and United Kingdom Sign Groundbreaking Clean Energy Partnership

**Agreement will leverage the province’s nuclear advantage to support fusion energy innovation.**

Under the agreement, OPG will work toward providing a secure and reliable supply of tritium to fuel the UKAEA’s cutting-edge fusion research and facilities, solidifying Ontario’s position as an international leader in the nuclear energy sector. The MOU will also support local fusion energy development projects in Ontario and Canada, creating opportunities for industries to participate and benefit from new fusion energy projects.



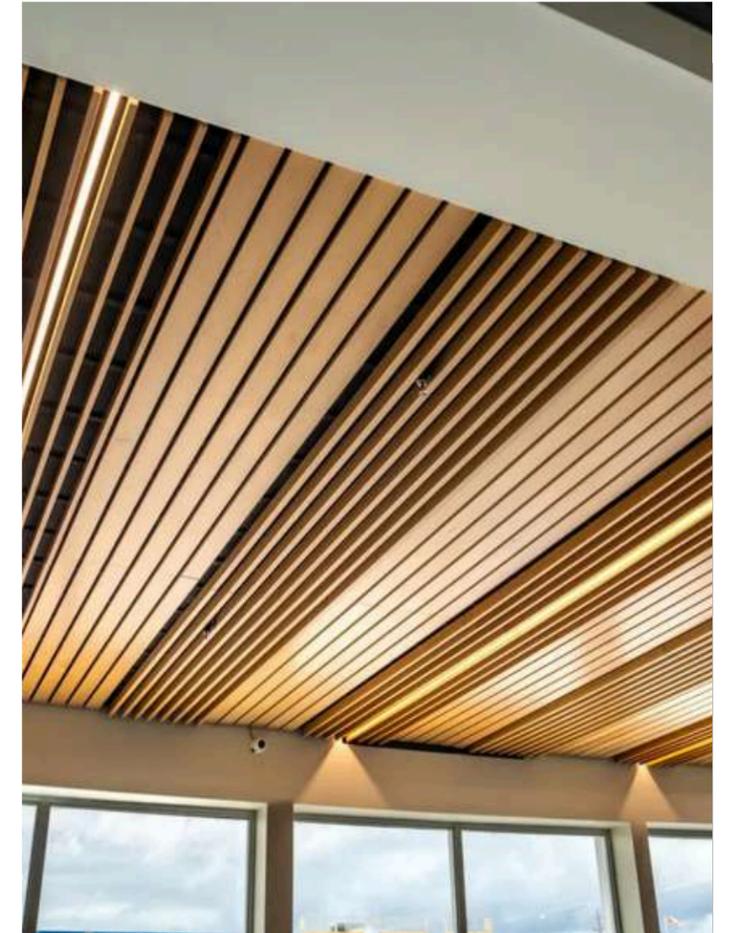
## CertainTeed launches quick ship program

**Delivering architectural ceiling & wall solutions in four weeks or less.**

CertainTeed®, a leading North American manufacturer of sustainable building materials, has introduced its Quick Ship program for select solutions in its Ceilings & Walls portfolio. Designed to meet the demands of fast-paced construction timelines, Quick Ship offers a selection of linear metal ceiling and wall systems delivered in four weeks or less for orders up to 2,500 square feet.

Ideal for fast-track projects, this program includes a broad range of popular finishes from contemporary linear metal products. With reduced lead times and a complete system that includes accessories, trim, and installation hardware options, Quick Ship helps specifiers, contractors, and architects alike meet tight deadlines for projects of all kinds.

“The Quick Ship program reflects CertainTeed’s commitment to supporting customers with dependable solutions that align with ever changing project schedules,” said Ashutosh Puranik, Senior Director Architectural Solutions. “By offering a versatile selection of ceiling and wall systems with we’re enabling specifiers to

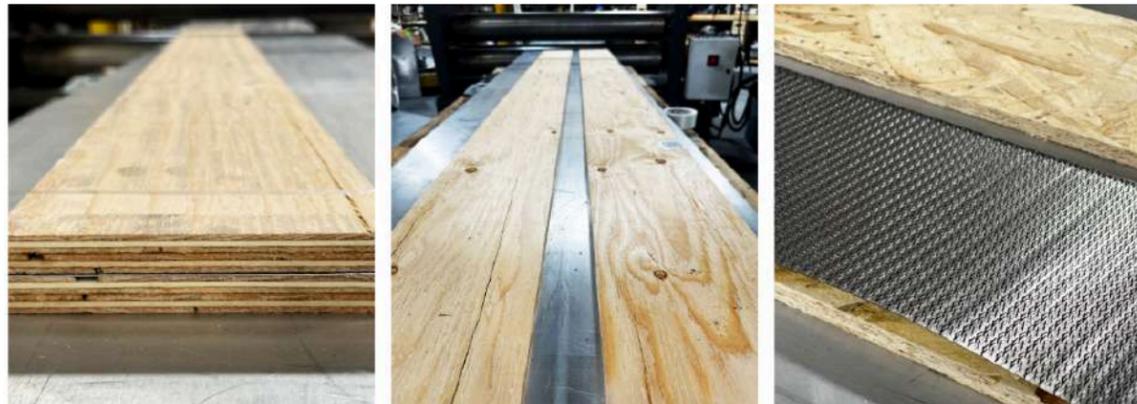


deliver high-performance designs without compromising the quality or durability. This service is all about speed, convenience, and comprehensive offerings.”

CertainTeed continues to prioritize sustainable construction materials, with all products in the Quick Ship program made with recycled content as well as meeting stringent LEED rating systems.

## Steel Hooks, Wooden Spans: The Hybrid Tech Unlocking Mass Timber's Future

Mass timber is emerging as a sustainable alternative to concrete and steel, though its design potential is limited by performance constraints.



Floor plates often require additional plies or deeper sections to control deflection and vibration over longer spans, which drives up material use and limits ceiling heights. Fire design introduces further complexity, as meeting rating requirements can mean adding extra layers and weight while carefully managing heat transfer through the wood's thickness.

That's why WZMH Architects and its R&D lab sparkbird are working with NUCAP to bring GRIPMetal — a technology first developed for automotive brake pads — into architecture and construction. GRIPMetal is a thin steel sheet covered in microscopic hooks that mechanically lock timber layers together, in CLT, NLT, or hybrid CLVT assemblies. The result: longer spans at the same depth, or fewer plies for the same span — with more consistent structural performance across all timber configurations. Stronger, lighter assemblies: Load and stiffness up by as much as 250% in plywood tests, with CLT spans boosted by 125%+.

## Ontario Breaks Ground on Canada's Largest Battery Storage Project

Skyview 2 storage facility will have enough capacity to power nearly 400,000 homes.

The new Skyview 2 Battery Energy Storage System will provide enough capacity to power nearly 400,000 homes, strengthening the province's electricity grid and protecting Ontario workers and jobs by supporting a more competitive, resilient and self-reliant provincial economy. "As part of our plan to protect Ontario, we're making record investments in energy generation, transmission and storage to make our province an energy superpower," said Premier Doug Ford. "Skyview 2 is an important part of that plan and will be a game-changer for Leeds and Grenville's economy, as well as our First Nations partners. It will help to deliver the reliable, clean and affordable energy needed to power our growing communities and economy for generations to come." Once operational in 2027, the facility will store electricity from Ontario's clean electricity grid during periods of low demand and return that stored power to the system when demand is higher, while creating up to 300 jobs during construction and additional operational positions following completion.

## Helmets to Hardhats Canada Secures Federal Funding for Veterans' Skilled Trades Pathways

New funding from Employment and Social Development Canada (ESDC) aims to enhance career transition opportunities for Veterans, Reservists, Cadets, and military families nationwide.

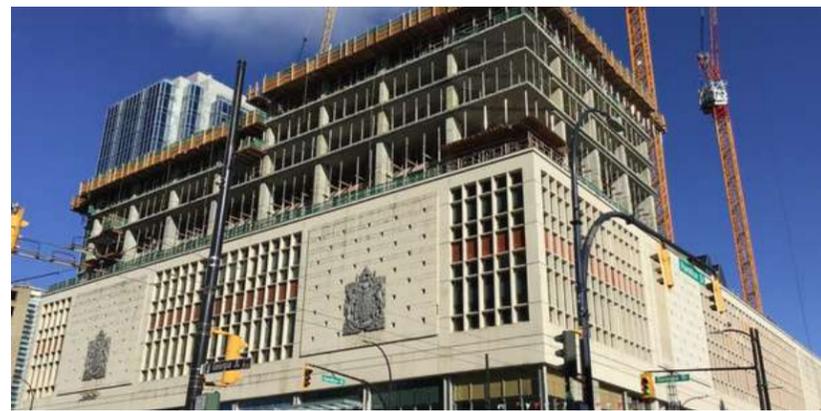
H2H has hired three new Veteran Outreach Specialists — all Veterans themselves — to expand its ability to connect with military community members nationwide. These advisors will help participants access training, certifications, and direct pathways to employment in Canada's unionized skilled trades. The funding also enhances H2H's mentorship and employment support services, ensuring more Veterans can build sustainable second careers.

## Skills Development Fund Investing More Than \$8.6 Million to Support Women in the Skilled Trades

More than 1,700 women in the GTA for in-demand jobs in the face of U.S. tariffs

"Ontario's economy depends on the skill and determination of its workers, and we're making sure women have every opportunity to be part of that success," said David Piccini, Minister of Labour, Immigration, Training and Skills Development. "By investing over \$8 million through the Skills Development Fund, we're opening doors to good-paying careers in the skilled trades, breaking down barriers and helping more women gain the confidence, training and in-demand skills they need to build Ontario's future."

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## Ontario Opens New West Memorial Hospital in Grimsby

**New Hospital will protect Ontario's health-care system and connect more people in West Niagara to high-quality care closer to home.**

The Ontario government is celebrating the grand opening of the new West Lincoln Memorial Hospital in Grimsby, which delivers on a key government promise to connect more people in West Niagara to more convenient, high-quality hospital care, closer to home. This project is one more way the government is delivering on its plan to protect the provincial health-care system by investing nearly \$60 billion in more than 50 major hospital projects across the province over the next 10 years. The government

announced its support for the new hospital in November 2018, with shovels in the ground in May 2022.

“With a 24/7 ER, expanded capacity and state-of-the-art equipment, the new West Lincoln Memorial Hospital is a game-changer for the people of West Niagara, giving families peace of mind knowing that world-class health care is available close to home,” said Premier Doug Ford. “Our government will continue making historic investments in health care across the province to ensure families can access the services they need, when and where they need them.”

Supported by a provincial investment of nearly \$250 million, Hamilton Health Sciences’ new West Lincoln Memorial Hospital is nearly 80 per cent larger than the facility it is replacing.



# CATERPILLAR 325 EXCAVATOR

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Featuring a 7.5-tonne (16,540-lb) counterweight, the new configuration enhances balance and control even when equipped with attachments like a blade, Variable Angle Boom (VAB), heavy-duty stick, bucket thumbs, or quick coupler.

The new configuration can be fitted with either Reach or VAB fronts, with or without a blade, and comes with a thumb-ready stick and quick coupler circuit preinstalled from the factory, reducing the need for aftermarket modifications. Stability equivalent to the 325 with an 8.3-tonne (18,300-lb) counterweight and standard undercarriage, its larger final drives increase drawbar pull to better climb grades, and higher swing torque maintains swing uphill capabilities. When equipped with the latest HD configuration, the compact radius Cat 325 Excavator delivers heavy-duty performance with unmatched versatility when working in tight spaces. It offers all the benefits to boost productivity, extended maintenance intervals to help keep operating costs low.



## Proment launches the final phase of the Pointe-Nord eco-neighbourhood

Corporation Proment today broke ground on the Evolo FLEX project. This high-end rental tower will complete the prestigious Pointe-Nord eco-neighbourhood, one of the few neighbourhoods in Canada certified LEED ND Gold (Neighbourhood Development). Valued at \$150 million, this project marks the final phase of a large-scale development redefining urban life along the shore of the St. Lawrence River.

The 26-storey building will comprise 314 units, ranging from 475-square-foot studios to three-bedroom units of 1,295 square feet. Located on the waterfront and just

steps from the REM station, Evolo FLEX offers future residents the best of both worlds: the tranquility of a green, waterfront community and proximity to downtown Montreal, accessible in only five minutes by public transit.

Evolo FLEX distinguishes itself with its luxury rental concept, offering residents greater flexibility while maintaining the elegance and quality standards characteristic of the Evolo series. Residents of Evolo FLEX will enjoy amenities that promote well-being, relaxation and conviviality.

## CCA praises the federal budget for its substantial infrastructure

**CCA looks forward to working together with the federal government to address the industry's workforce shortages.**

The Canadian Construction Association (CCA) welcomes today's federal budget, which puts construction at the heart of Canada's economic strategy through investments in infrastructure, defence, and housing. These measures are critical to supporting the businesses and people who build the homes, transportation networks, and other projects Canadians rely on every day.

CCA commends the government's significant \$115-billion investment in infrastructure, including \$51 billion for local infrastructure such as housing and transportation, which will support communities across Canada and enable the ambitious homebuilding agenda. "Canada has underinvested in critical infrastructure for decades," said Rodrigue Gilbert, President of CCA. "These investments reflect the essential role of housing-enabling infrastructure in addressing the national housing shortage

and committing substantial resources to these projects."

CCA also welcomes today's investment for the Major Projects Office, and the recognition within the budget that "for too long, the construction of major infrastructure in Canada has been stalled by arduous, inefficient approval processes."

While the budget marks an important step toward recognizing construction's role in Canada's economy, CCA continues to call for a coordinated national workforce strategy, one that connects immigration, apprenticeships, upskilling, and the destigmatization of careers in the skilled trades.

"The construction sector employs 1.6 million Canadians and contributes \$165 billion to Canada's GDP, yet we continue to face significant labour shortages," said Gilbert. "Without a long-term, coordinated workforce strategy, any ambitious construction agenda will stall." The government's investment in foreign credential recognition is also important, however CCA cautions that it is too narrowly focused on unionized programs. Continued dialogue with the construction sector is critical to ensuring that domestic sourcing policies strengthen rather than constrain Canada's ability to build.



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## Smilezone Foundation Celebrates 500th Milestone with Janeway Children's Health Centre

Smilezone Foundation is proud to announce the completion of its 500th Smilezone, marking a major milestone in its mission to transform healthcare facilities into joyful, therapeutic spaces for children. The 500th Smilezone was officially unveiled at Janeway Children's Health and Rehabilitation Centre in St. John's, Newfoundland on October 16, a significant step as the Foundation continues expanding from coast to coast.

Remarkably, it took the Foundation ten years to build its first 400 Smilezones, but in just over a year since celebrating that achievement in May 2024, an additional 100 new Smilezones have been completed. This rapid growth reflects the

strong support of donors, the success of record-breaking fundraisers, and the growing demand from healthcare organizations across Canada.

"Our 500th Smilezone shows just how far we've come and the real impact these spaces have on children's health, happiness, and ability to heal," said Scott Bachly, Co-Founder of Smilezone Foundation. "From colourful murals to sensory play areas, Smilezones are designed to ease stress and create moments of joy. None of this would be possible without the incredible generosity of our donors, the dedication of our volunteers, and the support of our communities. Together, we're changing what healthcare feels like for kids and families."

# The Hive: North America's Tallest Seismic-Resilient Timber Tower Takes Shape in Vancouver

Vancouver's False Creek Flats will soon be home to a first-of-its kind innovation in mass timber construction.

Poised to be the tallest timber seismic force-resisting building in North America, The Hive at 2150 Keith Drive sets a new design precedent for future wood buildings in North America. DIALOG, a multidisciplinary design practice, is responsible for the project's architecture, interior design, and landscape architecture.

Using wood sourced from sustainably managed forests in British Columbia and fabricated at a regional manufacturing facility, local and sustainably-minded choices for The Hive's design are evident throughout the project's full lifecycle. The amount of wood used in this building

grows in just 42 minutes in Canadian forests. The Hive's timber elements have been specially designed and engineered through extensive testing to withstand the flames and intense heat that would result from a fire, meeting two-hour fire code requirements.

A conscious choice on the part of the design team, the use of mass timber as an alternative to concrete will keep 1,703 metric tons of greenhouse gases out of the atmosphere – a figure equivalent to taking 1,291 cars off the road for a year. The timber also captures and stores carbon, preventing it from being released into the atmosphere and from

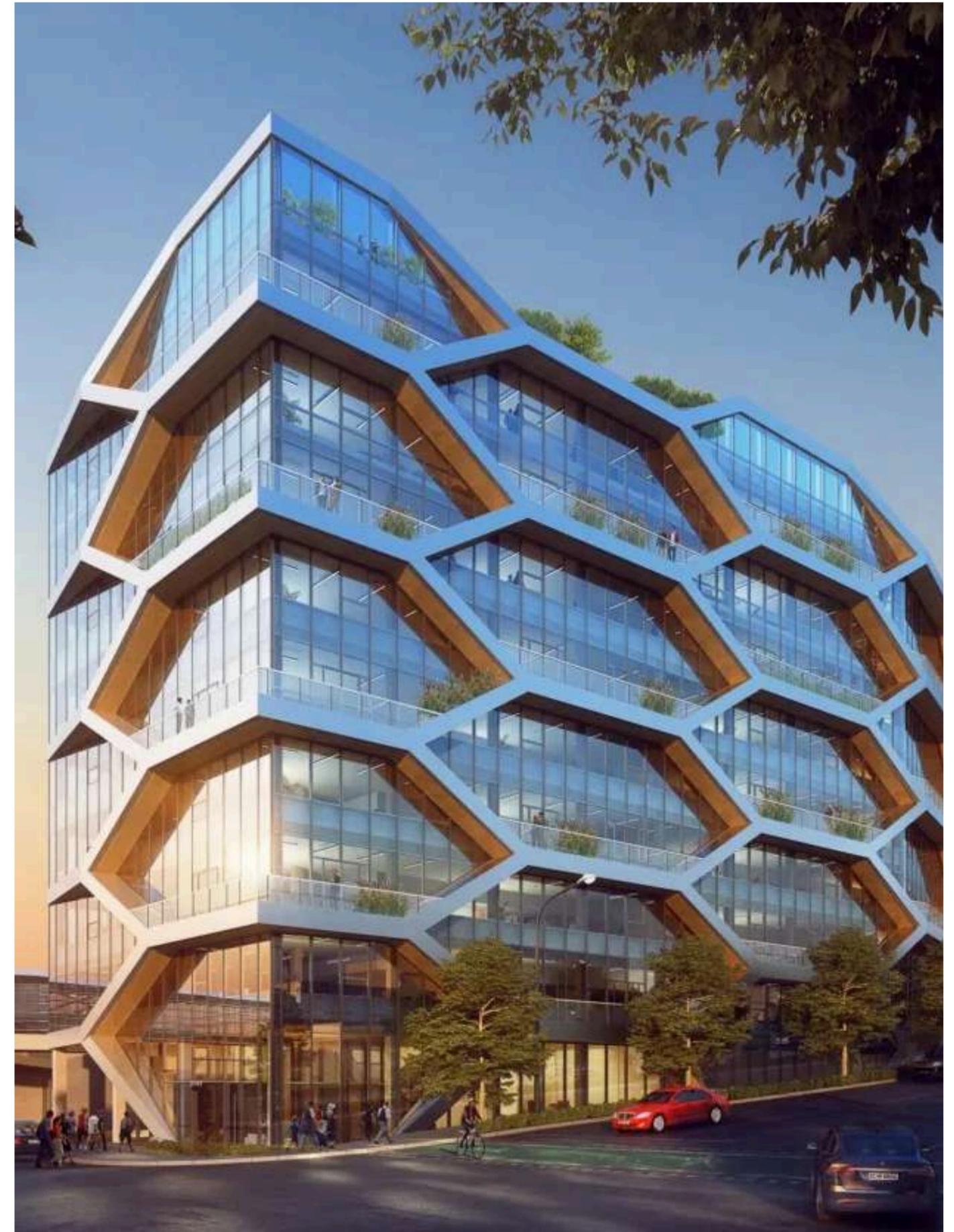
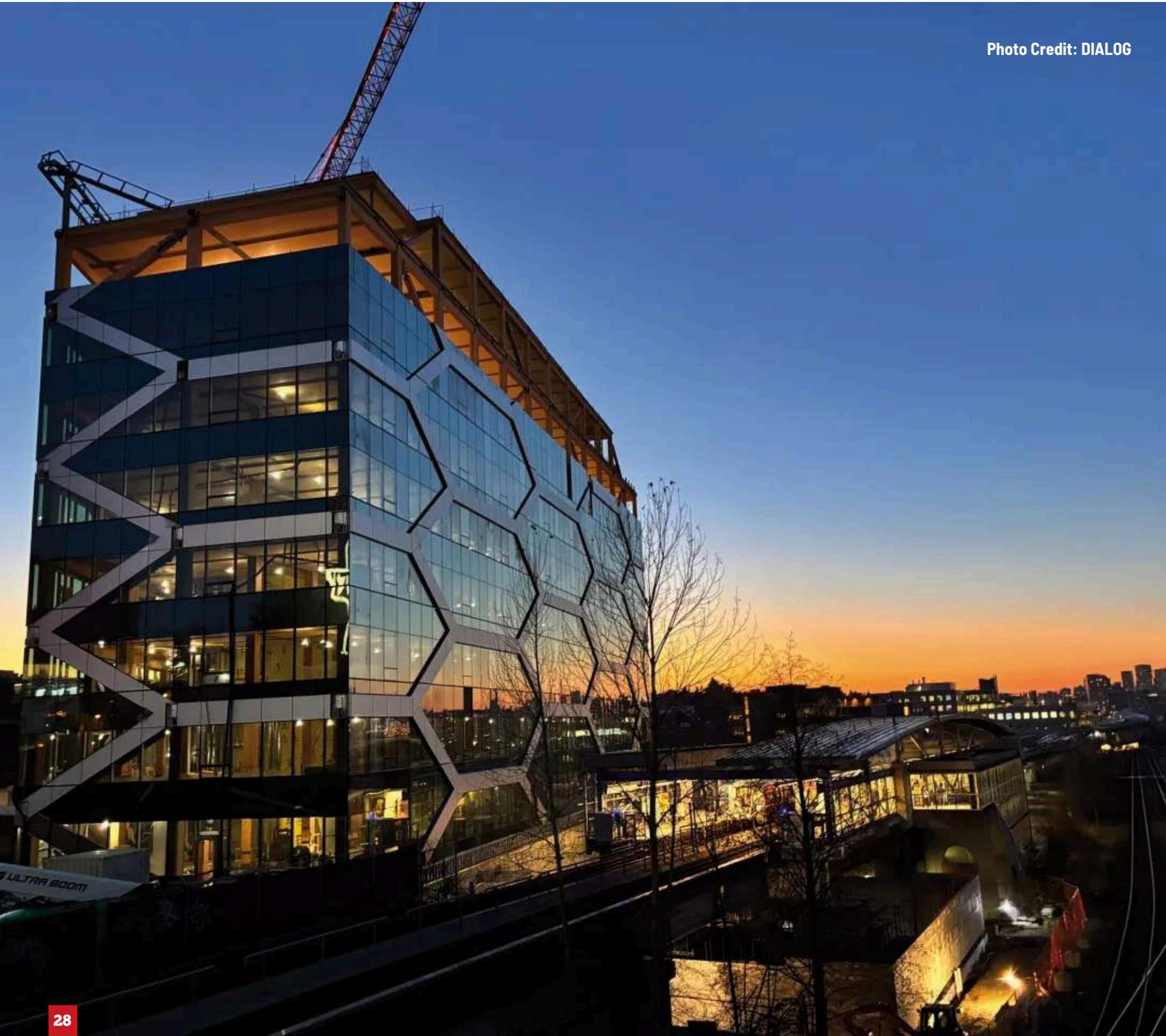


Photo Credit: DIALOG



contributing to its warming effect; built with 5,000 m<sup>3</sup> of wood, The Hive's timber structure sequesters a total of 4,403 metric tons of CO<sup>2</sup>.

Targeting LEED® Gold certification and compliance with the AIA 2030 Challenge for carbon-neutral buildings, The Hive will deliver greenhouse gas emissions and energy consumption levels that are 80% below the median for this type, with an Energy Use Intensity (EUI) target of 87 kWh/m<sup>2</sup>/year. Additional measures incorporated into the design for energy efficiency include heat recovery ventilation, air source heat pump heating and cooling systems, triple-glazed high-performance windows, and photovoltaic readiness.

In addition to mass timber innovation at The Hive, the design team took the project's geographical context into consideration, designing it to be seismically resilient. Structurally, The Hive uses Tectonus structural connectors, allowing the building to self-centre after an earthquake. The seismic bracing system is deliberately positioned on the building's periphery, resulting in a unique, honeycomb-shaped exoskeleton. Once in operation, data modeling will be made publicly accessible to ensure that architects and engineers in seismic regions can employ these safety advances in their designs.

The Hive's interior design takes inspiration from the principles of biophilia, featuring an open floor plan, large, uncluttered floor plates, and maximized access to daylight and views. The Hive's mass timber structure is exposed throughout the building's interior, adding to the aesthetic appeal and biophilic properties of the office space. South-facing balconies, and rooftop gardens provide a lush, accessible landscape for building occupants.

The Hive's design reflects DIALOG's commitment to enhancing community and environmental wellbeing by addressing modern challenges such as seismic resilience and sustainability.

**The Hive – Project Credits:**

Architecture, Interior Design, Landscape

Architecture, Sustainability + Building

Performance Consultant: DIALOG

Client Representative: HKA

Development Manager: BGO

Prime Contractor: Ventana

Structural Engineer: Fast + Ebb

Mechanical Engineer: AME

Electrical Engineer: AES

Civil Engineer: Creus

Geotechnical Engineer: GeoPacific

Envelope Consultant: EXP

Curtainwall Consultant: BVDA

Acoustic Consultant: RWDI

Code Consultant: GHL

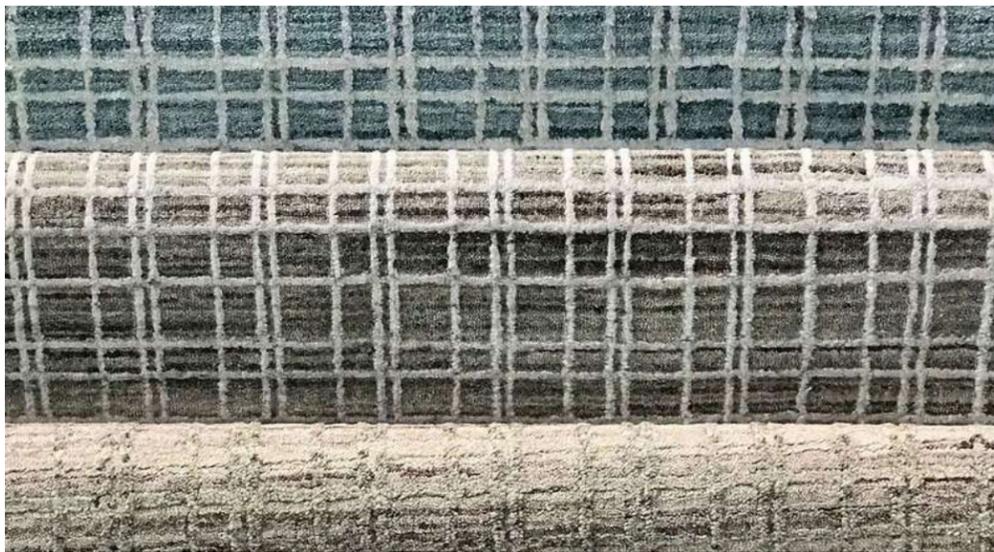
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Elevator Consultant: Gunn



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# Richelieu Unveils Innovative Open Storage Solutions that Elevate Modern Living Spaces

Stylish, smart and visually striking systems built for open-concept interiors—in the kitchen, living room, closet and beyond—meet the growing demand for modern, functional design.

Source: Richelieu

**R**ichelieu Hardware expands its selection of innovative storage solutions with a comprehensive range of new open storage systems. Designed to meet the evolving needs of modern interiors for both commercial and residential concepts, the new systems redefine open-concept organization. With the rising popularity of open-concept living, designers, architects, builders, and homeowners

are seeking flexible, visually appealing solutions that prioritize accessibility, aesthetics and smart space management. From the boutique-inspired VERTIKO storage system and the LOGO III modular closet system to the YOUK ladder-style shelving units and modular LIBERTA system with interchangeable pieces for floor-to-ceiling storage, these new lines speak directly to this trend.



## VERTIKO Storage System

Inspired by luxury retail environments, VERTIKO is a customizable walk-in closet and storage solution that brings boutique-level sophistication to any space. With concealed aluminum profiles, the storage elements appear to “float,” offering a clean, modern aesthetic. VERTIKO integrates beautifully into closets, living areas, and pantries, and adds luxury and flexibility to boutiques, showrooms, and hotels.

**RC**



## LOGO III Modular System

An exceptional versatile open storage system, LOGO III adapts seamlessly to closets, living rooms, entry ways, and more. Its aluminum profiles can be configured for floor-to-ceiling or wall-mounted installations and support a variety of storage elements including closet rods, wooden or glass shelves, and drawer units. Fully customizable and easy to install, LOGO III brings creative ideas to life in virtually any space.



## YOUK Open Shelving Structure

Designed for simplicity and flexibility, the YOUK system provides adaptable open shelving for nearly any interior application. Available in six different configurations, YOUK can be floor-mounted, wall-mounted or combined to meet both functional and aesthetic needs. It brings endless design possibilities to kitchens, pantries, bathrooms, living rooms, offices, and more.



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# LIBERTA Modular Open Concept

The LIBERTA system embraces the open storage trend with interchangeable components and unlimited configurations. Available in three sleek finishes (Dark Grey, Matte Black, and Satin Aluminum), LIBERTA can be installed floor-to-ceiling to suit any open floor plan and meet a wide range of storage needs in both residential and commercial spaces.



# HAWA Folding CONCEPTA III

The innovative hardware is ideal for large fronts, and can be easily combined with the Hawa Concepta III to create three-door solutions without a separating wall. This versatile solution provides maximum design freedom, with or without a handle. Doors open intuitively by tapping them, whereas stability, quietness, and ease of use are provided by the high-quality cable system and the optimized curve technology.



## YOUK Open Shelving Structure

The contemporary style of the flexible YouK shelving unit suits this well as it adds functional highlights to any area of a home. Available in six different configurations, these structures are versatile and suitable for endless design possibilities. They can be installed directly on the floor, suspended on the wall (can easily be screwed directly to wall), combined with each other.



## YOUK Ladder- Style shelving

Rooms merge into a modern living space without boundaries. The industrial style of the flexible but compelling YouK shelving unit suits this well as it adds functional highlights to any area. The modular shelving system was mainly developed for the kitchen and adjoining eating and living areas but it is also excellent as a room divider, bathroom, wall or hanging shelf unit.



# FROM THE GROUND UP

## How HC Matcon Brings Value Through Innovation

PHOTOS PROVIDED BY HC MATCON

**King William Residence**  
A 4 level below grade excavation supported by a watertight caisson cut-off wall that would form the podium for 2 x 30 storey towers in the heart of Hamilton, Ontario



KEN CLARK  
EXECUTIVE VICE PRESIDENT



DAWSON HAM  
PROJECT MANAGER

Integrating streamlined operations greatly strengthens the firm's project's foundations, ensuring a rock-solid start to finish.

Since its founding in 2001, HC Matcon has carved out a distinguished identity as a specialized shoring and deep foundation and ground improvement contractor. With a substantial portfolio that includes monitoring and design services to TTC, Metrolinx, and many leading real estate developers, HC Matcon has become synonymous with providing full Design-Build shoring, deep foundation, ground improvement, and bespoke foundation solutions across Canada. Executive Vice President Ken Clark and Project Manager Dawson Ham join us to discuss HCM's Design-Build approach, and the firm's use of innovation technologies that enhances project execution.

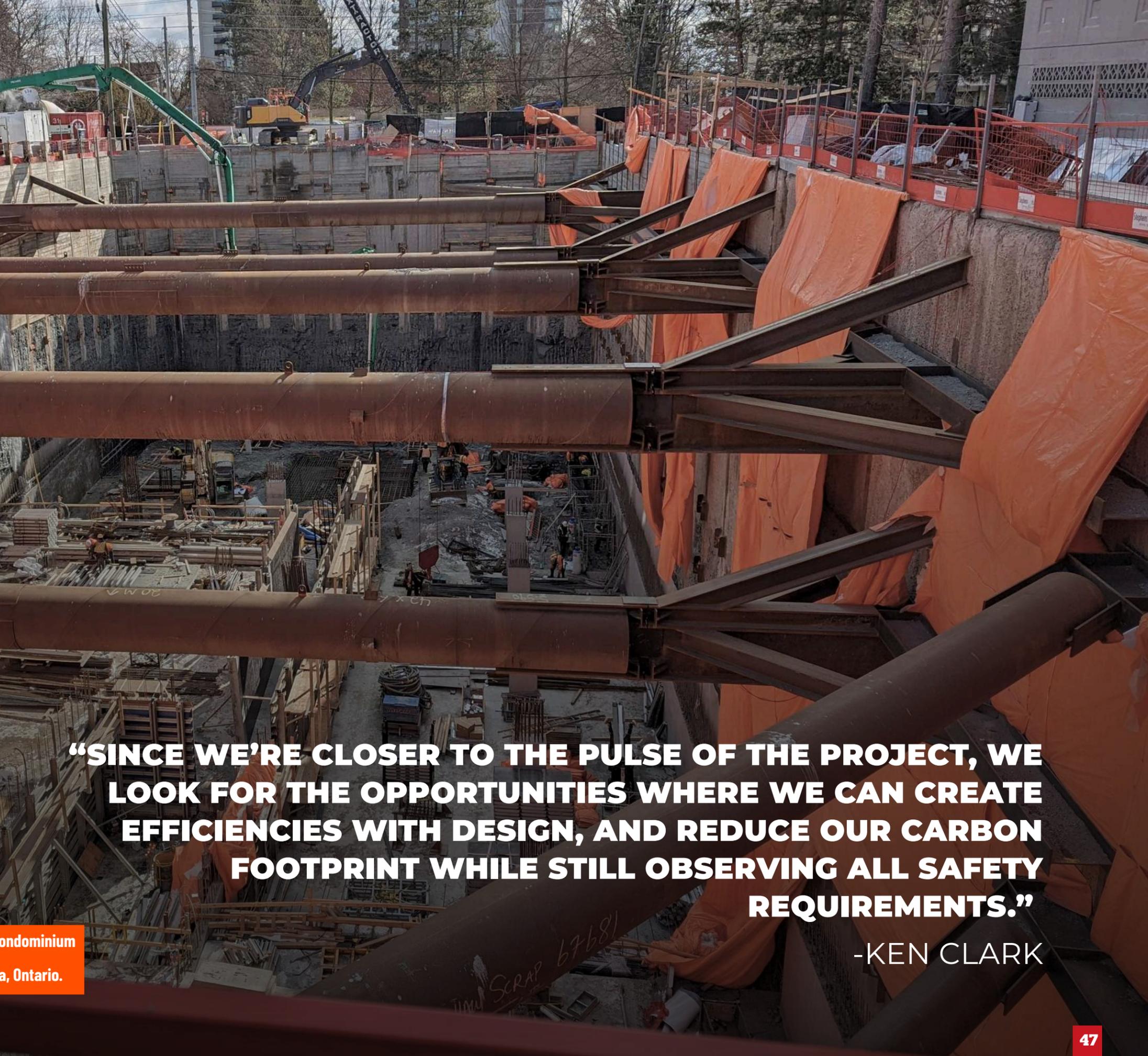
**BC:** How does HCM define an efficient design, and what factors contribute to achieving this efficiency in your projects?

**Dawson Ham:** At HCM, the way that we're most eco-friendly is through our efficient designs and the way to achieve that is combining best engineering practices with real life experience. We envision a design that is optimized, and not over-designed.

We are aware of what is needed on site as opposed to what is simply shown on paper - if we see designs coming in from other companies that have certain steel sections that are too heavy, or concrete strengths that may not be required in that application, we can redefine and optimize these plans while keeping everyone safe.

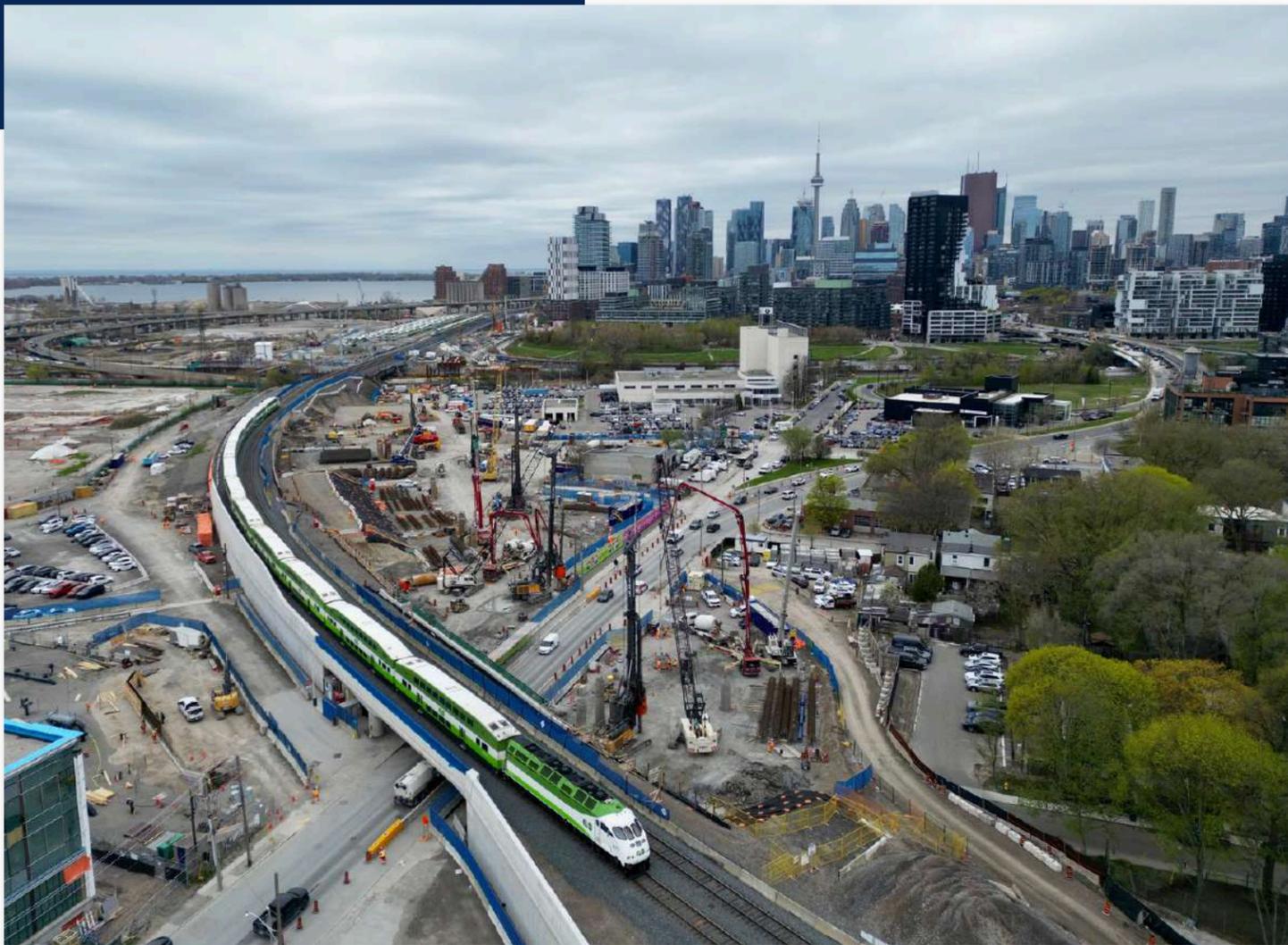
**Ken Clark:** What we see often are designs that are very conservative, whether they're from young engineers or just people taking conservative approaches. Since we're closer to the pulse of the project, we look for the opportunities where we can create efficiencies with design, and reduce our carbon footprint while still observing all safety requirements.

Westport Condominium complex in Mississauga, Ontario.



**“SINCE WE’RE CLOSER TO THE PULSE OF THE PROJECT, WE LOOK FOR THE OPPORTUNITIES WHERE WE CAN CREATE EFFICIENCIES WITH DESIGN, AND REDUCE OUR CARBON FOOTPRINT WHILE STILL OBSERVING ALL SAFETY REQUIREMENTS.”**

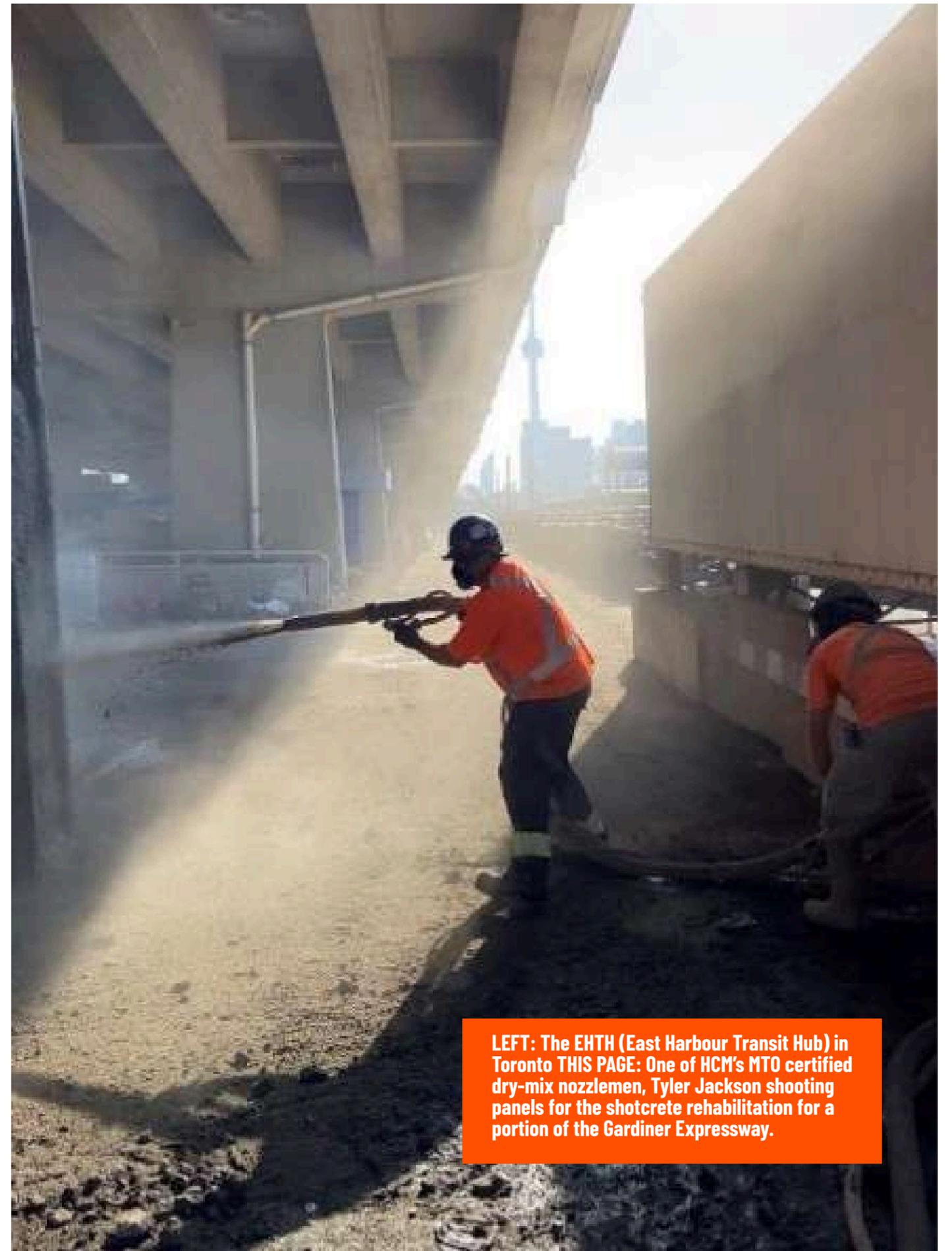
-KEN CLARK



**BC:** What advantages does HCM's Design-Build approach offer clients in terms of cost efficiency, schedule adherence, and quality that align with each project's unique requirements?

**Ken Clark:** We look at all projects through a holistic lens. Even though we are the shoring and foundation guy, we review the entire super structure, make reviews and recommendations based on what type of loading is going to be applied to the soils and foundations.

**Dawson Ham:** I think it's important to understand what's best for the project isn't always best for a single scope, so we try to approach project design and execution with consideration of downstream scopes because there's schedule savings to be had all along the way. We have a decent understanding of what happens for the trades that follow us, and we try to augment our design and execution accordingly that allows overlap and continuity of work.



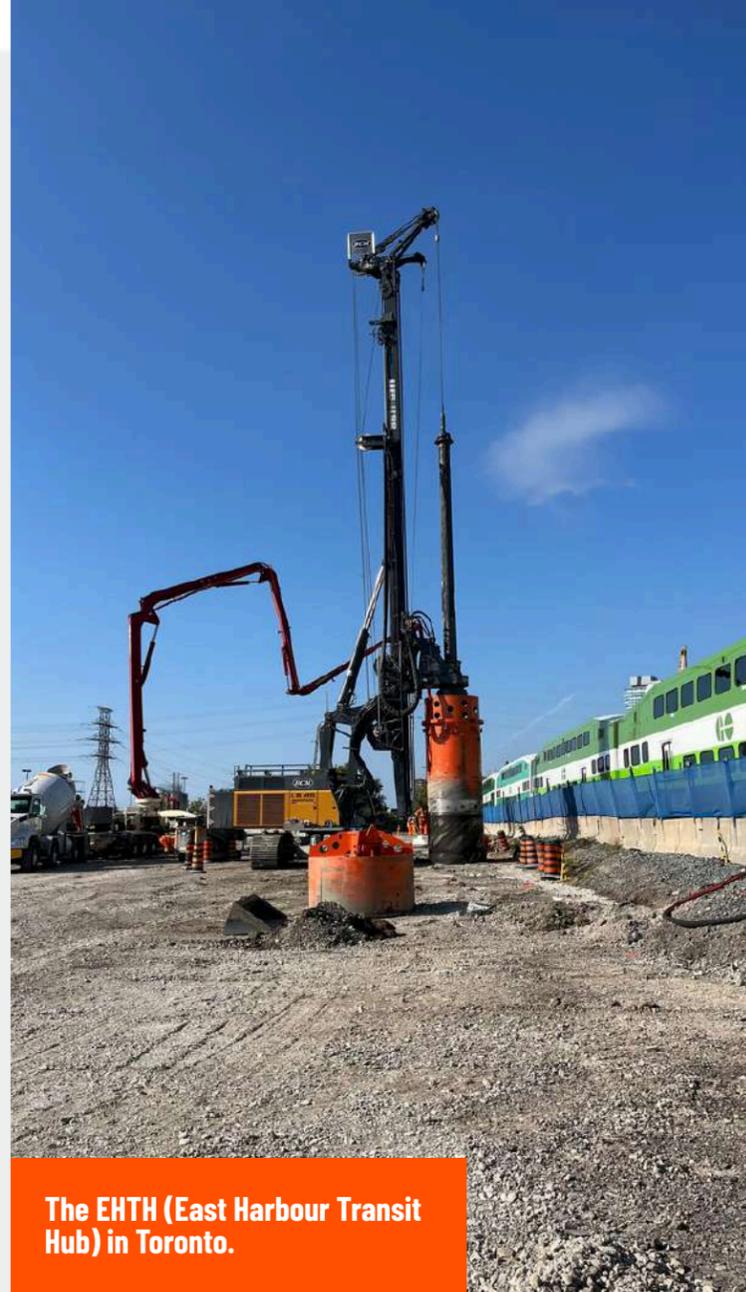
**LEFT:** The EHTH (East Harbour Transit Hub) in Toronto **THIS PAGE:** One of HCM's MTO certified dry-mix nozzlemen, Tyler Jackson shooting panels for the shotcrete rehabilitation for a portion of the Gardiner Expressway.

**BC: What is it that separates HC Matcon shoring techniques from others?**

**Ken Clark:** A big advantage at HCM is what we bring to the table, and what we can deliver to clients. We're well versed in many shoring and deep foundation systems; whereas, our competitors focus only on a limited selection. HC Matcon was one of the first companies in Ontario to implement shotcrete shoring with results that match the performance of caisson wall systems next to buildings.

**Dawson Ham:** Our design advantage is important in distinguishing HCM from our competitors. Through our design advantage we were awarded the NextStar electric vehicle battery plant in Windsor which is a joint venture between LG Energy Solution and Stellantis. We redesigned the foundations completely, steering it from caissons to driven piles and because of the size of that project we had to rapidly tool up our fleet for schedule adherence and the size of the scope.

**Ken Clark:** We design and construct a wide range of deep foundation systems, including driven piles, caissons, micropiles, and helical piles. This versatility gives us a distinct advantage over competitors who specialize in only one or two methods. We often develop hybrid foundation solutions that combine



The EHTH (East Harbour Transit Hub) in Toronto.

**“OUR DESIGN ADVANTAGE IS IMPORTANT IN DISTINGUISHING HCM FROM OUR COMPETITORS.”**

-DAWSON HAM

multiple systems to deliver the most efficient and cost-effective results. Complementing this, a growing area of focus for us is ground improvement systems. Leveraging our extensive experience with deep foundations, we've successfully expanded our offerings to include increasing the existing soil bearing capacity. With several proven methodologies available, we're well-versed in selecting and implementing the most effective approach for each unique site condition.

**BC: Are there any methods of construction that possession of new technology has enabled you to undertake?**

**Dawson Ham:** A project that comes to mind that pertains to new tech would be in the form of a technique as opposed to technology. In Ontario, and Canada, our current paradigm of infrastructure is onerous, slow, and negatively effects the commuter that the project is ultimately being built to serve. We are always looking for ways that we can contribute to the commuters through construction without impacting their current experience. An example of this would be our contributions to the Port Credit Go Station.

*continued >*



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HCM worked alongside the Mobilinx team at the Port Credit GO Station project to complete the design and installation of shoring for a 14m deep excavation, as well tied-back anchors for a thrust block system. This was the first time that a push-box was used in Ontario to complete the construction of a tunnel under existing rail lines. This approach minimized disruption to active railway traffic and of the four rail lines.

**BC:** What projects would you like to highlight? What purpose do they serve the community?

**Dawson Ham:** We execute so many unique projects that serve Canadians in all aspects of their lives. One of which was the shotcrete rehabilitation that we performed on the Gardiner Expressway. We shot in excess of 70m<sup>3</sup> of dry-mix shotcrete placed over 135 patch locations on the existing bridge elements while the highway was in service.

HCM not only gives extended life to existing infrastructure, but we also investigate and contribute to crucial traffic arteries that are yet to be built and are in design phases. One case of this was the

*continued >*

**Yarmouth Rail Spur**  
Driven Piles and PDA testing for a bridge into the PowerCo Site in St. Thomas, Ontario.



**“HCM NOT ONLY GIVES EXTENDED LIFE TO EXISTING INFRASTRUCTURE, BUT WE ALSO INVESTIGATE AND CONTRIBUTE TO CRUCIAL TRAFFIC ARTERIES THAT ARE YET TO BE BUILT AND ARE IN DESIGN PHASES.”**

-DAWSON HAM



The Garden City Skyway: HCM setting the load test beam in St. Catharines for the bi-directional static load test.



deep foundation load tests for the twinning QEW Garden City Skyway that HCM performed.

The Garden City Skyway is a critical transportation corridor connecting St. Catharines and Niagara-on-the-Lake. Our scope at this site included the deep foundations testing program, QVE & instrumentation, installation on execution,

site soil stratigraphy, load testing results both axial and lateral capacity were tested.

**Ken Clark:** Another project that we did to contribute to critical infrastructure in Canada was for a new sewage pumping station in Kitchener, Ontario. We used sheet piles for the shoring to manage water infiltration. The sheet piles were supported by one level of bracing which consisted of

face walers and struts. The design we employed allowed the construction manager to sequence the pour breaks of the structure, which in turn allowed for the removal of bracing as foundation walls were constructed to eliminate formwork boxouts. The pumping station needed to be watertight, and formwork boxouts were problematic.

**Dawson Ham:** At a time when there hasn't been that much private investment in Ontario and we're seeing a lot of that coming back with what seems to be this new wave of EV plants. We're actively trying to pursue some investments like a synthetic graphite production facility in St. Thomas and Volkswagen's Power Co facility in St. Thomas, which is on track to become Canada's largest electric vehicle (EV) battery plant. ■



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# Leading Sustainability through Innovation

How Graham Construction Is Building the Trinity College Lawson Centre for Sustainability at the University of Toronto

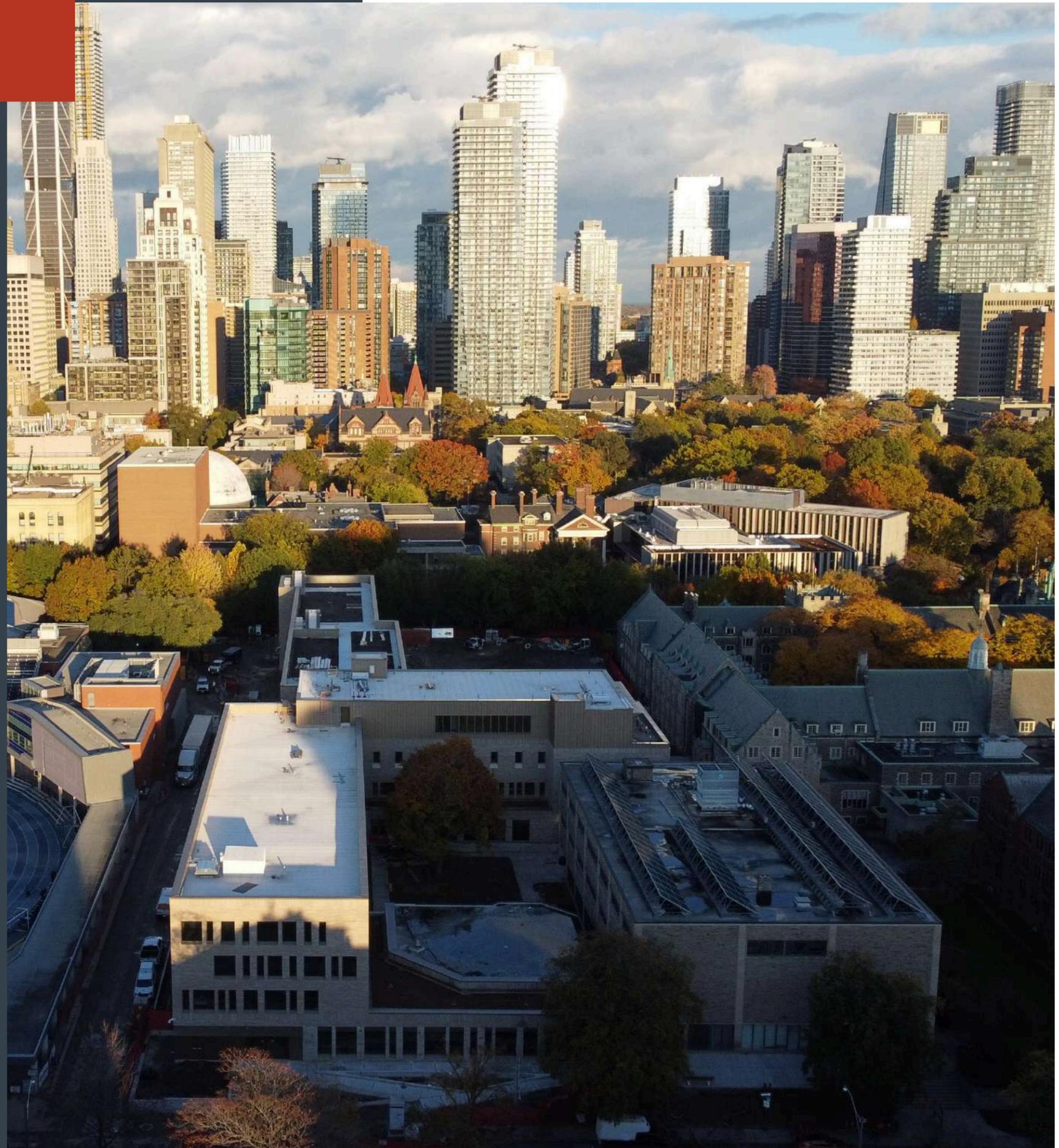
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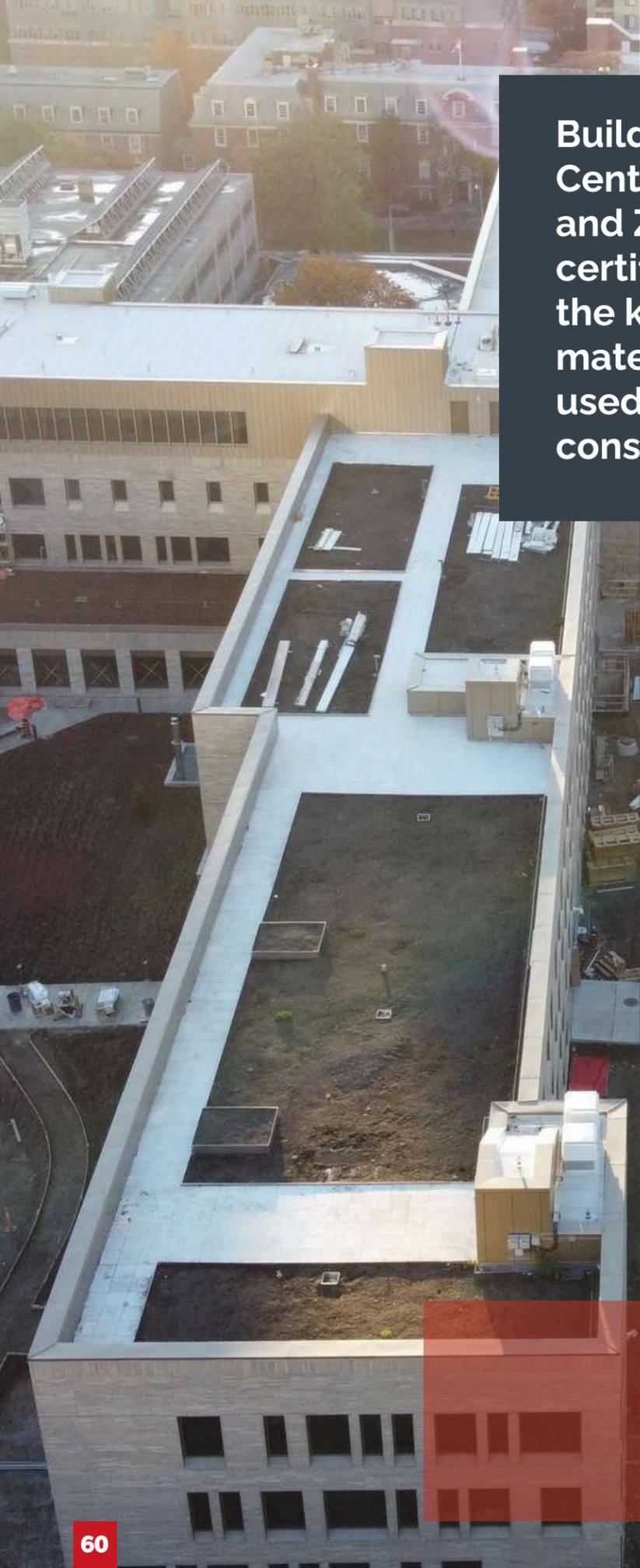


SEAN CARROLL  
SITE SUPERINTENDENT  
GRAHAM CONSTRUCTION

Currently pursuing LEED Platinum and Zero Carbon Building certification, The Lawson Centre for Sustainability at Trinity College at the University of Toronto emphasizes the integration of advanced ecological design principles and cutting-edge technologies to reduce the building's carbon footprint and optimize energy efficiency.

Sean Carroll, Site Superintendent with Graham Construction joins us to explore the key sustainable features, materials, and products incorporated into the design and construction of The Lawson Centre for Sustainability.





## Build Canada: With the Lawson Centre targeting LEED Platinum and Zero Carbon Building certification, what are some of the key sustainable features, materials, and products being used in its design and construction?

**Sean Carroll:** The Lawson Centre for Sustainability has strived for the highest ratings achievable in new green building technologies, by targeting both LEED platinum, and Carbon Zero certification through building design, green friendly materials and construction methodology. The project used thermal models and research analysis to facilitate in testing the high energy saving systems prior to construction, with the building envelope design targeting a thermal resistance value of R-37-38 effective for the façade and R-40 for the standard roofs, and up to R-50 on the Green Roofs, to minimize energy use for space conditioning.

The building utilizes enhanced insulation and airtightness to minimize heating and cooling needs that has over 200mm of insulation and 40mm air gap on the walls, a higher R value on the roof, combined with a vapour permeable envelope system which allows the building to breathe naturally to provide longevity for the mass timber structure.



A continuous AVB system from base of footing wraps completely around to the buildings opposite side creating a continuous AVB for maximum air tightness. Features include triple-glazed windows with bird-friendly fritting and a strategic window-to-wall ratio to minimize heat loss and still maintain natural light in the building.

The concrete used, was a modern Green friendly concrete called EcoCrete. This EcoCrete had to meet a certain standard and minimize the GWP (global warming potential) number, which was quite a challenge as it

uses low cement content in its design, but still had to meet a high compressive strength criteria. In close collaboration with a local concrete supplier and some reiterations with our structural engineering team, we successfully achieved multiple concrete designs that met the low GWP criteria, and maintained the high strength structurally, and still met the many different types of concrete that was required for different applications throughout the building. One of the sacrifices to achieve these criteria, was for the concrete to reach its design compressive strength at 56 days

*continued >*



**“The only gas lines that are used in the building is for the emergency generator, and the 2 functional fireplaces in the common areas which were added as an architectural feature.”**

**-Sean Carroll**

**BC: What are the key Geothermal Heating and cooling enhancements being implement at The Lawson Centre that have significant potential to reduce the footprint and impact compared to traditional heating and cooling systems?**

**SC:** The Lawson Centre has a designated geothermal field situated in the southeast corner of the project site, the field is approximately 40m latitudinal x 25m longitudinal and has 57 geothermal holes at 650’ deep which houses a single loop geothermal heat recovery system. The loop and heat pump system houses a combined 32,500 liters of heating fluid. Of this, building side holds 4500 liters of which 1125 liters is pure Glycol. Field side has 28,000 liters of which 7000 liters is pure Glycol.

This was the first activity completed on the project. The geothermal field loops are capped, and the horizontal loops are approximately 5’ below final grade, which is designated for only green field space with just grass SOD and perinatal plantation on top of the field. The average temperature of the earth at this depth in this region is approx. consistent 10°C all year round, using cutting edge thermal recovery and heat pump systems, this constant 10°C is used for heating in the wintertime, and cooling in the summertime. This eliminates entirely the need for fossil fuels directly for heating and cooling systems of the building. The only gas lines that are used in the building is for the emergency generator, and the 2 functional fireplaces in the common areas which were added as an architectural feature.

instead of the typical 28 days. Our schedule needed to be broken down and sequenced in a certain rhythm to allow for the longer curing time. Innovative digital cloud based thermal couplers were used to track and monitor concrete curing patterns along with the traditional testing methods of cylinder collections and breaking at pre-established time periods following the pours. 1 qty 3-day break, 1 qty 7-day break, 1 qty 28-day break, and 2 qty 56-day breaks. The building's facade is clad in locally supplied limestone bricks and limestone slabs, which reduces embodied carbon associated with transportation and supports the regional economy.



## The Lawson Centre for Sustainability

Trinity College, University of Toronto

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The **Lawson Centre for Sustainability** will serve as the heart of Trinity College, connecting people and uniting existing buildings. This four-storey hybrid mass timber facility places sustainability at its core, featuring rooftop community gardens that support a sustainable food program along with numerous other environmentally conscious design and construction elements.



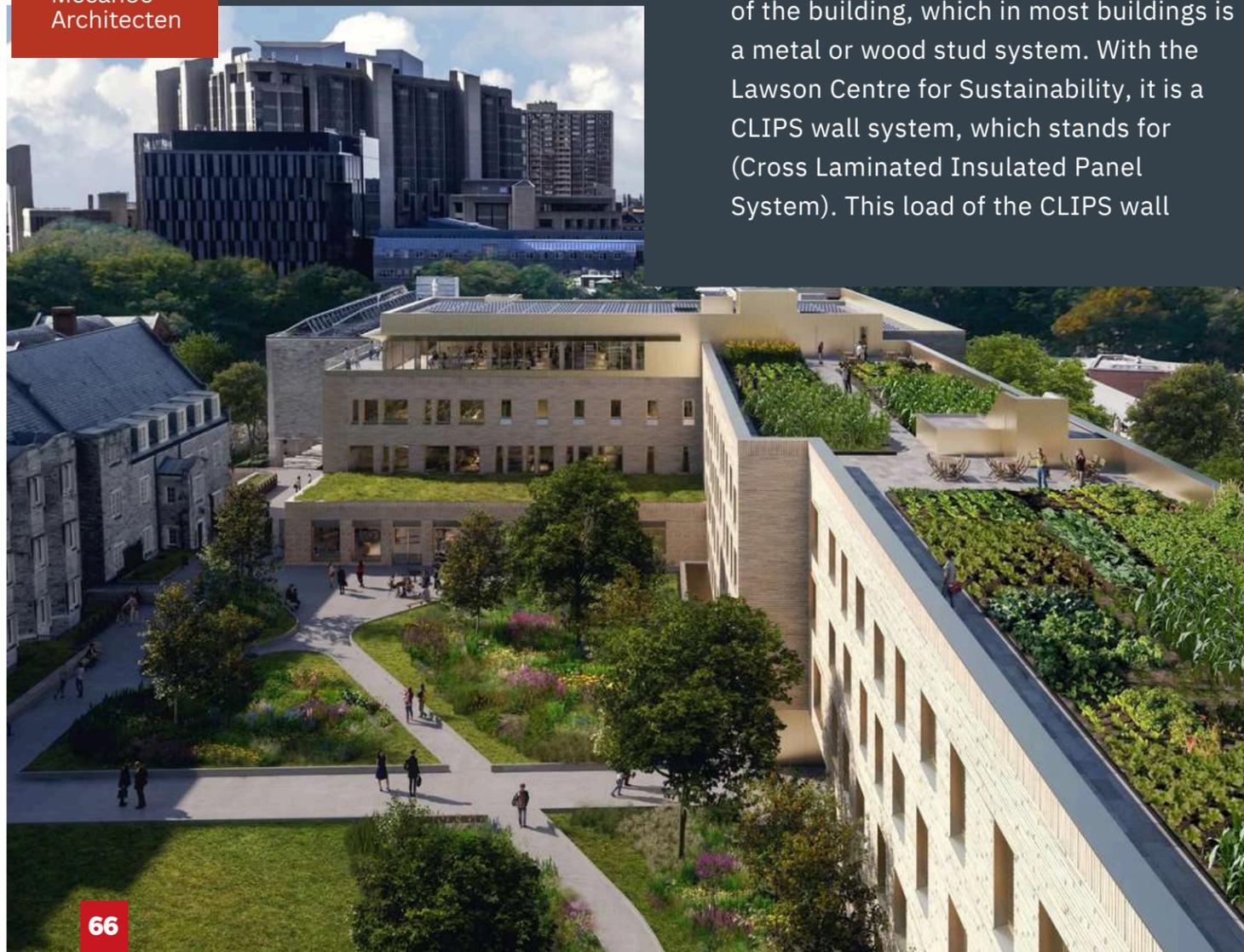
Lawson Centre



## Q&A FEATURE SITE SUPERINTENDENT, SEAN CARROLL

The geothermal system works in collaboration with mainly chilled beams systems, which eliminates the need for conventional forced air systems for heating and cooling, air handling units are still used for air balancing of the building, but unlike the majority of AHU, these do not have a gas requirement, as the chilled beams are the main thermal control inside the building. This same system supports a strategic snow melt system that surrounds the exterior of the building.

PHOTO CREDIT  
Mecanoo  
Architecten



**BC:** Could you provide further insights into the double wall foundation system? Additionally, what are the best practices and advantages for this system that contribute to the building's thermal envelope?

**SC:** The double foundation wall acts as a twin support for 2 adjacent loads being projected on to the footing below grade and allows for a continuous insulation layer from the top of the building footing all the way up to the roof parapet. The inner wall is a 200mm thick foundation wall that supports the exterior structure of the building, which in most buildings is a metal or wood stud system. With the Lawson Centre for Sustainability, it is a CLIPS wall system, which stands for (Cross Laminated Insulated Panel System). This load of the CLIPS wall

**“The design intent for The Lawson Centre was to return as much green space as possible, and a great way is to introduce green roofs.”**

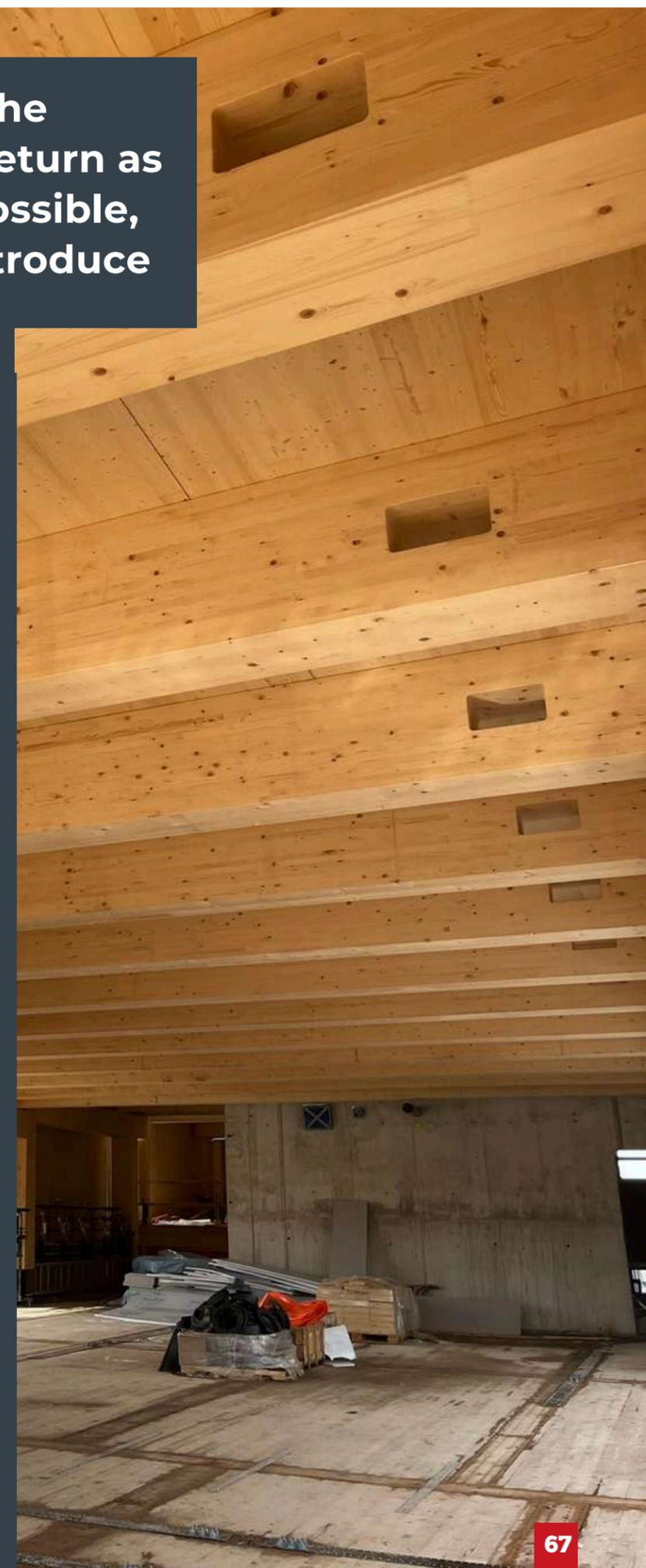
**-Sean Carroll**

system, which stands for (Cross Laminated Insulated Panel System). This load of the CLIPS wall system transfers on to the footing below on the Interior Structural wall. Between the inner and outer wall is a 100mm rigid insulation that is continuous from footing to roof. The outer wall is also a 200mm wall which transfer the Façade limestone load to the foundation. This outer wall is the infrastructure for the continuous AVB that wraps the entire building from footing and tying into the roofing system and back down the building on the other side to the adjacent footing.

**BC:** How does the Centre’s green roofs, interior green walls, and rooftop Urban Farm add to – not only energy savings – but the importance of integrating urban farming with research, education, and community engagement?

**SC:** As all inner cities want to protect as many green spaces as possible. The design intent for The Lawson Centre was to return as much green space as possible, and a great way is to introduce green roofs. Not only does the green roof

*continued >*



add back the green space to the project area, but it also helps reduce the energy consumption and manage climate effects in a dense urban environment. The vegetation and planting medium provides an extra layer of natural insulation keeping the building cool in the summer and warm in the winter. The addition of the Green roof increases the R-Value to approximately R-50. This also helps combat a phenomenon called Urban Heat Island effect, which is raised temperature in cities in comparison to the surrounding areas. It does this through a process called evapotranspiration; the plants release water in warmer days which uses up the heat energy naturally cooling the air around the building.

The interior green wall, as well as being a beautiful vertical garden inside the building, it also has many health and wellness benefits and works towards the LEED platinum certification of the building. Studies have shown that interior green walls improve indoor air quality, by being natural air purifiers by absorbing carbon dioxide and releasing oxygen, they also help regulate air humidity and reduce sickness and fatigue. There are also studies that show green walls boosts mental well-being and increase productivity and creativity.

**BC: What are some of the environmental benefits of the Centre's rain harvesting and recycling systems that protect natural resources and ecosystems?**

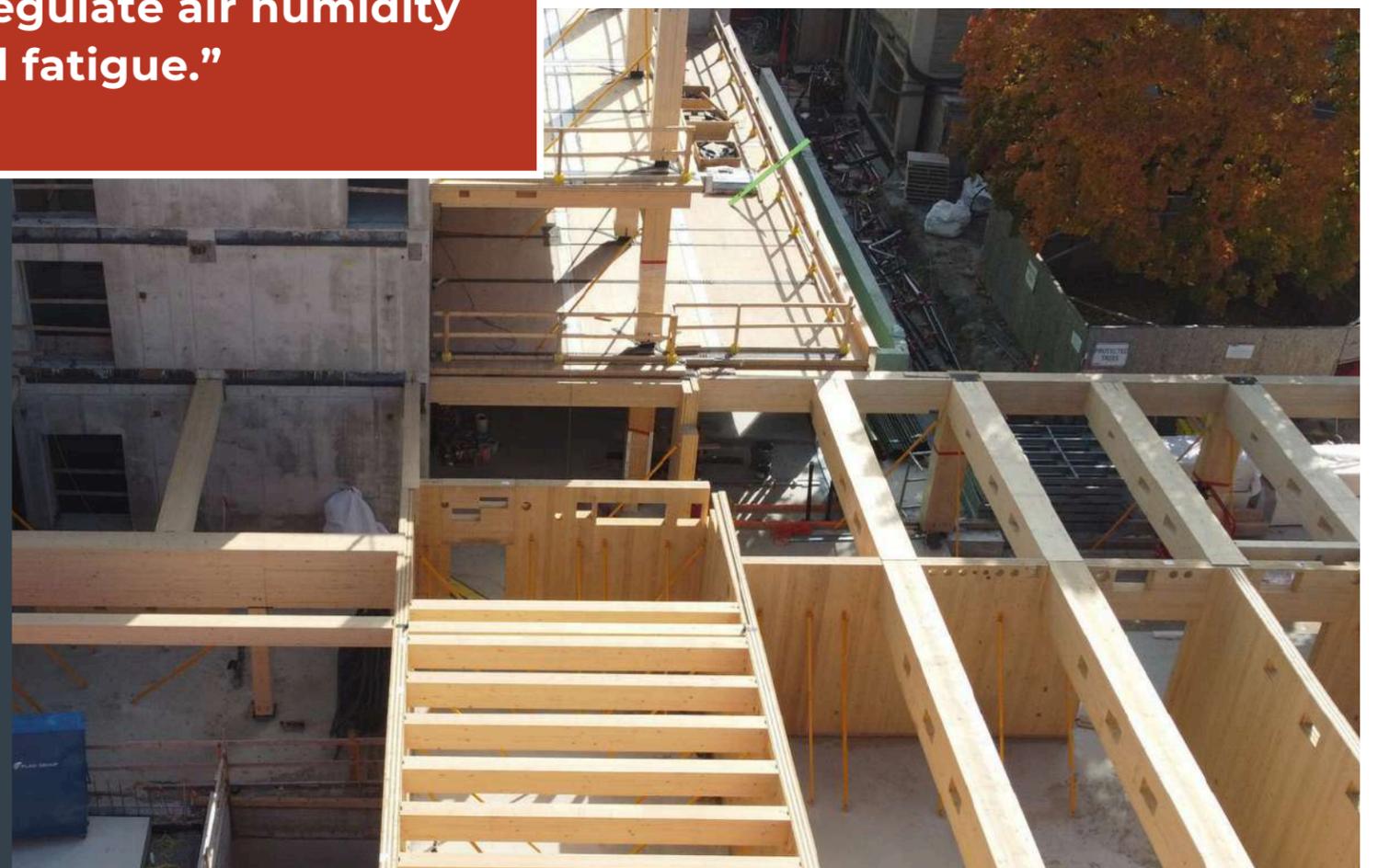
**SC:** The rainwater harvesting system greatly reduces the amount of city supplied incoming water used to operate the building. One of the biggest usages of water in our modern buildings is toilets flushing. The Lawson Centre for Sustainability has

**“Interior green walls improve indoor air quality, by being natural air purifiers by absorbing carbon dioxide and releasing oxygen, they also help regulate air humidity and reduce sickness and fatigue.”**

**-Sean Carroll**

wisely designed a system that vastly reduces that amount of water usage, especially as it accommodates and houses approximately 346 students and approx. 50 additional staff. The system captures rainwater, and some of that rainwater is diverted into city storm system, and a calculated, metered amount of that rainwater is diverted into a combination of internal sump pit tanks inside the building and fed into an external box culvert situated below the landscaping in the common areas around the building.

*continued >*



## Q&A FEATURE SITE SUPERINTENDENT, SEAN CARROLL

This water is then pumped into the building and is processed through a rainwater harvesting system, which is then stored in tanks and used to flush toilets and used to irrigate the landscaping plantation and grass around the building during drier spells in the summertime.

**BC: Since mass timber components can absorb water quickly if exposed to standing water - what were the moisture management or protection measures for recognizing and mitigating risk through the design and building process?**

**SC:** Controlling the moisture content of the mass timber during the construction process, and after construction is the most important aspect when considering using mass timber products for a building. This contributes directly to the building's performance and longevity. There is a lot of research gone into how timber performs with different moisture content and what effect it has on the timber as time passes. It has been proven that the timber must meet a strict criterion to maximise the lifespan of the product.

Prior to construction commencing our team in conjunction with the leading consultant in mass timber in North America, RDH Building Science, developed a detailed moisture management plan which adapted the industries tried and tested best

practices. As our construction went through the wintertime, we had to get creative and come up with innovative solutions to keep progress moving through the cold and snow.

The mass timber is most vulnerable in covered areas, when it loses the ability to dry and breathe naturally, such as installing floor topping, which typically consists of a layer of rigid insulation, or acoustical mat, with a 3" concrete topping installed on top. Or when we encapsulate the mass timber on the underside of the CLT flooring, or walls that are cladded in drywall. It is essential that measures be taken to ensure that the wood flooring is at a moisture content that meets the design specifications and kept at the moisture content before and after the pour. There are a few steadfast rules in making sure this is achieved.

First rule – Never pour a topping on a floor unless the roof is completely sealed and is going to stay sealed. Windows and openings must also be sealed from any incoming rain or moisture that could get under the topping when completed.

Second rule – The substrate must be tested to ensure all areas are at or under the desired moisture content, which is typically 16% - 17% internal moisture content at all depths of the wood, prior to enclosing. At



At this point we need to freeze a moment in time and document this data prior to proceeding. We documented this by creating what we called a pre-enclosure report, that showed all the information with photos and moisture content readings data for each separate area that was to be poured, and the same for every area that was enclosed with any cladding that prevented the wood from breathing. ■

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# THE COTTAGE

HEALTHCARE  
DESIGN LIKE NO  
OTHER

**Barrie Family  
Hospice of Elgin**

Laura Sherwood  
St. Joseph's Health Care Society

In a world where healthcare often leans toward the clinical and sterile, a new model of end-of-life care has emerged—warm, welcoming, and inspired by the peace and comfort of cottage living. This is *The Cottage*, a 17,000+ sq. ft. hospice facility nestled in the woods of Elgin County. The project, led by St. Joseph's Health Care Society, reimagines what design and compassionate end-of-life care look like in Ontario. A connection to nature and hospitality are at the forefront of the cottage-like design, built on a foundation of excellence in care.

From the very first sketch to the final timber beam placed, *The Cottage* was envisioned as more than a building—it is a legacy. Cottages, after all, are places where families and friends gather, where nature wraps around you, and life slows down to



focus on presence, and to hold space for connection, comfort, and care.

The Hospice's cottage-like design achieves an unmistakable architectural identity—a place that is both welcoming and memorable. **Upon arrival, guests are greeted with a large timber beam (Douglas Fir) covered entrance, creating a sense of confidence in the wrap-around care that will be provided.**

## Built for Connection

Inside, spaces are carved out not only for healthcare but for 'life' at life's end. Comfortable living rooms are separated by a fireplace that offers privacy between spaces while inviting warmth and gathering. A Rec Room provides family-friendly amenities like games, puzzles, and movie nights. The kitchen and dining areas include a Canoe Café, a harvest breakfast table, kitchen island, and separate family dining room—ensuring that nourishment, celebration, and togetherness are always supported. A rotating art collection can be found in the Reflection Room. More than a mini art gallery, this sacred space (for all faiths, cultures, and traditions) is also used for farewell ceremonies, prayer, and meditation.







Nature isn't just a backdrop- it's a design partner

Floor-to-ceiling glass, window benches, and outdoor patios bring natural light into every corner. **Families can roll cuddle beds out onto patios, enjoy the firepit (for ceremonies and s'mores), and enjoy moments of peace.** Even transitional spaces support this intention: bench seating in the hallways offers quiet rest stops, and zones like the spa alcove give families space to pause. These aren't afterthoughts; they are part of the Hospice's ethos: to care for body, mind, and spirit alike.

# Leading the way in Theraserialization

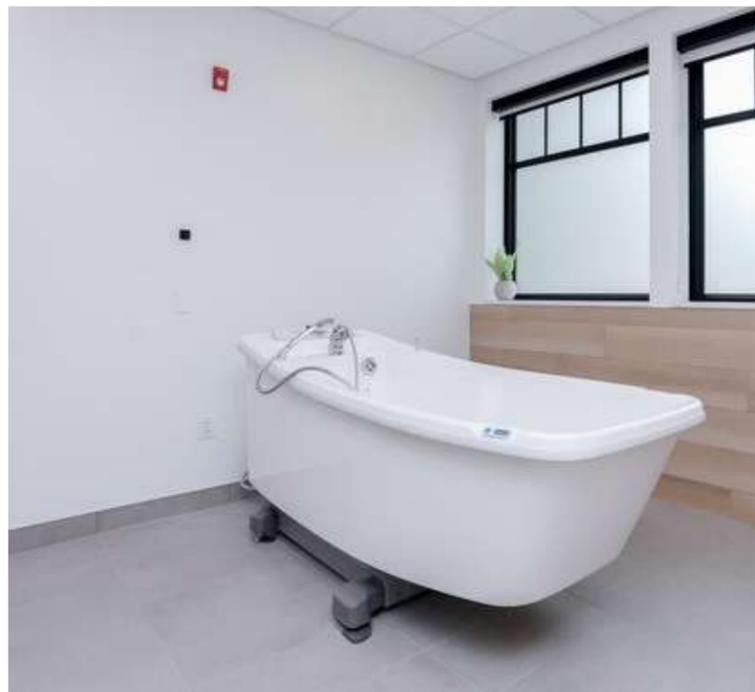
Tucked into a wooded setting, The Cottage was sited intentionally to provide both privacy and tranquility, leading the way in theraserialization, a transformative approach to healthcare architecture that integrates therapeutic goals with serialized spatial design.

**Rooted in biophilic principles, it emphasizes a seamless connection between indoor and outdoor engagement with nature.** By blurring the boundaries between built spaces and natural landscapes, theraserialization fosters emotional comfort and psychological recovery—key components of healing in clinical settings (especially Hospice). In practice, this design philosophy manifests through transparent architectural elements like glass walls and open corridors, to maximize exposure to natural light and greenery. Research supports the efficacy of this approach, showing that access to nature can reduce stress and improve mood, enhancing staff well-being (which translates to better care) and an enhanced experience for residents and their grieving families. Once inside, the sound and flow of the water wall creates a welcoming calmness, with anchoring stone walls and double-sided fireplace adding warmth, creating a feel that is far from institutional. The design while also reinforcing the cottage theme.



**Large windows and patios dissolve the barrier between indoor care and the surrounding forest, inviting the therapeutic benefits of nature inside.** Even details like the cut-log donor wall were intentionally integrated into the design while also reinforcing the cottage theme.





## Hospitality, Holistic, and Healing

Each resident suite reflects one of the Hospice’s guiding design principles: it must feel like a cottage, not a clinic. From shiplap, canoe paddles, homemade quilts, and wood mantels to display personal items, to large plank vinyl wood heated floors, and private patios, every detail reflects the essence of comfort.

Care has been designed with the family in mind, with a pull-out sofa in each room. Extended or larger families are invited to stay in the Cottage Bunkie—a space with an adjacent shower, laundry, and washroom, ensuring loved ones can be nearby. Each room includes custom millwork and storage, and a wood mantel to display photos or personal mementos. The room layout is separated by a half-wall, allowing privacy from visitors and family during periods of rest and/or care.

Oxygen lines have been discreetly concealed in bathrooms, and lighting is fully adjustable, allowing residents to customize their environment. Even stocking the rooms with care items can be done discreetly through a hidden door/cabinet that connects to the hallway, minimizing disruptions while enhancing privacy.

**The Spa Room offers a therapeutic bathing experience, with Scandinavian wood-like tiles, a glassed-in accessible shower, and white plush robes—a hospitality experience rarely seen in healthcare.**

Functional yet invisible infrastructure, such as nurse charting stations in corridors and concealed medication rooms, balances clinical needs with aesthetic harmony. This allows The Cottage to operate as a 24/7 care facility without ever losing its welcoming feel.

*This project was made possible by the vision, generosity, and heart of the community it serves.*

### Project Team:

**Lead Agency:** St. Joseph’s Health Care Society and Barrie Family Hospice of Elgin

**Architect:** ROA Studio

**General Contractor:** Graceview Enterprises

**Project Manager:** BES Construction Consulting

**Interior Design:** Valleyburn Properties



**Between Lake and Forest - Interior**  
Photo credit: Maxime Brouillet

# Between Lake and Forest Wins the SIDEXPLOIT 2025 Award

An architectural signature that  
magnifies wood

Photo credit: Maxime Brouillet

SIDEX is proud to announce that the Between Lake and Forest (Entre Lac et Forêt) residential project – submitted by LOCUS architecture + design – has won the SIDEXPLOIT 2025 award. This distinction highlights the most creative, consistent, and thoughtful approach to the use of SIDEX real wood siding.

The result of a collaboration between LOCUS architecture + design (architecture and interior design) and Construction SYMAT (contractor), the project charmed the jury with its conceptual choices, the quality of its integration into the site, and the sensitivity with which the wood is highlighted.

## **An architectural signature that magnifies wood**

From the very first glance, Entre Lac et Forêt captivates with its refined and judicious use of wood. The white cedar exterior cladding, based on the SidEXALT model, offers a refined vertical rhythm, inspired by European openwork, but adapted to the Quebec climate. This bold choice gives the building a strong, contemporary identity, while ensuring durability and weather resistance. The interplay of textures and colors creates harmony, reinforcing the dialogue between the house and its natural environment.



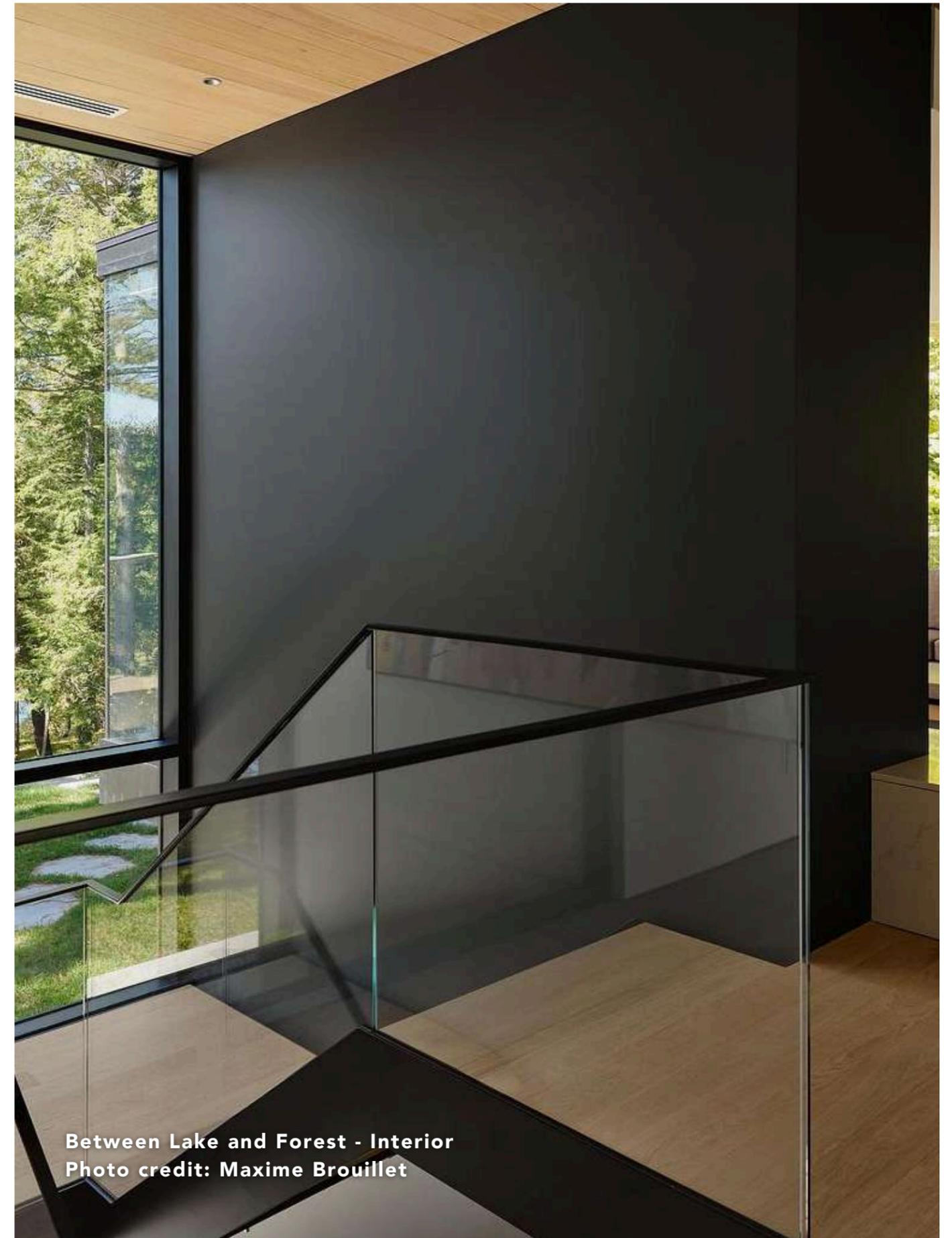
**Between Lake and Forest - Exterior**  
Photo credit: Maxime Brouillet

## **A coherent indoor/outdoor dialogue**

Inside, LOCUS architecture + design extends this sensory experience with a white pine ceiling that extends over the main living areas. Its light color accentuates the softness of the volume and creates a natural continuity with the exterior soffits. This choice reinforces the visual connection with the landscape and magnifies the spirit of the house, designed as an extension of nature.

## **A selection of sustainable and expressive materials**

The white cedar exterior cladding provides lasting protection for the residence, while white pine adds character and texture to the interior design. The dialogue between the dark cedar and light pine chosen by LOCUS architecture + design reveals a masterful balance between contrast and harmony. Together, these wood species



**Between Lake and Forest - Interior**  
Photo credit: Maxime Brouillet



Between Lake and Forest - Interior  
Photo credit: Maxime Brouillet



emphasize the modernity of the residence, while also highlighting the authenticity of natural materials.

By combining a sensitive architectural vision, exemplary use of wood, and meticulous execution, the Entre Lac et Forêt project fully embodies the spirit of the SIDEXPLO!T award. This project by LOCUS architecture + design demonstrates how real wood can transform a home, both through its poetry and its

performance. SIDEX is proud to celebrate this thoughtful and inspiring approach, which contributes to enriching the local architectural landscape.



**Between Lake and Forest - Exterior**  
**Photo credit: Maxime Brouillet**



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