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The newest
TRENDS



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Manulift launches the fast and powerful Merlo Turbofarmer 65.9 telescopic handler in Canada

Colossal Projects

IMPROVING PUBLIC SECTOR
INFRASTRUCTURE



HOMES BY CREATION

A BETTER BUILDING
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Canada's most expensive modern projects





editor's note

Welcome to the Fall issue of Build Canada Magazine.

This issue features Canada's most expensive modern projects that extend from coast to coast in a wide range of sectors, including energy, petrochemicals, commercial development, transportation, and social infrastructure.

Building and maintaining a strong company culture is the key theme in this issue as we spotlight five extraordinary companies. Urban Pioneer Infill, Homes By Creation, Sehra Homes, Whelan Construction, and Bateman Construction all showcasing why they are the company of choice in the communities they build.

We also spotlight the \$250 million Basin Media Hub. Hackman Capital Partners (HCP) and its affiliate The MBS Group (MBS) will develop and operate the purpose-built, state-of-the-art film, television and digital media hub to be located on an 8.9-acre waterfront development parcel in Toronto's Port Lands.

For more great stories of building excellence, keep reading as we continue to Build Canada.


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bc media



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AGGREGATES >

CEMENT INDUSTRY FIRST TO JOIN CANADA'S NET-ZERO CHALLENGE

Canada's cement industry is leading the way in the fight to tackle climate change by joining the Net-Zero Challenge. The Net-Zero Challenge is a voluntary initiative led by the Government of Canada that encourages businesses to develop and implement credible and effective plans to transition their facilities and operations to net-zero emissions by 2050.

Adam Auer, President and CEO of the Cement Association of Canada joined the Hon. Steven Guilbeault, Minister of Environment and Climate Change, to announce the first participants of the Net-Zero Challenge, including cement as the first industry-wide participant.

"Concrete is the most used building material on the planet, second only to water. It is found in virtually every class of infrastructure — from bridges to buildings, watermains to hydro-dams, hospitals to schools, sidewalks to subways. Concrete's strength, durability and resilience will play a critical role in ensuring our infrastructure stands up to extreme weather— heat, flooding, wildfires and wind."

HOUSING >

CREATING NEARLY 17,000 HOMES FOR CANADIANS ACROSS THE COUNTRY

Aimed to grow the Canadian economy while creating sufficient middle-class employment opportunities in the housing and construction sectors.

NEWS PROVIDED BY
Prime Minister's Office

Making life more affordable for Canadian families starts with making housing more affordable. Everyone deserves a safe and affordable place to live and raise their families, but Canadians are finding it challenging to find one. That's why we are making historic investments to put Canada on the path to double housing construction and meet our housing needs over the next decade.

The Prime Minister, Justin Trudeau, announced a major investment of over \$2 billion to support three key initiatives that, together, will help create nearly 17,000 homes for families across the country, including thousands of affordable housing units.

"When people have a home of their own, whether they rent or they own, they are better able to invest in themselves, and invest in their communities," said Trudeau. "Our government understands that it is only by investing in people, that we can grow our economy. Tackling housing affordability is a complex problem and there is no one silver bullet, but announcements like today's give more people a place to call home, and a real and fair chance at success."

This investment, which includes funding from Budget 2021 and Budget 2022, will go toward:

- Creating 4,500 additional affordable housing units by extending the Rapid Housing Initiative for a third round. This will include women-focused housing projects and projects supporting those experiencing or at risk of homelessness;
- Creating at least 10,800 housing units, including 6,000 affordable units, through the Affordable Housing Innovation Fund, which encourages new funding models and innovative building techniques in the affordable housing sector; and
- Creating a new, five-year rent-to-own stream under the Affordable Housing Innovation Fund to help housing providers develop and test rent-to-own models and projects, with the goal to help Canadian families across the country transition from renting to owning a home.



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INFRASTRUCTURE >

CONNECTING COMMUNITIES

On behalf of the Honourable Jeremy Cockrill, Saskatchewan's Minister of Highways, announced \$2.9 million in joint funding for upgrades to six northern airports. The airports in La Loche, Île-à-la-Crosse, Sandy Bay, Cumberland House, and Pinehouse Lake will benefit from \$1.25 million in combined federal and provincial funding to install All Weather Observation Systems (AWOS). The AWOS provides accurate, uninterrupted, real-time information and reports on airport weather conditions.



ENERGY >

CANADIAN SOLAR AWARDED 253 MWP SOLAR PROJECT

Canadian Solar Inc. announced it was awarded a 253 MWP solar plus 1,000 MWh battery energy storage project ("Zaldivar Project") in Chile's public tender CNE 2022/01 held by Chile's Energy National Commission (CNE) in July 2022. The CNE awarded a total of 777 GWh/year of new generation backed by three different new renewable projects, of which the Zaldivar Project will account for 16%.

The Zaldivar Project, located in Antofagasta Region, is currently at mid-stage development. The project is expected to start construction in 2024 and reach commercial operation in 2026. Once in operation, part of the electricity generated by solar will be purchased by a pool of distribution companies under 15-year U.S. dollar-dominated power purchase agreements (PPAs), and the remaining will be purchased by private energy off-takers.

PLANNING >

CANADA PLANS TO DOUBLE HOME OUTPUT

Canada has an ambitious plan to double the pace of homebuilding within a decade but the first big challenge is finding enough skilled workers, as the country grapples with the tightest labor market on record and with construction already at a multi-year high. Building more homes is a key peg of the C\$9.5 billion (\$7.5 billion) in housing spending outlined by Prime Minister Justin Trudeau's Liberal government.

The average selling price of a Canadian home has surged more than 50% in the last two years, driven by record low interest rates and tight supply. Construction has failed to keep pace with immigration-driven population growth.


"It's very ambitious. I would say it's going to be equally challenging to pull it off, simply because the construction sector is already more or less operating at full capacity," said Robert Kavcic, senior economist at BMO Economics. There are nearly 300,000 units under construction across Canada, compared with about 240,000 just two years ago, government data shows.



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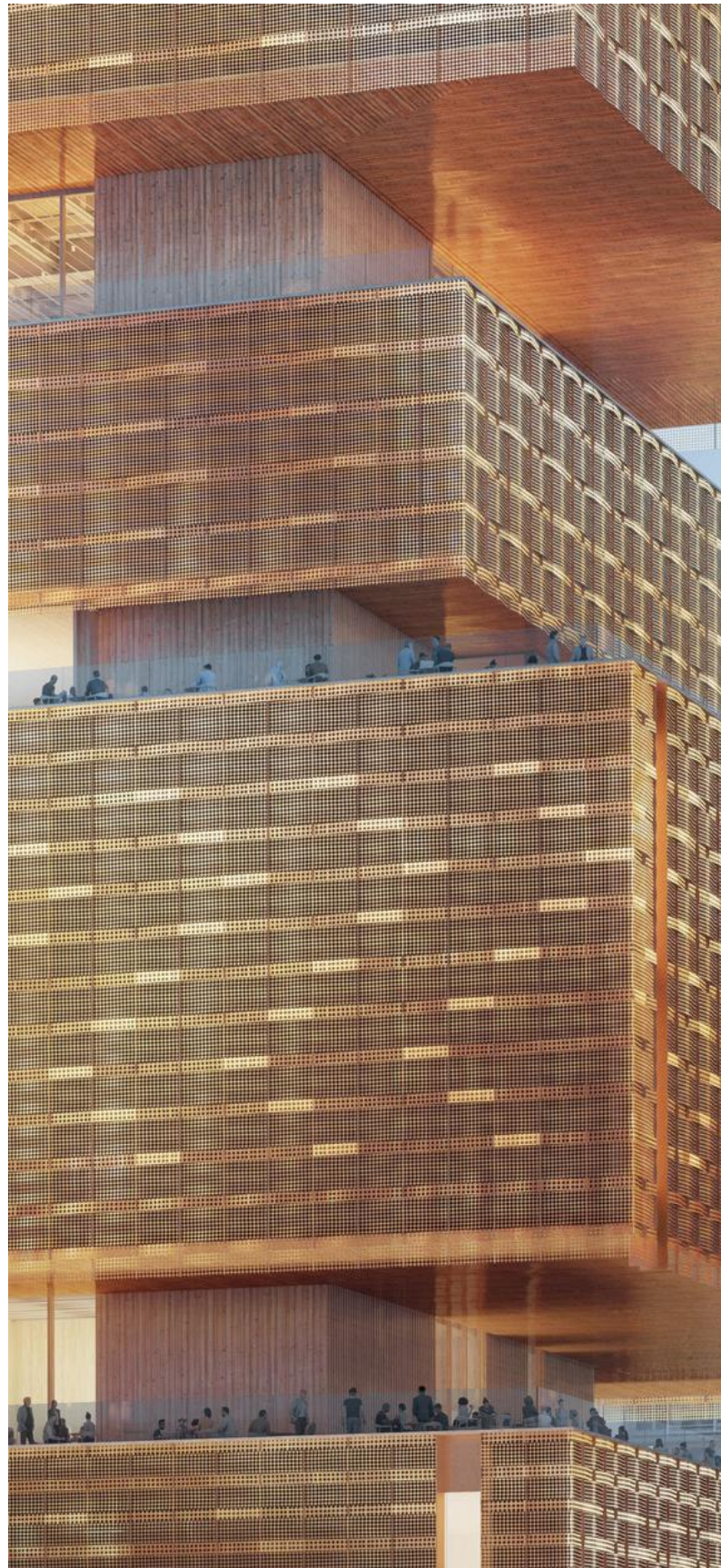
A NEW DESIGN FOR VANCOUVER ART GALLERY

A \$100 million donation from Polygon Homes Chairman Michael Audain's Audain Foundation has influenced the design of the new Vancouver Art Gallery to be built at Cambie and West Georgia. Architects Herzog & de Meuron are involved in the project.

Located at the intersection of Cambie Street and West Georgia Street, Larwill Park will be transformed into the first Passive House art gallery in North America and utilize mass timber construction.

The new art gallery cost is estimated at \$400 million and Audain's donation brings the total raised to \$240 million. The gallery is seeking an additional \$80 million from philanthropic donors and another \$80 million from government and community sources. The updated design features a copper-coloured, woven metal facade with wooden soffits. The veil-like building skin changes appearance depending on the time of the day and the vantage point of the observer.

"The design reveals the complex intelligence of the Coast Salish people, their skill in mathematics and historical knowledge," said artist and art design consultant Debra Sparrow. "The numerous transformations that the weave will undergo as sunlight strikes it at different angles and times of the day are comparable to the transformative abilities of the Coast Salish people."



MAN OF HONOUR >

TIMBER WOLF LEGACY FUND OPENS DOORS FOR NEW GENERATION OF CONSTRUCTION PROFESSIONALS

CFBC - CONSTRUCTION FOUNDATION OF BC

The Construction Foundation of British Columbia (CFBC) has launched the Timber Wolf Legacy Fund on behalf of the family of Rene B. Delisle.

The Timber Wolf Legacy Fund will provide financial support to Indigenous learners of the construction trades helping remove barriers and give them a real and fair chance at success to obtain skills and training in the construction trades. Mr. Delisle's daughter shared,

"It's a natural fit to honour our family's Indigenous heritage and make a real difference to support First Nation, Inuit and Métis applicants across British Columbia."

The BuildForce Canada 2020–2029 Construction and Maintenance Looking Forward forecast reports that from 2020-2029, the construction industry will need to recruit over 300,000 workers; many from underrepresented groups, including youth, older workers, women, immigrants and Indigenous peoples. The Delisle Family is excited to help generations to come. Eligible applicants will receive up to \$500 per semester to be applied to tuition and training support costs incurred at any qualified institution in British Columbia.

The Timber Wolf Legacy Fund will provide financial support to Indigenous learners of the construction trades helping remove barriers and give them a real and fair chance at success to obtain skills and training in the construction trades. Mr. Delisle's daughter shared. By the age of 17, Rene B. Delisle had earned



his first trade ticket as a saw filer and over the course of a very full life, went on to gain skills as a Carpenter, Plumber, Electrician, Welder and more. His love of learning motivated him to support apprentices and provide encouragement to aspiring entrants to the industry.

Mr. Delisle left this world in September 2021 and to honour his memory, his children have established the Timber Wolf Legacy Fund to provide tuition assistance and training support for those entering or continuing education in the construction trades.

"We established this fund in recognition of dad's passion for knowledge and the sacrifices he made as a young apprentice and inspired entrepreneur," shared his children, Roy, Dawn, Connie, and Amanda. "He demonstrated this commitment to learning throughout his entire life - teaching and encouraging others to take up the craft."

To find out more about the fund, visit.
www.constructionfoundation.ca/timberwolf

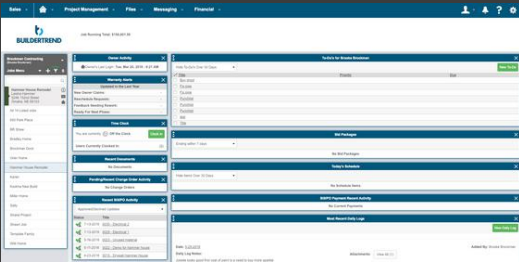
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WORKFORCE >

CONSTRUCTION LABOUR CRUNCH CONTINUES AS DEMAND BOOMS

The dark shadow of workforce shortages has long been looming over the Canadian construction sector. Now that it has hit, has it really been as dark as they said it would be? Is the construction sector finding ways to cope? What are experts doing to address the shortage? We spoke with labour experts, economists, recruiters and contractors to get their thoughts on the current state of things and what they think the solutions could be.

Times are tough but they are going to get tougher, say construction labour experts. While few could predict that the COVID-19 pandemic would throw the sector into a new level of uncertainty, many believe it has accelerated trends that were already underway. BuildForce Canada's latest report and forecast explained that as Canada's economy began to rebound in 2021, older workers were slow to come back.

"If you look at the overall census data, 19 per cent of the population is over 65 and 20 per cent is between 50 and 64," explained Bill Ferreira, BuildForce executive director. "And those under 16 only account for 16 per cent of the population. We have a demographic crunch. This is what we have been saying for ten years. The challenge the industry faces is not just an industry challenge, it's a country-wide challenge. The population is getting older and not enough young people are not coming in adequately enough to meet the needs of the economy. More people are set to retire in the next 15 years than we can replace."

Unlike the Great Recession when younger workers were let go first and took longer to return to pre-recession levels of employment, the pandemic caused some older workers in the core working-age group to leave the labour force, many of whom have been slow to return as emergency measures were lifted.

BuildForce found that this caused a tightening of labour markets for most parts of the country and shoved unemployment rates lower as employment outpaced labour force growth for most of the year.

INFILL >

INFILL SOLUTION TO GTA RENTAL WOES

As the pandemic surges on, and affordable rental housing continues to be a pressing need in the GTA, some housing experts believe a solution has been sitting in plain sight all along: infill development. Simply put, it means adding new units to existing rental sites where there is room and opportunity for growth. Currently, the Federation of Rental-Housing Providers of Ontario (FRPO) estimates there are some 950 rental sites with the potential to add 176,000 new units throughout Toronto and the wider region.

"A lot of the sites are concentrated outside of the downtown core in relatively affordable markets," says Tony Irwin, president of FRPO. "The other thing that's important is that over 35 per cent of the potential units are within 800 metres of a current or future transit station."

According to a recent Urbanation report looking at supply gap and opportunities for developments, Toronto and the Greater Hamilton Area (GTHA) will be facing shortages of up to 200,000 rental units within a decade unless solutions are implemented in the near-term to change this long-term reality.



PLANNING >

LE MODEN: PROJECT BEGINS

A major real estate project, Le Moden, is rising in the eastern part of Ville-Marie borough. Bertone Development Corporation is proud to officially inaugurate the start of construction on this \$50-million project, which was launched in November.

Built in a single phase, the two towers—one 4 storeys high and the other 10—will feature 126 condo units with a sophisticated design, as well as commercial space on the ground floor. More than 65% of the units have already been sold as buyers take advantage of attractive introductory prices.

Inspired by the principles of TOD—transit-oriented development—Le Moden will offer a living environment structured around urban mobility services and an efficient public transport network. Located next to Frontenac métro station on the green line, a BIXI station, bus stops and a bike path, the project also promotes active mobility around the large Médéric-Martin park and a shopping centre that will soon be completely renovated by Bertone. "The goal is to enrich the life of the neighbourhood and create a friendly living environment for residents, all at the doorstep of a highly accessible downtown core," adds Michael Bertone.

SUSTAINABLE DEVELOPMENTS >

DEVELOPING VAUGHAN - SUSTAINABLY

Seven ways the City of Vaughan is using sustainable development practices in city-building

The City of Vaughan recognizes sustainable development is not just a trend — it is a priority. As a forward-thinking municipality, the City is fostering a greener community, preserving the environment and leading with best practices, as outlined in the 2018-2022 Term of Council Service Excellence Strategic Plan.

Vaughan has seen rapid growth and transformation — but sustainability is woven into ongoing city-building efforts. Here's how:

1. Environmental stewardship: As seen in the City's Green Directions Vaughan policy, Municipal Energy Plan Revision, Green Guardians program and more.
2. Sustainable buildings: Vaughan City Hall, Fire Station 7-10 and Fire Station 7-9 are LEED Gold certified. Many other facilities are certified LEED Silver, Zero Carbon or Net Zero Energy.
3. Sustainability Metrics Program: As of 2023, all new development applications must achieve a minimum sustainability score to be approved, including the use of Bird-Safe Design Standards.
4. Active transportation: The updated Pedestrian and Bicycle Master Plan initiated new cycle tracks city-wide, advanced the Vaughan Super Trail and more.
5. Green fleet vehicles: Vaughan Fire and Rescue Service will introduce 25 electric and hybrid fleet vehicles over the next eight years, including cars, pick-up trucks and SUVs. The City's Public Works team purchased two Nissan Leafs in 2019.
6. Streetlight Retrofit Program: Since 2019, more than 24,000 LED streetlights have been installed city-wide.
7. Black Creek Renewal Project: Launched in 2019 to help prevent flooding in the city's downtown core, the Vaughan Metropolitan Centre.

These are just a few of the many ways the City is working to develop Vaughan, sustainably. Learn more at vaughan.ca/environment.

CIVIL >

WINDSOR-DETROIT BRIDGE DELAY COULD ENTAIL WEIGHTY PENALTIES

Gordie Howe International Bridge, connecting Windsor and Detroit on the US-Canada border, is facing delays projecting its completion in April 2025, which could result in monetary penalties for the contractor, calculated against the number of days elapsed from the originally scheduled 2024-year end completion.

The analysis for delayed completion date was put forth last year by S&P Global, which stated the U.S. side to be 147 days behind schedule, and the Canadian side to be 136 days so. When the analysis was presented last year, the contractor Bridging North America (BNA)—an equal partnership between global companies including Fluor, Aecon Group, and Dragados Canada—had requested cost compensation and a relief from the current project schedule. Windsor-Detroit Bridge Authority (WBDA), the Canadian federal Crown corporation responsible for overseeing the construction of the bridge on both sides of the border has not yet opened up the contract for redrafting.

According to Windsor Star, Heather Grondin, the bridge authority's vice-president of corporate affairs and external relations said: "The contractor



is obligated to meet the contract date specified in the project agreement and make adjustments to their construction approach to manage any delays they encounter."

WBDA maintained the contractor agreed to a 2024-end completion, which reflected significant leeway for any delays. Grondin also added, "With the COVID-19 pandemic and related safety precautions now at a steady state, we are actively assessing the potential impacts of the pandemic on the project schedule."

According to CBC, Jim Lyons, executive director of the Windsor Construction Association, representing Gordie Howe International Bridge contractors:

"Since things have opened up, there's just so much volume out there we're trying to catch up to, as are all the material suppliers, so it's been really challenging to get all the materials in a timely manner to run any job, let alone that big bridge job." He added that supplies of steel and concrete are causing the biggest delays.



FASTEST GROWING *Small* CITIES

Carleton Place, Ontario

1 Located approximately 46 kilometres outside of Ottawa, saw its population grow by nearly four per cent last year, making it the fastest-growing community in Canada.

Cowansville, Quebec

places second with a 3.7 per cent growth rate. Location 20 km from the U.S. border and just 60 minutes from Montreal. This little town of about 15,500 people surrounds Davignon Lake and boasts a charming historical downtown.

2

Wasaga Beach, Ontario

3 Located near Collingwood on Georgian Bay, this town of almost 25,000 saw growth of 3.5%. Wasaga Beach has the distinction of sitting on the world's longest freshwater beach.

New population data from Statistics Canada shows that Canadians are continuing to move away from large, urban centres amid the COVID-19 pandemic, opting instead to live in smaller communities located near big cities.





Lafarge Canada introduces **ECOPact**, the industry's broadest range of sustainable concrete for today's high-performance building and sustainable and circular construction and recycling practices. ECOPact is sold at a range of low-carbon levels, from 30% to 100% less carbon emissions compared to standard concrete. Where regulatory conditions allow, ECOPact products integrate upcycled construction and demolition materials, further closing the resource loop.



 **LAFARGE**

EVENTS OF NOTE



2022-23

NOV 30

CONSTRUCT CANADA

METRO CONVENTION CENTRE WEST, VANCOUVER, CANADA

Construct Canada will leave you with the tools needed to sharpen your skills and continue your professional development. North America's largest annual exposition, networking and educational event for design, architecture, construction and real estate.

NOV 30

GLOBAL PROPERTY MARKET

METRO TORONTO CONVENTION CENTRE, TORONTO, CANADA

Manitoba Building Expo premier showcase for all the latest products and technologies for commercial and institutional buildings, and a terrific learning and networking opportunity for industry professionals. This premier event for building-industry professionals in Manitoba.

FEB 15

BUILDEX VANCOUVER

NIAGARA FALLS CONVENTION CENTRE

Buildex Vancouver is the largest forum connecting the holistic building industry. Join to interact, learn and discover the newest innovations from a market in constant transformation. An extensive educational program offers sessions of interest to a range of professionals and provides technical updates relevant to Western Canada's most active development hubs.

FEB 16

CANADIAN CONCRETE EXPO

INTERNATIONAL CENTRE, MISSISSAUGA CANADA

Canadian Concrete Expo is the ideal environment to source out new suppliers, reconnect with multiple current suppliers, find real business solutions, and build partnerships. Canadian Concrete Expo is a must-attend to maintain, build, and be educated in Canada's diverse and changing concrete construction industry.

MAR 4

HOME AND RENOVATION SHOW

PENTICTON TRADE & CONVENTION CENTRE

The 27th Annual Home and Reno Show, produced by the Canadian Home Builders' Association South Okanagan, returns to Penticton. Displays featuring home building, decorating, and renovating products. Exhibitors and attendees agree, this is the biggest and best show in the Penticton.

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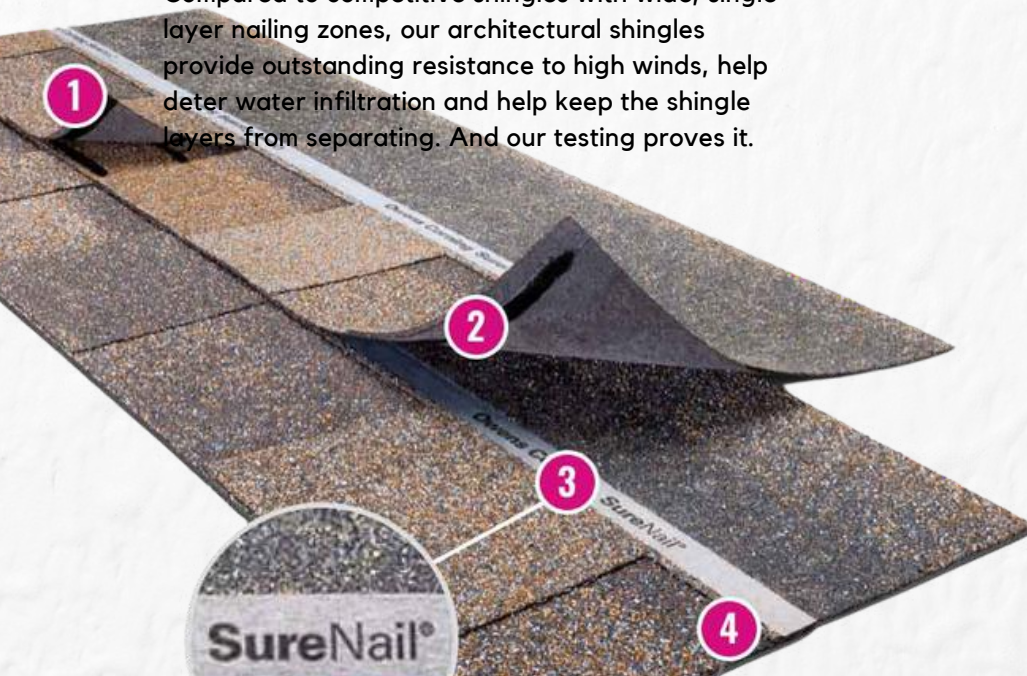
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CONSTRUCTION TECH >

FUTTURA SITE SUPERVISOR SYSTEM



Contractors can use the Futtura system to localize sites, check grade, configure base stations, set stakes and calculate volumes of material removed.

Photo Credit: Futtura

Contractors can use the Futtura system to localize sites, check grade, configure base stations, set stakes and calculate volumes of material removed

The F631 is Futtura's all-new multi-GNSS, multifrequency smart antenna. The F631 provides robust performance and high precision in a compact and rugged package. With multiple wireless communication ports and an open GNSS interface, the F631 can be used in a variety of operating modes. Use the F631 as a precise base station sending RTK to your existing rover network. Turn F631 into a lightweight and easy to use rover by connecting it to your base via UHF radio or cellular network. The built-in web user interface (WebUI) can be used to monitor and control the receiver status and operation, as well as to upgrade the F631 with new firmware and activations. F631 is Athena enabled.

With Athena, F631 provides state-of-the-art RTK performance when receiving corrections from a static base station or network RTK correction system. With multiple connectivity options, the F631 allows for RTK corrections to be received over radio, cell modem, Wi-Fi, Bluetooth, or serial connection.

With multiple connectivity options, the F631 allows for RTK corrections to be received over radio, cell modem, Wi-Fi, Bluetooth, or serial connection. F631 delivers centimeter-level accuracy with virtually instantaneous initialization times and cutting edge robustness in challenging environments. The F631 is Futtura's all-new multi-GNSS, multifrequency smart antenna.

Key Features:

- Multi-frequency GPS, GLONASS, BeiDou, Galileo, QZSS, IRNSS, and Atlas L-band
- Long-range RTK baselines up to 31 miles with fast acquisition times
- UHF (400 MHz & 900 MHz), cellular, Bluetooth, and Wi-Fi wireless communication
- Athena GNSS engine providing best-in-class RTK performance
- Internal sensor corrects collected point coordinates to within 2 cm
- Hot swappable batteries
- Supports both UHF and spread spectrum frequencies
- Powerful WebUI with serial, Bluetooth and Wi-Fi connections

EQUIPMENT >

VOLVO UNVEILS L200H HIGH LIFT WHEEL LOADER

The L200H high lift wheel loader features a 27% increase in lifting capacity and a 13% larger grapple than the L180H model it replaces



Volvo Construction Equipment launched the new L200H high lift wheel loader in North America. The industrial loader features a 27% increase in lifting capacity and a 13% larger grapple than the L180H model it replaces. This means the L200H can handle more timber per hour.

A new loading unit features a reinforced lift arm system, cross beam and rotator unit. This increases the machine's maximum lifting capacity from 19,401 lbs. on the L180H high lift to 24,600 lbs. To accommodate this extra capacity and ensure the stability of the loader, larger 875-type low-profile L4 tires come standard.

"Volvo CE introduced the world's first high lift wheel loader in 1974, and with the L200, we're continuing our tradition of producing high-performing, low TCO machines," said Stephen Roy, president, Region Americas, Volvo CE. "We're really proud of this purpose-built design."

With the ability to stack logs to almost 23 feet high — 60% higher than a conventional wheel loader — the Volvo high lift arm design makes the most of timber yard storage capacity. The L200H high lift enables reaching logs on the stack thanks to 360-degree rotation and the ability to tilt. The new rotator unit is maintenance-free and features an integrated dampening system for stability.

The L200H high lift is able to travel over rough terrains at speed, as well as can work on uneven ground and paved surfaces due to its four-wide tires and articulated steering. A new external axle oil cooling system reduces the temperature of the axles. It also includes an oil filter that keeps the axle oil clean, increasing the oil change interval to 4,000 hours (or 18 months).

Gear shifting has been optimized to serve demanding workloads. Technologies such as OptiShift, which integrates the reverse-by-braking function and torque converter with lock-up, further support fuel efficiency.

The L200H high lift is the first high-lift variant to be compatible with Load Assist, Volvo's suite of apps that is accessible from the in-cab co-pilot display. The on-board weighing app provides real-time insights into the grapple's payload to help eliminate overloading, underloading, reweighing and wait times. The operator coaching app provides real-time information and guidance. Load Assist also includes a tire pressure monitoring system, which provides the ability to check the pressure and temperature of air-inflated and hydro-inflated tires from the cab.

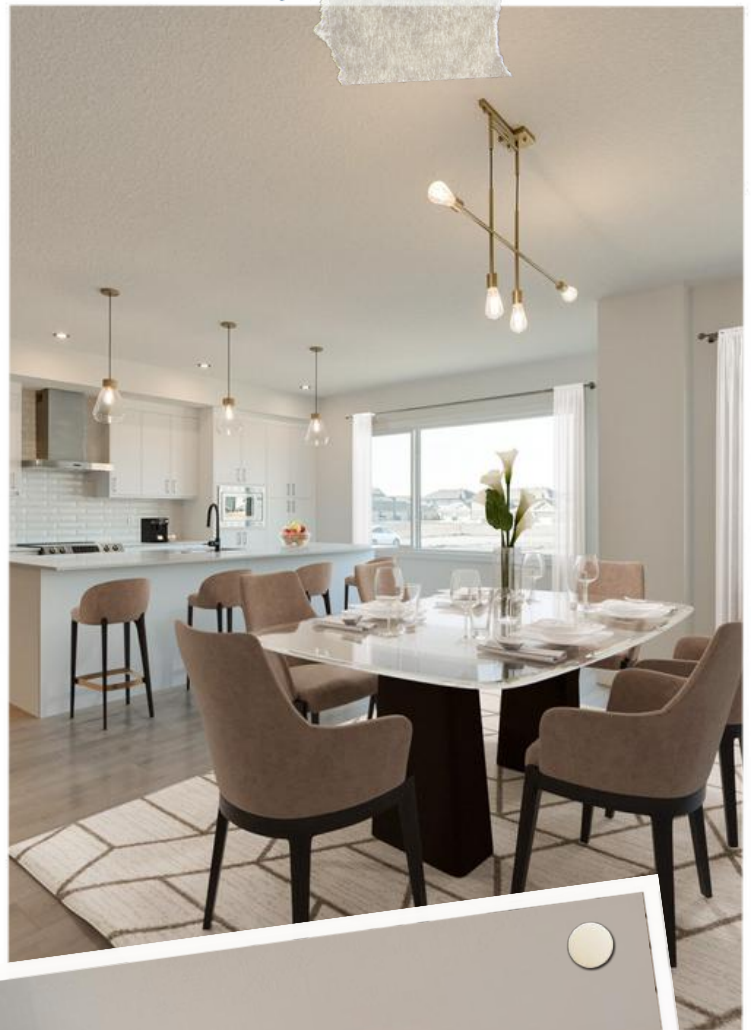
SEHRA HOMES

Vice-President of Operations Gurdeep Sehra joins us to discuss their latest Camden model home, and their one-of-a-kind craftsmanship and approach that sets Sehra Homes apart from the rest.

Can you tell us about your current Camden model you are currently working on?

With each of the houses we build, we begin and end our processes with a home in mind. We want to ensure they are unique and provide a functional and comfortable space for those that live in them. As we grow and learn as a company, our homes represent our growth. Within the community we are building in, we noticed that most of the homes in the area that were in this category were virtually all identical other than the finishes in the home. We wanted to break away from these cookie cutter homes and offer our clients designs that are truly unique.

On this design we changed the layout of the home to create a floor plan that allowed for tucked away mudroom, spacious foyer, a grand open to above great room and a kitchen of dreams. This home has an open layout that allows for an easy flow between living spaces and creates a space that looks and feels larger than it is. The stairs on this home are located in the back, tucked away yet distinctly there and lead into a beautiful bonus room on the second floor that overlooks the great room. We also created a master retreat in our home, our master bedroom includes a sitting area, walk-in closet and spa ensuite. Having spent so much time in our homes these past couple of years, we all really learned how important our homes truly are. At Sehra Homes we envision our homes to be spaces where families and friends come together, spend time and make memories. This home is exactly that, it is our own take on a modern house with the warmth of a home.





Model - Camden | Size - 2354 Sq FT | Location - South Pointe, Fort Saskatchewan, Alberta

Features - Walnut Trellis Wall, Walnut slot wall detail, Walnut Floating Shelves, Built-in Cabinetry at front entry closet, pantry/overflow cabinetry, bar area, and walk in closets are all upgraded with additional millwork, Custom Made Solid Walnut Barn Door, Black taps and features, Silestone Quartz Countertops, Glass Railings, Plaster wall detail on fireplace and bar area, Built in appliances.

What are some of the amenities of the South Pointe community?

The community of South Pointe in Fort Saskatchewan is the largest community in Fort Saskatchewan which has been under construction over the last 20 years. The area includes a brand new combined elementary and junior high school, two playgrounds, and walking trails surrounded by green space that are connected to pond areas throughout the subdivision. One of the largest and newest retail developments in Fort Saskatchewan is located across the street from the main entrance into the subdivision. South Pointe is less than a five minute drive from many big brand and boutique shopping and dining places, along with a gym, medical centre, and hospital nearby. The ease of access to retail, school and healthcare makes this an ideal neighbourhood for all ages, from young families to the elderly.

For further information, call 780-566-2424
or email at sales@sehrahomes.ca

What are some of the building elements that Sehra Homes implements that other builders don't do?

Over the years we have increased the standard for certain practices that we believe enhance the quality of our homes, going above what is required in the provincial guidelines. For example on many renovation and construction projects that builders are not using spray foam insulation in cantilevers, Rim joists, or garage hot boxes. This leads to increased air leakage and cold drafts which then lead to future plumbing issues and increased energy usage.

We observed how common and widespread this issue was throughout the province. Here, we also take the additional steps required to ensure your home is sealed and energy efficient. We at Sehra Homes believe that this is one major area where additional measures should be taken to better the quality of your home. It provides unparalleled comfort throughout the home, especially in the basement in those colder months. Not to mention the huge savings on heating costs that are incurred through air leakage. We believe in providing our clients with a quality product that is built to last and our homes speak for themselves.

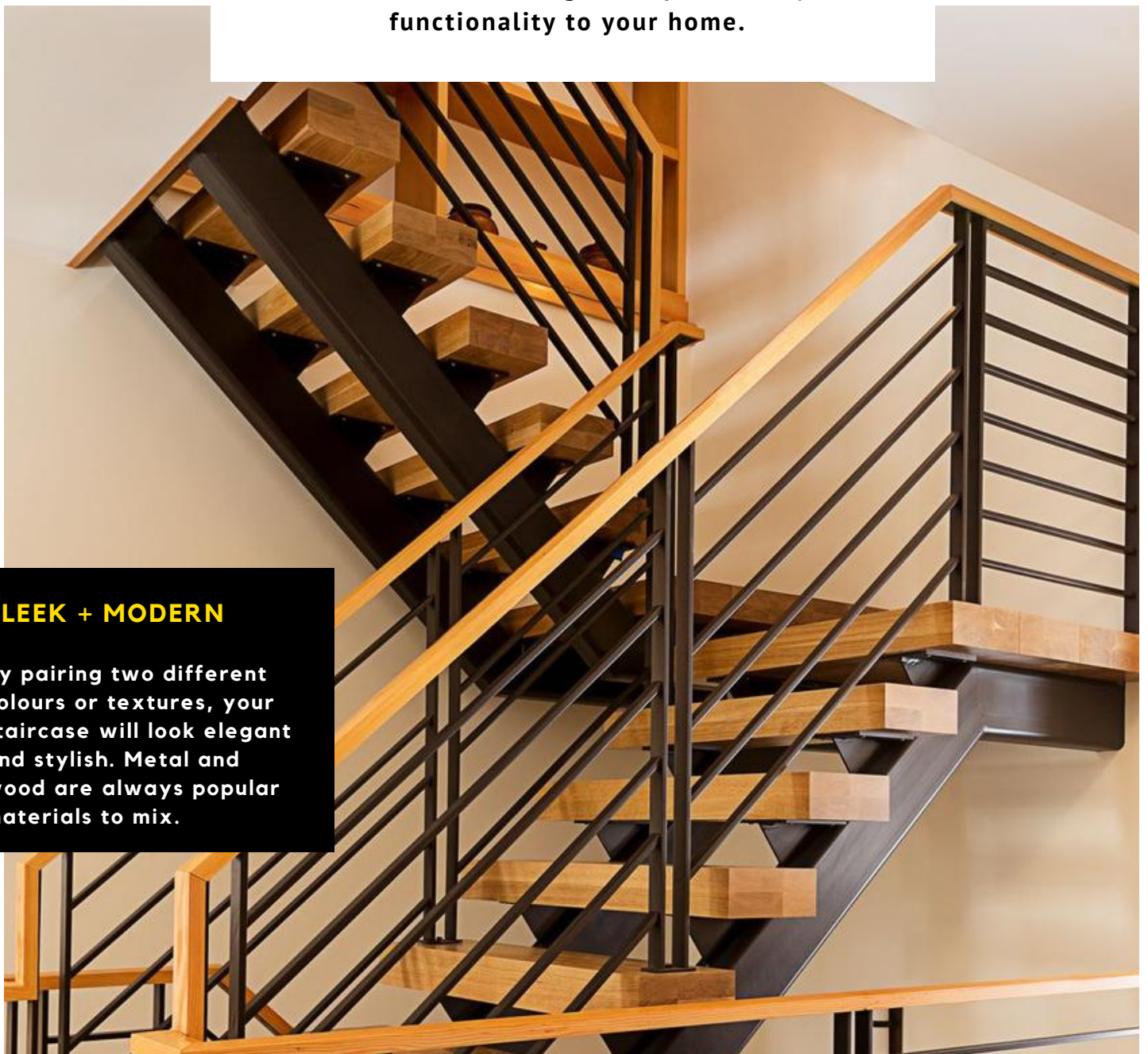
Step Up

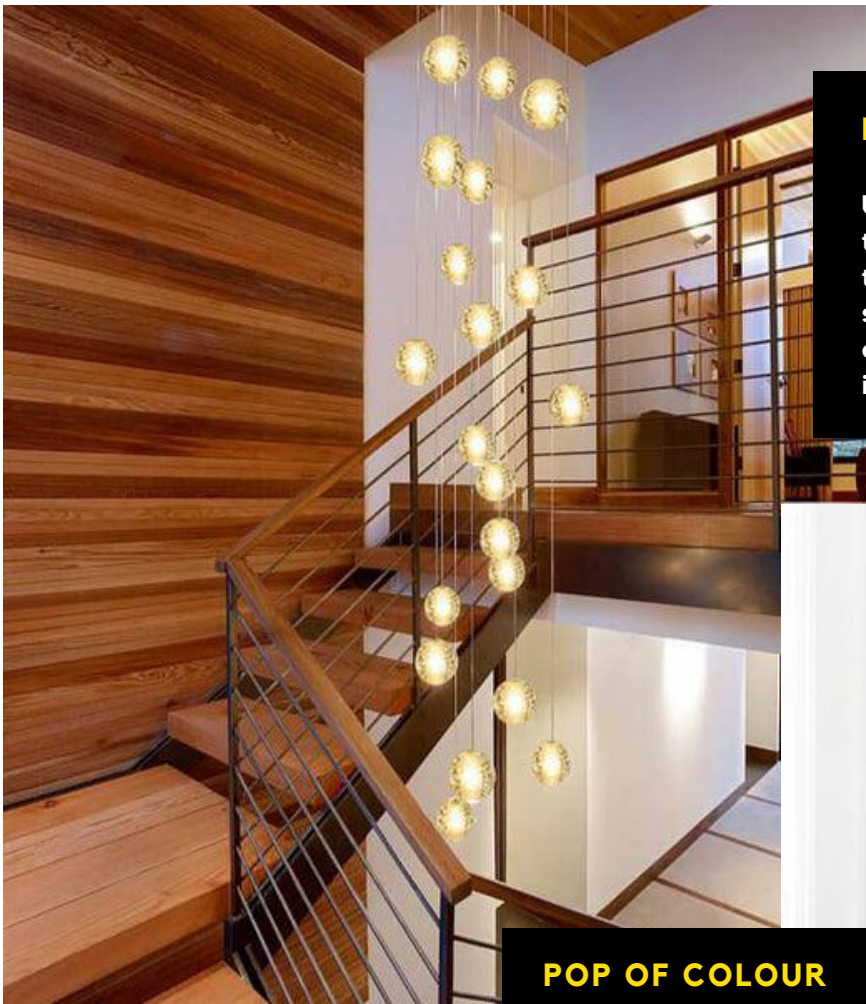
reach new style heights

Staircases are the spine of the home. Not only do they bridge together the rooms and stories within a house, but they're often the first space a guest encounters at the entryway. Consider one of these 4 trends to bring some personality and functionality to your home.

SLEEK + MODERN

By pairing two different colours or textures, your staircase will look elegant and stylish. Metal and wood are always popular materials to mix.





DRAMATIC LIGHTING

Use hanging light fixtures to fill open space. Explore the possibilities of length, shape, bulb size, and colour to create visual interest.



POP OF COLOUR

Use bold runners and carpets to add some personality to a staircase. Either traditional or modern will work with textures and patterns.



LANDING SPACE

Wonderfully designed staircase landing features a white built-in solid timber floating bench.



lights

camera

action

TORONTO TO BUILD \$250 MILLION STUDIO COMPLEX, MARKING BIGGEST PRODUCTION INDUSTRY INVESTMENT IN TWO DECADES

Courtesy of the City of Toronto

Hackman Capital Partners (HCP) and its affiliate The MBS Group (MBS) will develop and operate the Basin Media Hub; a \$250 million, purpose-built, state-of-the-art film, television and digital media hub to be located on an 8.9-acre waterfront development parcel in Toronto's Port Lands, located at 29, 35, 41 Basin St.

The HCP-MBS proposal approved by CreateTO last month and City Council last week includes eight purpose-built sound stages, production office space, along with workshop and production support space. This \$250 million investment in the development will be one of the most significant contributions to Toronto's film and television production ecosystem in more than two decades. In addition to providing much-needed studio and production space within the city, the proposed development will provide the opportunity for HCP-MBS to partner with the City to deliver a



public promenade along the water's edge, helping to further transform this area of the Port Lands into a healthier and more liveable space for workers and visitors alike. The Basin Media Hub presents an important opportunity to support the ongoing development of Toronto's film industry and the Media City District.

After completion of the construction phase, the expected economic impact of on-going film studio operations includes \$280 million in economic activity, \$119 million in net contribution to GDP and \$32 million in tax revenues across all levels of government. After completion of the construction phase, the expected economic impact of on-going film studio operations includes \$280 million in economic activity, \$119 million in net contribution to GDP and \$32 million in tax revenues across all levels of government.

The partnership is expected to create 750 jobs on-site as well as 880 indirect or induced jobs in the broader community. Construction is planned to begin on the Basin Media Hub by 2023.

Through its proposal, HCP-MBS has committed to establishing a Basin Media Hub endowment for a local training program with a \$1 million initial investment and funding for a Program Coordinator. HCP-MBS will provide training space onsite and support site visits, talks and work experience opportunities for local schools in order to promote a diverse range of careers in the film industry and support training and jobs for people from equity-seeking groups.

The training program will be managed by MBS University (MBSu), a division of MBS that has a wealth of experience in creating customized programs for hands-on practical crew training. HCP-MBS has also committed to establishing a \$1 million fund to support and encourage Canadian content creation. The HCP-MBS partnership was selected through a competitive market offering process launched by CreateTO, on behalf of the City, in 2020 and concluded in 2021. HCP is a privately-held real estate investment and operating company that specializes in buying, renovating and re-imagining commercial, vintage industrial and studio properties. MBS is an industry-leading studio operations, production services and studio-based equipment provider.





Filling the gaps

URBAN PIONEER INFILL INC.
DELIVERS SMART GROWTH
TO EDMONTON



According to the Edmonton Metropolitan Region Board (EMRB), Edmonton's metropolitan region will grow to between 1.96 million people and 2.24 million by 2044. This is higher than the city's population projection of two million, which was released in its City Plan in 2017. This growth will put pressure on housing supplies, rising prices, and the demand to develop more walkable communities. Having walkable neighbourhoods as part of sustainable urban design yields social, ecological, and economic benefits, and Bard Golightly of Urban Pioneer Infill believes in the approach that building infill projects that foster interconnectivity and well-being at the architectural and urban level.



Golightly brings more than 30 years of experience in the industry; having served as the past president of the Canadian Homebuilder Association (CHBA) and Chief Operating Officer for Christenson Developments.

“My experience particularly with the Christenson Group fed my interest and passion for revitalization. Christenson did a lot of re-development, and I became aware that this was a great way to help the city grow in a more responsible way,” he says. “Over time, with my partner, who also has over 30 years of experience, we decided to start Urban Pioneer Infill with the idea of being able to provide a high quality and environmentally responsible build. My experience with the Home Builders Association exposed me to a lot of good thinking about how housing doesn’t have to be the way it’s always been, which has been focused on continued outward growth. There is substantial housing stock in Edmonton’s mature neighbourhoods that has reached its useful life and needs to be replaced or rebuilt. In doing so, we can capitalize on the existing infrastructure. All these things attracted us to residential infill.”

Pride in the details

Collaborating with their clients, whether for a new home or a renovation is paramount with Urban Pioneer Infill and they work hard to develop a dynamic response to the site and to their client. The company has streamlined the process to the highest degree, ensuring a building experience replete with integrity and a focused delivery.

“We build everything to a high standard, and we are both design and budget driven,” he says. “The collaboration with clients is very important and we spend a lot of time with them up front, working through the design to make sure they get what they want. And the other part is budget. We create very detailed budgets which work hand in hand with all design decisions. By the time we get to the design the client wants, we’ll have a full budget and contract for them explicitly laying out what they’re going to get with their home. We probably take a little longer than some other builders to get to that point, but what we’re trying to do is do our best to minimize surprises for the client.”





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Urban Pioneer Infill takes its leadership duties seriously and is committed to developing communities that are environmentally friendly and energy efficient. “Everything we do is certified Built Green, which is an environmental building system for builders, we made a conscious decision to certify our homes. We use Built Green Canada’s Third-Party Certification to meet the compliance requirements and energy performance. Our homes are more durable and more comfortable. Beyond using less energy, our homes use less water, less electricity, and improves indoor air quality.”

Golightly credits Urban Pioneer Infill’s success to the knowledge, skills, experience, and dedication of the partners, their team and roster of subcontractors they have built long lasting relationships with. “We’re not a big company, we have a very tight team and have a strict set of criteria when we’re designing the spec. We spend a lot of time internally going over the plans and making sure everybody understands what it is we’re doing and what level of quality we want,” he says. “We’re very proud to say we have a very strong team of sub-trades, and we tend to be quite loyal to them. We communicate with our trades frequently about the project to ensure we are all on the same page and that together, we end up delivering high quality homes with every build.”

Architectural approach

For infill sites to achieve both livability and functionality, they need to be designed with great care and imagination. A key component of Golightly’s philosophy is the importance of incorporating design elements within existing neighbourhoods that respect and enhance existing residential patterns and developments while reinforcing the structural and functional relationships of the neighbourhoods.

“When we contemplate buying a lot in an infill neighbourhood, the first thing we look at is the design aesthetics in that area. What’s up and down the street, what’s up and down the block, and what’s in the neighbourhood overall. We don’t copy, we compliment what’s already there with a home offering what today’s home buyer is looking for. After assessing the current surroundings that the spec will be integrated into, we determine the best creative approach that will help the home establish a connection with the surrounding area.”





As an example, Golightly points to a recent duplex build - Fulton Place. Targeted to young professionals and mature adults, Fulton Place is in southeast Edmonton on a well-established residential block of mostly single detached homes built in the mid-to-late-1950s and early 1960s. "Fulton Place is a good example of combining an infill development with a mature neighbourhood. It has an impressive presence due to the treatment of the façade, which incorporates both wood cladding and brickwork that blends naturally into the existing neighbourhood design. That entire area is starting to change and revitalize either with new builds like what we're doing, or several people that are renovating their home in the neighbourhood."

Leading the way

Infill construction can be a very challenging process that involves permitting, zoning, demolition, and sometimes, historical preservation challenges along with a good deal of diplomacy when dealing with planning/zoning officials and neighbours. For the process to succeed, it requires builders and local officials to work together to provide a broader diversity

of housing options and a flexible approach to infill development.

"In Edmonton, our city direction is to have a minimum 25% percent infill, so the city really does support and encourage infill development. We work almost exclusively on developing Class A applications required by the Edmonton Zoning Bylaw that centers around; single detached homes, or semi-detached homes, with the purpose of encouraging better construction practices and supports the city's Infill Roadmap. Part of our advantage is that we have 30 plus years' experience in this industry, so we have a long-standing relationship with the city. The processing times for infill builds do take longer, however the city is trying to improve the permitting process timelines and consistency. We won't colour outside the lines regarding pushing the height or the size of the house according to the city bylaw, and we work hard at introducing ourselves to the neighbours and making ourselves available when people have questions throughout the process."



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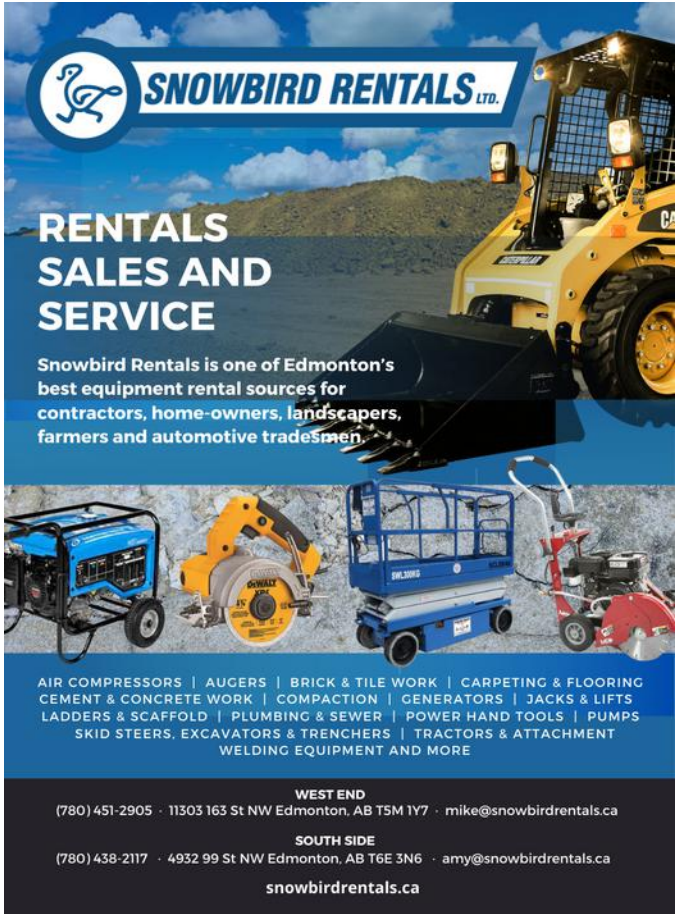
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Welcoming communities

As Edmonton's urban renewal specialist, Urban Pioneer Infill not only benefits from a streamlined process and commitment to high building standards within the company, but also from a clear and united approach when it comes to their short-term and long-term future. "We have a steady growth plan, and we're increasing our volume over the next 5 years. We have a site in the Inglewood neighbourhood where we're set to build a three-plex development which will be new for us. They will be stylish and affordable homes consisting of 3 two-storey units, 3 bedrooms, 2.5 bathrooms, with over 1500 square feet. With Inglewood, we can bring an outstanding project in a mature community that is very walkable and has easy access to the university area, downtown, and the river valley.

We're also exploring the idea of getting involved in the purpose-built rental market. Edmonton's rental market is experiencing a boom as home prices rise and younger adults look for homes that offer more flexibility and lifestyle options. It's tough, especially for the first-time home buyer to get into the market. So, as we develop our strengths and capacity, one of the things we're looking closely at is how we can deliver a variety of affordable program options to the market."

One thing that is sure to remain constant at Urban Pioneer Infill is the company's approach and clear vision for infill, redevelopment, and revitalization in areas targeted for growth and reinvestment. "We are very excited to be able to contribute to neighbourhood revitalization. Through our work we are creating thoughtful densification. This ultimately brings more people back into our mature areas and that means a positive impact across the community, including increased school enrolments, better use of local parks, as well as bringing in new and diverse clientele for existing and new local shops and services. All of this means more activity on the sidewalks as folks walk their dogs or stroll to the local coffee shop. Not only does this make great environmental sense, it also brings life and energy back into these well-established communities."



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TURBOFARMER 65.9

Manulift launches the fast and powerful Merlo Turbofarmer 65.9 telescopic handler in Canada



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HANDLER

MANULIFT breaks new ground in the Canadian market with an exceptional new telescopic power equipment for the industrial and agricultural markets: the TurboFarmer 65.9. Telescopic handlers can compensate and make up for certain productivity deficits. Considering the lack of manpower availability that we are experiencing these days, it is no surprise that companies are using them more and more" continued Mr. Drolet. Thanks to its mixed use, the TurboFarmer 65.9 will meet all the challenges in terms of handling and moving very heavy loads.

Michael Waldner of Truss Community in Manitoba, who owned the very first TF65.9 unit long before its official arrival in Canada, said this new piece of machinery will meet the growing needs of his company, which manufactures and stores huge prefabricated roof structures. "This telescopic handler is a tool that will allow us to increase our productivity tenfold on a daily basis," he said.

In an effort to lighten the ever-increasing burden of handling and moving heavy loads in all industries, MANULIFT is establishing itself as a performance gas pedal with the TurboFarmer 65.9 from world-renowned equipment manufacturer Merlo, for which it has exclusive distribution in Canada. The company's president and CEO, Martin Drolet, said that this new product is a piece of equipment that will revolutionize the daily lives of businesses.

Maximum load capacity:
6,500 kg / 14,330 lb

Maximum lift height:
8.8 m / 28' 10"

Capacity at full lift height:
6,500 kg / 14,330 lb

Capacity at full forward reach:
2,000 kg / 4,410

"The TF 65.9 is truly a unique model, designed to handle the most difficult jobs. Its load capacity of 6,500 kg, in addition to its great maneuverability in tight spaces, makes it one of the most compact and efficient machines for repetitive and robust tasks," said Mr. Drolet in a burst of enthusiasm for its maneuverability and operating speed, which give it almost Formula 1 performance status.



"Telescopic handlers can compensate and make up for certain productivity deficits. Considering the lack of manpower availability that we are experiencing these days, it is no surprise that companies are using them more and more" continued Mr. Drolet. Thanks to its mixed use, the TurboFarmer 65.9 will meet all the challenges in terms of handling and moving very heavy loads.

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ROADMAP TO NET-ZERO



Cement
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F

or decades now, the Canadian cement and concrete industry has been engaged in reducing its carbon footprint and creating more sustainable

and lower-carbon solutions for Canada's building industry. Today, we're accelerating our actions towards net-zero concrete.

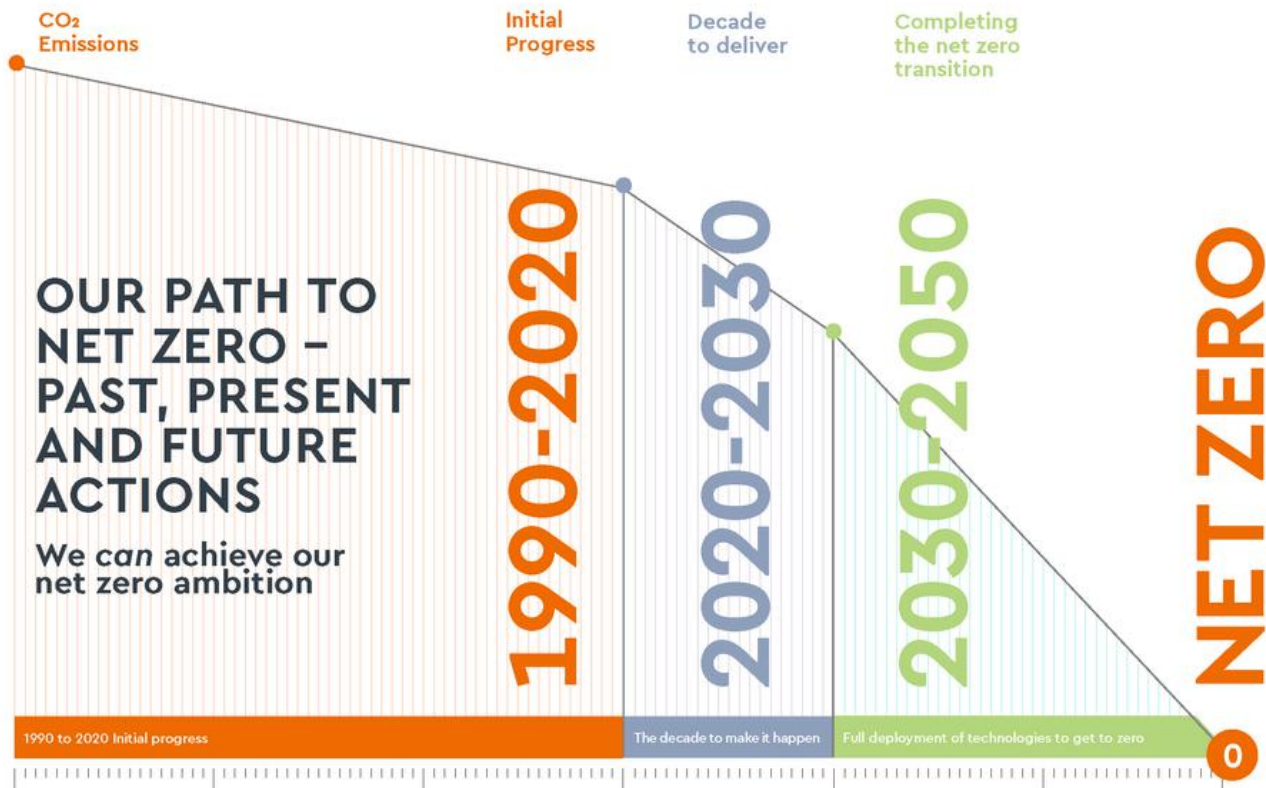
Over the past 30 years, we've improved our manufacturing energy-efficiency by 20% and we've introduced lower-carbon cements, like Portland-limestone Cement, which reduce emissions by up to 10%, as compared to regular cement.

We're substituting fossil fuels with low- or zero-carbon fuels—by-products from other industries and processes—reducing our carbon footprint and supporting a more circular economy. We're leading the way on carbon capture, utilization and storage, with several Canadian cement facilities already well advanced in the implementation of these promising, new technologies.



Most exciting of all, we're charting our roadmap to net-zero concrete by 2050, with an established collective milestone target to reduce the carbon intensity of cement by up to 40% by 2030 — which means reducing GHGs by over 15 MT cumulatively by 2030.

The Canadian Cement and Concrete Industry 2050 Roadmap to Net-Zero Concrete will be tailored-made for our economy and policy environment while closely aligned with the Global Cement and Concrete Association (GCCA)'s Roadmap for Net Zero Concrete released in October 2021.



Most exciting of all, we're charting our roadmap to net-zero concrete by 2050, with an established collective milestone target to reduce the carbon intensity of cement by up to 40% by 2030 – which means reducing GHGs by over 15 MT cumulatively by 2030.

The Roadmap will highlight the Canadian cement and concrete industry's significant acceleration of decarbonisation measures. It will set out the levers and milestones needed to achieve net-zero across the whole lifecycle, from cradle to cradle. It will highlight the important contributions required from designers, contractors, developers and clients in the use of concrete in the built environment. And it will articulate the policy, investment and other supports needed from the government at the federal, provincial and local levels.

Carbon capture by our industry at our industrial plants is included amongst our actions to reduce carbon emissions to zero. Offsetting measures such as planting of trees or other nature-based solutions are not included in the calculations to get to net-zero.

These offsetting measures are seen in some countries and regions as significant contributors to climate mitigation, but at a global level are not accepted within net-zero definitions. Carbon-neutral, a term which we've previously used, has the same meaning as net-zero as defined above. Concrete refers to all cement-based products including mortar, render, cement-based plasters and precast cement-based products such as masonry units and cladding products.

In May 2021, the CAC announced a partnership with the Government of Canada to advance global leadership in low-carbon concrete production. This partnership supports the development and implementation of our industry's 2050 Roadmap to Net-Zero Concrete, which will provide our industry with guidance on the technologies, tools and policy needed to achieve net-zero carbon concrete by 2050.

This vital work is being conducted by an Industry-Government Working Group led by the CAC and Innovation, Science and Economic Development Canada (ISED) with support from the National Research Council (NRC), the Standards Council of Canada (SCC) and other government departments.



"Providing a quality product that reflects affordability is at the forefront of our decision making when determining where to build."

Gobi Singh

Bella Vista in Innisfail

Bella Vista is a beautiful master-planned community that embraces the open country views right out of your neighbourhood window.



Q+A

BUILD CANADA MAGAZINE

IN CONVERSATION WITH GOBI SINGH
OWNER | HOMES BY CREATION

A Better Building Experience

Homes By Creation has built a strong reputation as an industry leader that is continuously striving to deliver the highest possible design standards in their projects that reflect the needs and desires of their clients. They go beyond giving people a better place to live: distinctive communities of lasting value are created, a solid return for homeowners and investors is delivered, and the culture of respect and empowerment is forged for its employees. Build Canada Magazine got the opportunity to speak with Owner Gobi Singh about the company's key team and core values, their dedication to quality, and the pursuit to crafting valued communities that families can be proud to call home.

Can you discuss Homes By Creation's History?

GS: Creation's principals have been leaders in the land/real estate development industry since 1993. Under the stewardship of these principals, they grew one of the most successful land/real estate development companies in western Canada to \$500 mil in assets. With over 60 years of combined experience in the home building industry; the company's personnel have sold and built over 1000 homes and lots. With our staff experience, we have developed some of the most innovative development concepts and designs that have provided Creation an edge in the industry.

Right- The Cedar is a two-bedroom, two-bath bungalow. This open concept home measures 1100 sq. ft and features an double rear laned detached garage.

"Our specialty and in-depth experience are in Master Planned Communities that include unique amenities and a strong sense of community."

_____ Gobi Singh



Do you feel having a strong team leads to that success?

GS: Yes absolutely. Additional to an effective and diligent sales and construction teams, Creation has over 40 years of experience with financial and risk analysis. With a team of 20 people, we have a unique skill set which includes both strategic and tactical perspectives required for development success. Our specialty and in-depth experience are in Master Planned Communities that include unique amenities and a strong sense of home. Our business model is to develop Master Planned Communities in Alberta's rural centers that have key economic growth factors. The Creation Team has a history of community development involvement, such as helping provide funding for recreational facilities and other philanthropic activities.

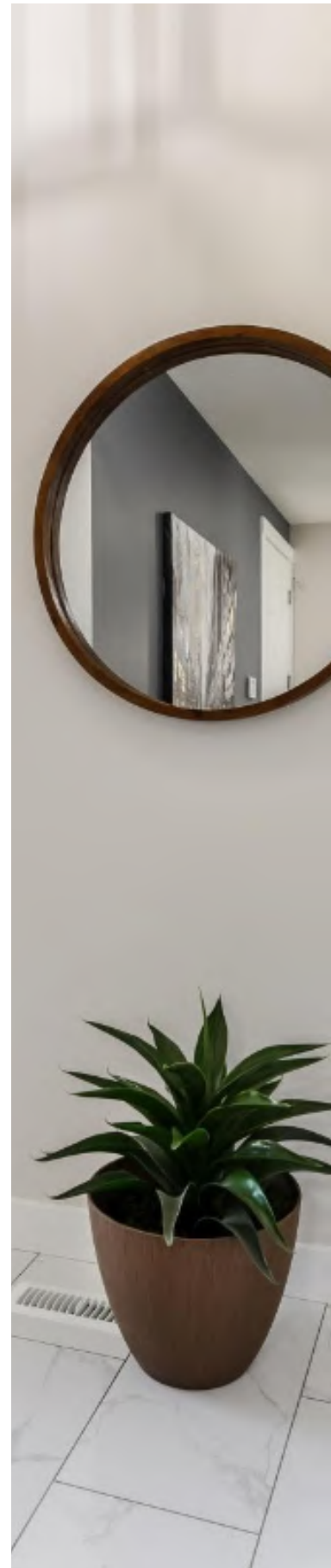
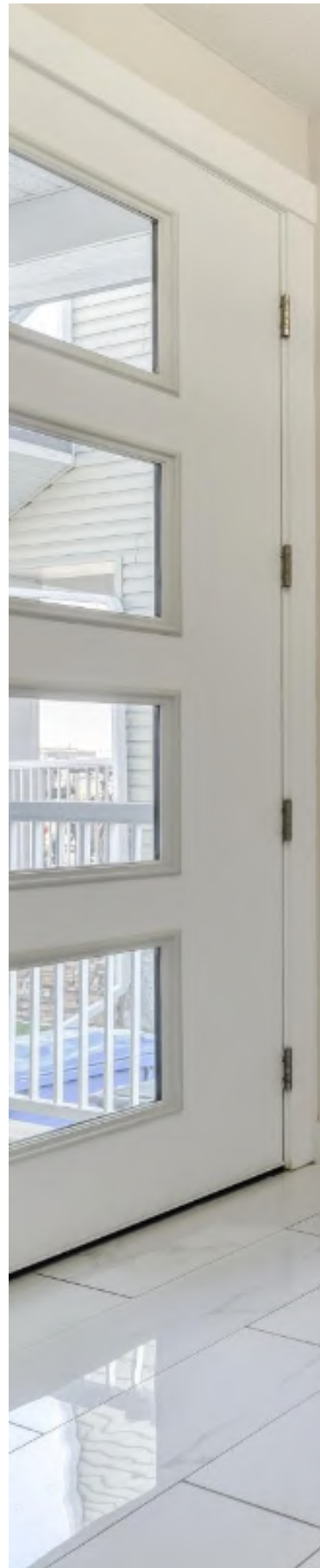


What are your core values?

GS: Creation's focus is to provide quality housing which reflects a functional design that maximizes efficiency, affordability for our prospective home buyers and accessibility to urban centers in each of our communities. These are overarching principals that we strive to provide.

What is the process for selecting a team of subcontractors, partners, and consultants for a project?

GS: We evaluate each parties past experience and history in achieving quality and reliable work together. This is to say that we rely on our own internal sophistication, gathered through experience, to choose the right team when developing business relationships. We demonstrate ongoing loyalty to our partners and contractors as we evaluate new business endeavours in a manner that benefits everyone down to the end user.





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*Bella Vista show home (Lotus model)
located at 4231 63rd Avenue in Innisfail
AB.*





How do you determine where to build, and how do your core values play into that?

GS: Providing a quality product that reflects affordability is at the forefront of our decision making when determining where to build. Over the last 2 years we have seen an unprecedented amount of growth in new areas throughout Canada, which was triggered by historically low interest rates, changes in working conditions due to the global pandemic and a broader desire by demographics to live in affordable, liveable and walkable communities. These factors (among others) are evaluated and weighted against market interest to determine where to build.

"As a vertically integrated developer-builder, we have greater control over the cost between the lot and house which provide us with an opportunity to establish affordability for prospective buyers."

Gobi Singh



*Lotus model. 2121 sq. ft. 2 storey, 3 bedroom
+ 2.5 bath + flex room (den/office) with a 3
car front drive garage. Starting at \$669,900.*



How do you remain competitive in this market where we have seen a record number of building permits issues across the country?

Here in Alberta, we have seen consistent inter-provincial migration since late 2020, from provinces such as Ontario and BC where there is a strong desire to break into homeownership as a result of being priced out of the Greater Toronto and Greater Vancouver markets. Combining this migration pattern along with building in areas that are smaller yet growing and a close commute to urban centers, we are able to offer a very affordable product which maintains our competitive edge.

As a vertically integrated developer-builder, we have greater control over the price point between the lot and house which provide us with an opportunity to establish an affordable price point for prospective buyers. We also work with a great group of contractors and consultants that are quite competitive respectively in their own right which allows for the end buyer to benefit at the final price point. This operating framework has allowed us to double our building operations over the last 2 years to the point that we now have consistent buyers from the Greater Toronto and Vancouver markets moving to Calgary and Alberta at large, for what they refer to as a "pragmatic lifestyle".



What are some of your current projects?

We are engaged in several exciting projects such as **Iron Landing** Phase 5 in Crossfield, Alberta. Iron Landing comprises of 119 lots and homes, providing a range of houses including: duplexes, triplexes, single family front drive and rear lane. Homes range between 1200-2400+ square feet and start in the low \$400's. Iron Landing is located 15 minutes from local recreational facilities, 20 minutes from major shopping centers and 30 minutes from Calgary International Airport.

We also have **Saddle Ridge Crossing** which comprises of 9 acres and is located in NE Calgary. SRC is a transit oriented mixed-use site located close to two Light Rail Transit stations. The site will produce 300 multi-family units along with approximately 120,000 ft. of commercial-retail space. The anticipated timeline to break ground for this project is Spring/Summer of 2023.



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Hybrid Timber Floor Systems

Replacing steel and concrete with wood — which has significantly less embodied carbon — means that tall buildings could be designed to be lower in embodied carbon. The Hybrid Timber Floor System (HTFS) provides greater spans that are ideal for open floorplates or mixed use.

NEWS PROVIDED BY
Natural Resources Canada

EllisDon and DIALOG's patent-pending Hybrid Timber Floor System is an innovative approach to the existing concept of hybridizing structural materials.



Canada is advancing toward net-zero through innovations in forestry and construction. The increased demand for renewable building materials is transforming design and architecture from coast to coast to coast. This transformation includes innovations in the combination of cross-laminated timber (CLT) and post-tensioned concrete.

The Honourable Jonathan Wilkinson, Minister of Natural Resources, is pleased to announce a combined Government of Canada contribution of over \$550,000 to the Hybrid Timber Floor System Project led by EllisDon and DIALOG. The project is funded through the Green Construction through Wood (GCWood) Program, a program that encourages the greater use of wood in construction and supports Canada's transition to a low-carbon economy; and the Investments in Forest Industry Transformation (IFIT), a program that supports its recipients in de-risking the implementation of innovation in the Canadian forest sector.



EllisDon and DIALOG's patent-pending Hybrid Timber Floor System is an innovative approach to the existing concept of hybridizing structural materials. The Hybrid Timber Floor System, a mixture of different materials such as concrete and steel combined with mass timber, offers a reduction in carbon and an increase in building design possibilities. As a composite of post-tensioned concrete, CLT and a structurally engaged topping, it also allows mass timber-based floor systems to be used in non-residential long-span construction that had previously been limited to traditional building materials.

According to EllisDon and DIALOG's study, this Hybrid Timber Floor System means mass timber can be used to meet the clear spans often desired in the commercial and institutional sectors while delivering exposed finishes. This ability means greener construction options, meaningful use of local natural

According to EllisDon and DIALOG's study, this Hybrid Timber Floor System means mass timber can be used to meet the clear spans often desired in the commercial and institutional sectors while delivering exposed finishes. This ability means greener construction options, meaningful use of local natural resources and benefits to the bio-economy.

The EllisDon and DIALOG study is currently underway at EllisDon's modular fabrication facility, located in Stoney Creek, Ontario; the facility is an industrial building of over 27,000 square metres that is fully fit for prefabricated volumetric modules and panelized building components. The project will be completed later this year, with ongoing full-scale and long-term testing planned post-study.

Natural Resources Canada's IFIT program facilitates the adoption of transformative technologies and products by bridging the gap between development and commercialization. IFIT-funded projects help diversify the forest product market through high-value bioproducts such as bioenergy, biomaterials, biochemicals and next-generation building products. The GCWood program supports innovative low-carbon wood construction as part of Canada's goal of reaching net zero by 2050. The program increases awareness of and capacity for innovative tall wood buildings, timber bridges and low-rise wood buildings.

"The hybrid panel presents a unique value proposition allowing for carbon sustainability, the ability for offsite prefabrication and long-span exposed ceilings desired by many commercial tenants. Thanks to the support of the Government of Canada, we are making exceptional progress to move toward a net-zero future by implementing sustainable construction materials in new and exciting applications," states Mark Gaglione, Director, Building and Material Sciences, EllisDon.







WHELAN
CONSTRUCTION



BUILDING TOGETHER

**WHELAN CONSTRUCTION
LAYS THE GROUNDWORK
AS VANCOUVER'S
PREMIERE GENERAL
CONTRACTING AND
CONSTRUCTION
MANAGEMENT FIRM.**

With any construction project, project management is crucial. The process of communicating, strategizing, and planning from the beginning to the completion of a project can be an overwhelming task. To keep a project on track, metrics and project goals must be properly managed to meet each client's unique requirements. Enter Vancouver-based Whelan Construction, a general contracting and construction management firm that operates across multiple market sectors including institutional, healthcare, light rail, airport, renewable energy and building performance upgrades.

A cursory scroll through past projects—from the 100-bed community nursing unit in Loughrea, Co. Galway, Ireland to the Pier D Expansion project in Vancouver—demonstrates how Whelan's founder, Brian Whelan, has been engaged in many notable and challenging projects over his 22 years in the industry. "I've enjoyed both the successes and challenges of working on complex projects in Ireland and Canada. Our experience has given us a clear vision of what a client needs from a contractor and construction management company," he states. "We consider ourselves a proactive, problem-solving business, with a focus on consistent delivery and quality of service."

The company's proficiencies of quality, service excellence, and due diligence are interconnected. This is particularly evident in Whelan's safety management system which lays the foundation for how the team defines excellence on their projects. "Safety is, without a doubt, a key core value for us. It's something that we've pushed to the forefront of our approach. We want to educate, coach, and model the correct way to ensure we improve efficiency and performance while keeping everyone safe," explained Brian.

Communication is essential. The lack of it is one of the fundamental problems when it comes to safety. There's a lot of planning, risk assessments, document management and safety training management required before each project begins. Whelan ensures all trade partners are completely aligned with its safety procedures throughout the entire project.

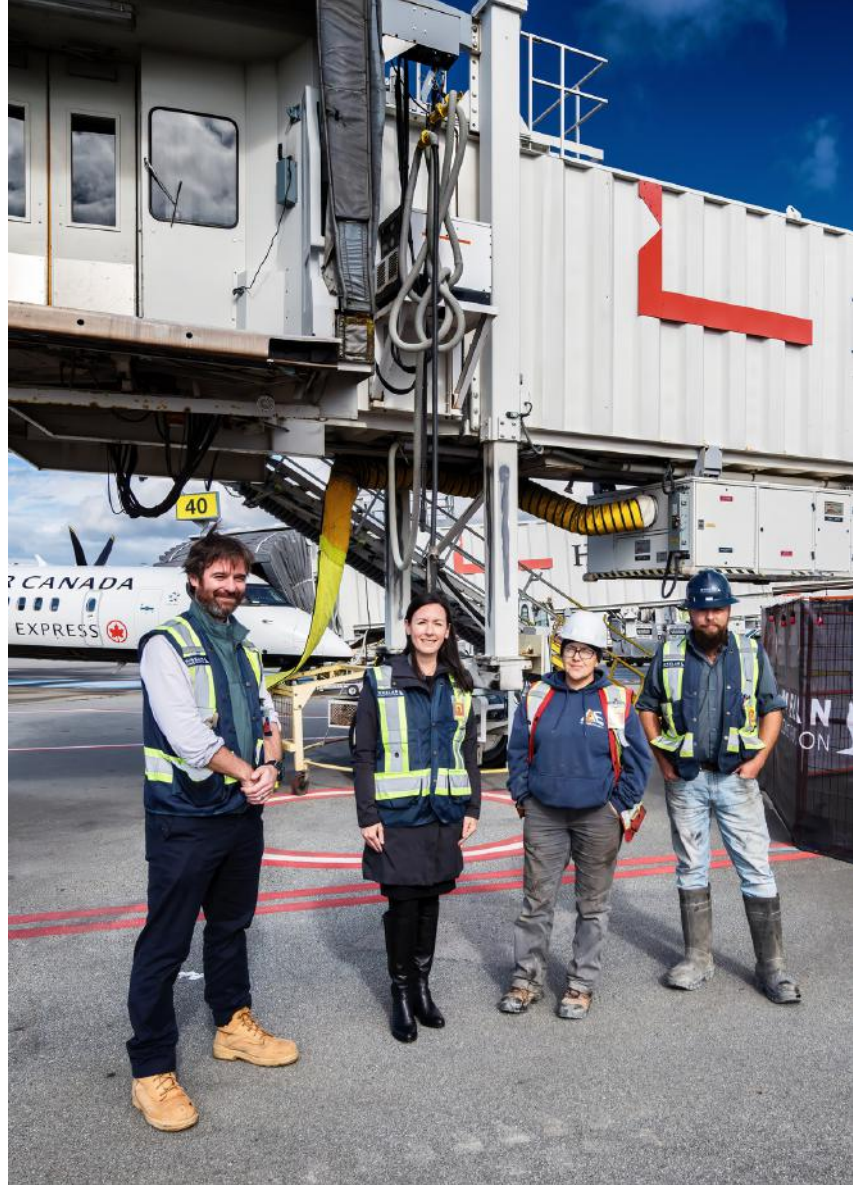
Partnering with the best

Whelan values partnerships as the team recognizes that a best-of-breed approach delivers the best possible outcome for clients. "One important thing that separates us from other contractors is that we have a model whereby we price projects with our trade partners. We don't tender it out to five different trades like other general contractors. Instead, we carry the people who are best suited for the project. It's a perfect model for us and we've been successful to date with it."

Building solid foundations

After graduating from the Technological University of Dublin and spending some time at ABM Design and Build in Ireland, Brian Whelan moved to Vancouver with his family in 2013, where he continued to hone his skills and expertise working on a variety of project types, many of which were based at Vancouver International Airport.

He started Whelan Construction in 2021 and extended its reach into the Metro Vancouver, Fraser Valley, and Squamish-Lillooet regions. Whelan highlights their approach to be open and transparent with clients as a differentiator, and he gave an example of this in action.



"A US-based general contractor, Lease Crutcher Lewis, approached us about a large structural seismic upgrade package for an existing office building in the heart of Gastown," he said. "They asked us for recommendations with regards to constructability and asked for a turnkey proposal given our experience in the field. We highlighted some solutions and constructability recommendations given the design was at 75% and we made recommendations to provide them a streamlined turnkey proposal that better suited their needs. Whelan was successful in being awarded the structural seismic upgrade project. The project will increase the existing cable capacity which allows for higher bandwidth services, further enriching Vancouver's position as a growing global tech hub."



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Whelan underscores the importance of having an organized construction process and ensuring the client's expectations are met during every step of the process. "There are various building models out there and it can be confusing for clients. We simply have a construction management model and a general contracting model. For all our contracting jobs, whether it's a lump sum contract or construction management contract, we use the same simplified model to keep things transparent for the client.

Considering the highly technical and complicated nature of its work, it's no surprise that Whelan embraces technology across its own operations. "We built Whelan as a next-generation construction company with the best-in-class technologies to give us a competitive edge. Everything is cloud-based and we've automated some manual, repetitive back office tasks to save time and reduce the risk of human error. Our system unites office and field teams from the design phase to the construction phase and into operations."

Exciting projects

Growth is crucial in the early stages of any business. Whelan Construction has it covered with several outstanding community projects ongoing across Vancouver and the Lower Mainland. "We recently finished phase one civil scope of works of the Vancouver International Airport bridge replacement project. We conducted all the excavation, demolition, new deep utility work and the installation of utilities to rehabilitate and upgrade the infrastructure to meet current and future needs. We were awarded phase two of that project which consists of the installation of 6 new bridges at the terminal gates in both domestic and international buildings. We are completing the base building, as well as all the mechanical and electrical scope of work, so we're excited to start that," said Brian.

Whelan also just finished a pre-construction seismic upgrade for Vancouver Airport Property Management and has been awarded the Air Canada Jazz refurbishment project.



The road ahead

Demand for Whelan Construction's services remains high and Brian is optimistic about the company's future prospects based on its trajectory.

"We will be focusing on a lot on structural upgrade projects in Vancouver and surrounding areas and hopefully we will have an opportunity to partner with Fraser Health Authority to assist in building and equipping their hospitals with new buildings, more operating rooms, and expanding their specialized care options to meet the needs of our communities," said Brian.

In the long term, Whelan plans to invest in offsite modular construction. "Coming from Ireland, where we use a lot of system-build solutions for health care facilities, schools, and social housing, I see a big market for it here in Vancouver," explained Brian.

"One of the big things for us is to grow slowly and deliberately. We want to bolster and grow what we have built so far so having the right people on the team is a priority for us," he says.

In the next five years Whelan plans to have 30-40 people operating in the field to meet demand for its services. Brian concluded, "We're excited to see where the future takes us. Our people—including our valued trade partners—will ensure Whelan continues to build successful, sustainable projects across Vancouver for decades to come."

Construction Technology is Reshaping the Industry

Below we'll walk you through what construction technology is and talk about some of the latest trends in the industry. We'll also go over just how construction technologies are impacting the industry in all its forms.

Success in construction requires the highest-quality building materials and methods, faster build speeds, a skilled workforce, and on-site efficiencies that speed up the project and keep workers safe. This increasingly requires the adoption of new technologies, which are often cloud-based and help with scheduling and workflow management, typically in real time. Technology will continue to see greater adoption as construction leaders deal with improving productivity, eliminating inefficiencies, and adapting to a younger workforce of digital natives that expect to work with technology.



AUGMENTED REALITY

AR can layer certain details and elements onto a building plan so stakeholders can get a better understanding of the project. AR can also be used to showcase 3D models and even provide tours, giving clients a solid idea of what a building would look like before it's built. AR can streamline collaboration in remote environments by letting teams share 3D images and videos with team members who aren't on site.



CONSTRUCTION WEARABLES

Construction is one of the riskiest industries to work in, with accidents like falls and collisions with equipment accounting for hundreds of worker deaths each year. Wearable technology offers the possibility of added safety for workers, potentially preventing injuries and fatalities across the industry. Smart Boots, Smart hard hat, and Power gloves are already available today, and other wearables, like smartwatches, monitors and goggles, improve lone worker safety, check for fatigue and enable contact tracing.



EXOSKELETONS

Construction exoskeletons, or exosuits, are wearable machines with motorized joints that provide extra support and power during repetitive movements like bending, lifting and grabbing. While exoskeletons originated in rehabilitation programs, they are gaining attention as a tool to reduce injuries and increase efficiency for construction workers. Some exoskeletons are powered by electricity and others simply redistribute weight throughout the body, but all of them have advantages for workers performing tough jobs. Though exoskeletons are making strenuous jobs easier for construction workers, the industry is also looking toward construction robots to ease the burden even more by offloading certain risky and difficult tasks to machines.



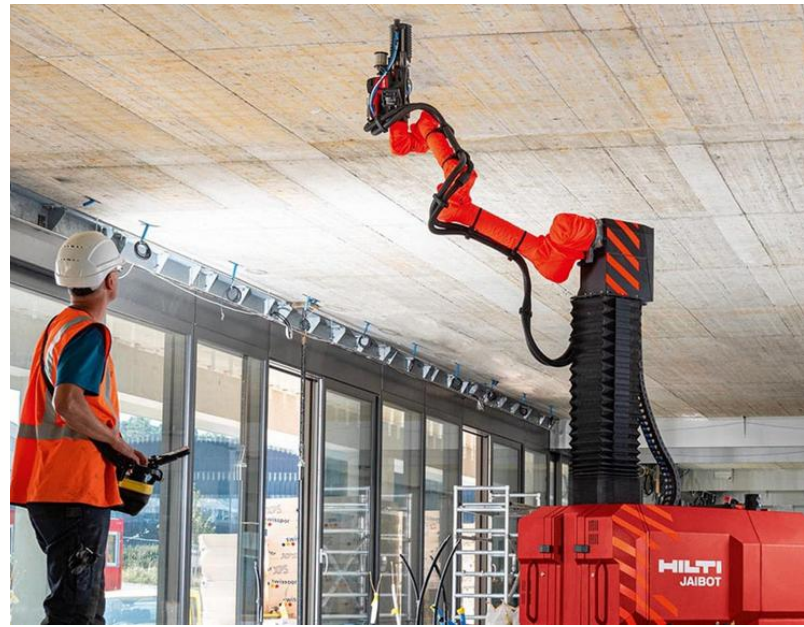
ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) is the ability for technology to make decisions independent of human input, while machine learning is the ability for technology to "learn" from past experiences and big data analysis. Both of these technologies have massive implications for construction, where efficient and intelligent decision-making has notable effects on productivity and safety. Machine learning and artificial intelligence will soon affect every aspect of a construction project, from planning to project closeout. Additionally, AI and machine learning are improving novel methods of building, like modular construction, which is a growing part of the construction sector.



CONSTRUCTION ROBOTS

Construction robots are still a ways off from completely taking over the industry, but several designs and proposals are on the table as the industry considers ways to deal with a labor shortage and the need for social distancing. While robots like this have not yet been widely adopted in construction, other formerly futuristic technologies are already widespread. For example, drones are now a common sight on construction jobs, performing work that would have been cost-prohibitive just a few years ago. Construction robots may be involved in specific tasks, such as bricklaying, painting, loading, and bulldozing. These robots help to protect workers from a hazardous working environment, reduce workplace injuries, and address labor shortages.



DRONES

With data and imagery collected via a drone in the air, users can create 2D and 3D maps, orthomosaics, collect elevation data, and gather volumetric measurements to better plan for, build, and develop projects. The high-quality information collected by a drone also give users the opportunity to view a site in real-time as it progresses, to better manage resources and keep projects on schedule. Additionally, drone technology gives those in the industry the valuable ability to view a project from the comfort of their office without having to physically step foot on a site. This way, many different parties can work together to easily track development and collaborate to improve decision-making.

MODULAR CONSTRUCTION

Modular Construction is an alternative building method in which structures are constructed off-site, delivered in pieces and then assembled by cranes. Because construction of the building happens at the same time the site is prepared, modular construction can be up to twice as fast as traditional projects. Decreased construction waste: Since many buildings are constructed simultaneously in one factory, excess materials from one project can easily be used on another.



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IN CONVERSATION WITH **AL BATEMAN**
PRESIDENT | BATEMAN DEVELOPMENT

Building Inspiring Spaces

Al Bateman is a builder at heart. As owner of Bateman Development, he knows a thing or two about creating unique and exclusive properties in Ottawa. For over 40 years, he has delivered high-design residential projects that inspire clients and communities. We got a chance to catch up with Bateman to talk about Ottawa's robust housing market, the benefits and challenges on infill development, his latest project on Lyon street, and the journey to find the missing middle.

From the foundation to the final touches, what is the best thing about your job?

I enjoy the creative process. You have to be creative with infill developments in particular since every project is a prototype and you never do the same thing twice. Municipalities have moved towards a more efficient use of land, and it is up to developers, designers, architects, planners, and all those involved to continue to make it happen as it moves forward. Over the years infill has provided people with the opportunity to live and experience the inner city. It is a great feeling to hear people compliment you about a project that you did 30-40 years ago.



What is your background, and why did you go into home building as a profession?

I was born and raised on a farm in Southwestern Ontario. My father, brothers and I would build drive sheds, corn cribs, and any other farm buildings. In 1963 our family built a Service Centre on 401 highway when the highway opened between Windsor and Toronto. In 1970, our family built a 43 unit motel on the property across the highway from the Service Centre. I was fortunate to gain experience in a variety of projects at a young age and I like it. I went to school at Western University from 1969 to 1974. Every summer I came back into the building business. I started my own company after my third year in university, doing renovations and additions. I went to York University to get an MBA in 1975. After graduation I went back to run my construction company. In 1981, I moved to Ottawa to expand my business and that is when I started building infill projects.



**What are the hallmarks of a Bateman Development?
What is it that helps you stand out from other
builders in your market?**

With Bateman Development you're going to get a well-built and well-designed product. We have a great reputation for quality and service. Our projects speak for themselves. We have been at it for a long time. It takes a team of architects, subcontractors, engineers, consultants, and material suppliers to produce a quality home. We have some companies that have continued to work with us for over 30 years.

How could you define your architectural approach?

Our architectural approach depends on the site, the neighbourhood and community that we are working in. We use several talented architects who are able to do any type of architectural design that feels right for the site. Compatibility is important but the architectural style should fit the era. A neighbourhood where all the homes look the same isn't very exciting.

What's the average time your team takes to build a home?

Typically it takes anywhere from 12-18 months for the actual construction. The approval process can take the same length of time once you purchase the property, retain an architect, and obtain the necessary permits. It is a process that can take two to three years from idea to completion.

What type of warranty does Bateman Development provide?

Warranties are overseen by the regulatory body of Tarion in Ontario. Every builder of new homes must be registered with Tarion, so there is a standard warranty for every homeowner. Bateman Developments has an outstanding service record.

Is Bateman Developments an energy conscious builder?

We are an energy conscious builder. If you aren't you will be left behind in our industry. Buyers are demanding energy efficient homes. You need to build beyond the building code to match the competition.

Does building in the Capital Regional District have any challenges?

It does. Like most cities there are numerous obstacles to overcome to build infill housing. I am sure it is not unique to Ottawa, but we have had numerous senior officials within the planning and permit departments retire over the last several years. The new generation doesn't have the experience, nor were given sufficient mentoring to take over so it is taking much longer to get approvals. As a result, the time spent waiting costs money, and adds to the short supply of housing.

Are you happy with the progress the city has made in developing areas of high density over the past few years?

It's an ongoing process. On one hand the city wants to increase density because it is significantly cheaper to build homes in existing neighbourhoods. On the other hand, the neighbours and communities don't want things to change. Planning departments must answer to politicians and councillors which is typical of the process. Infill development has surged over the past two decades in Ottawa and communities feel bombarded by the changes. The good infill builder communicates with neighbours and builds exemplary homes. It is remarkable when you look back and see what can be accomplished when communities and developers work together.

What was the biggest challenge a project gave you, and how did you handle it?

Our last project completed in 2020 was challenging because of the site conditions. The lot was sloped to such a degree that the back of the property abutting our neighbours was 20 feet higher than the front. We had to shore the entire back of the site to be able to build the 4-unit project. A number of trades and engineers participated in the design and construction. It was quite a challenge to say the least.

What is a common misconception about infill?

That increased density is not good for neighbourhoods. The majority of infill projects get pushed back because most people do not want to see their neighbourhood's change. Change is inevitable and healthy for all communities. Successful infill can be accomplished when communities, developers and city planners work together.

Why are infill homes important for the Ottawa community?

Infill homes are important for the benefits that they bring to communities. It is the most efficient way to increase the number of homes for any municipality. Existing infrastructure is used. Water, sewer, hydro, streets, are already in place. While there is a place for suburban development the benefits of infill are substantial. By bringing new families into existing neighbourhoods, infill not only revitalizes the physical built infrastructure, it also supports the social well-being of the area. Over the 40 years that we have been doing it we have seen older neighbourhoods transition to diverse, vibrant communities. It is a natural cycle that continues from generation to generation. We have seen tired, rundown neighbourhoods with poor housing stock greatly improved through infill developments.





What do you think are some of the top benefits of infill?

The benefits of infill are widespread. From an economic perspective it is very efficient. Infill uses existing services that are already in place. From a supply perspective it is much faster to provide homes in these neighbourhoods for the same reasons. From an environmental perspective it is much more environmentally friendly because it doesn't take architectural land out of circulation and people aren't dependent on their cars for transportation. A City's downtown and inner-city communities can be revitalized with infill homes. Infill provides better transportation systems and public health improvements when integrated with good city planning.

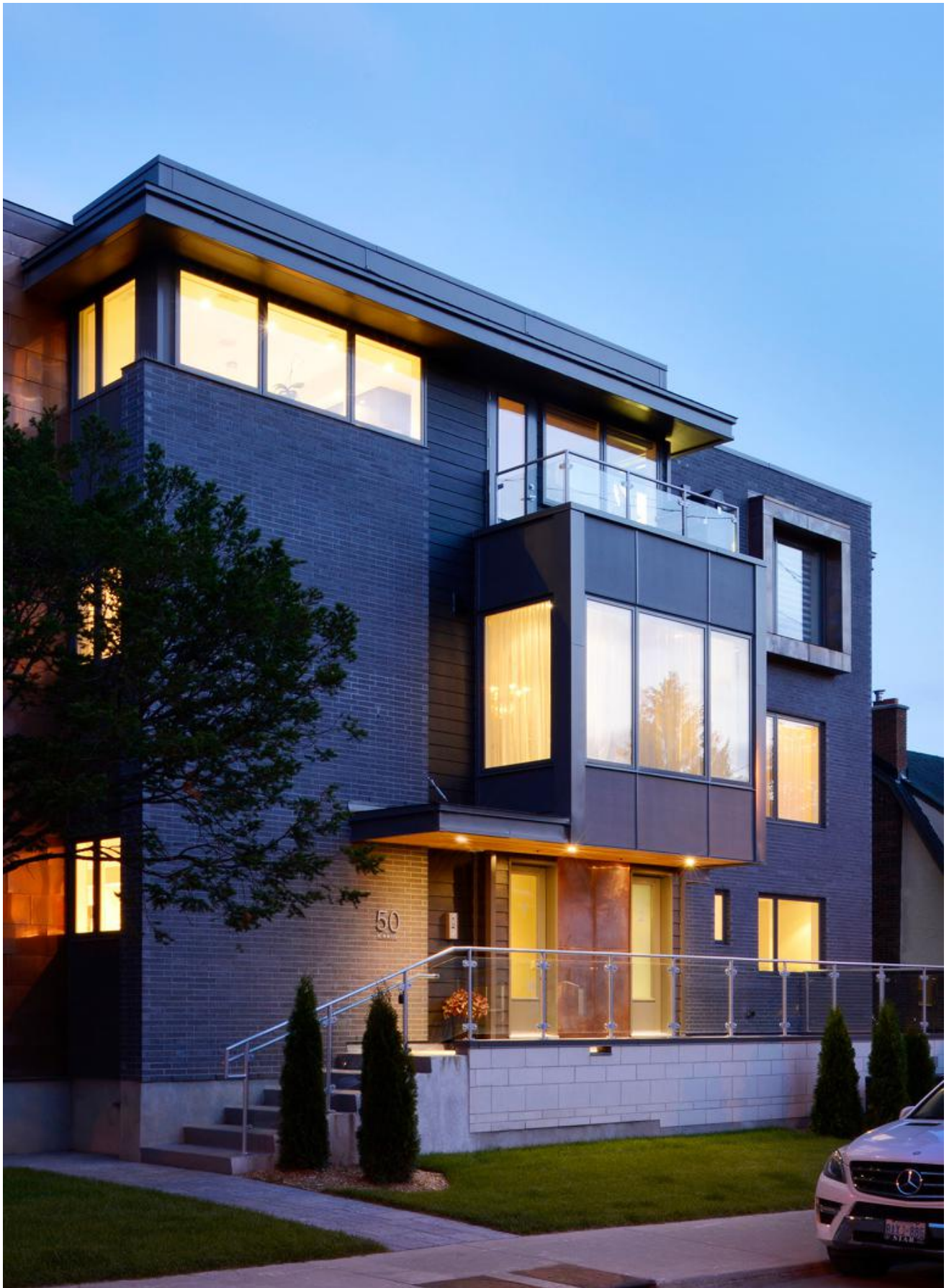
What are some of Bateman Development's current and upcoming projects?

We are just finishing up 2 semi-detached luxury units in the Glebe on Lyon St. The main living floor is an open concept with the kitchen at the core of the room. We installed elevators for an aging population to be able to live comfortably. We are marketing the units at 1.8 million. Our next project will be two single family homes on the Rideau Canal in the Golden Triangle neighbourhood of Ottawa. They are high-end properties on a high-end site. We have another property on Bank Street in the Glebe that is currently one storey retail. Our plan is to build a four-storey structure with 12 apartments above the retail space.

After over 40 years of building, do you have any interest in retiring?

Absolutely not. There's a group of us, all in our 70's that are still working in our industry. I won't take credit for it but one of our group when asked about retirement replied "if you do something that you have been doing for 40 plus years, you must be good at it because you've been able to make a living out of it, and you must like it, so why would you quit." Besides, as long as I've been doing this, I'm continuously learning because nothing ever stays the same in this industry.

For further information or to make your personal appointment, call Al Bateman at 613-859-0933 or email at prestwick24@gmail.com



A night-time photograph of a construction site. Three workers in high-visibility orange and yellow gear and hard hats stand on the left. A large excavator with a red arm is in the center, illuminated by bright work lights. Orange and white striped traffic barrels are placed around the work area. In the background, a sign with the word 'DEER' is visible. The overall scene is dark, with light from the work lamps creating strong highlights and shadows.

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\$16 BILLION SITE C CLEAN ENERGY PROJECT

TBC Hydro's Site C Clean Energy Project will be a third dam and hydroelectric generating station on the Peace River in northeast B.C. It will provide 1,100 megawatts (MW) of capacity, and produce about 5,100 gigawatt hours (GWh) of electricity each year — enough energy to power the equivalent of about 450,000 homes per year in B.C.

As the third project on one river system, Site C will gain significant efficiencies by taking advantage of water already stored in the Williston Reservoir. This means that Site C will generate approximately 35 per cent of the energy produced at W.A.C. Bennett Dam, with only five per cent of the reservoir area. British Columbia Premier John Horgan says completing the Site C dam is in the best interests of residents, despite the project's price tag ballooning to \$16 billion and a completion date stretching to 2025.





\$13 BILLION BRUCE POWER

Bruce Power Refurbishment Project will overhaul all the units of the 6.2GW Bruce nuclear generating station, which is the largest nuclear power plant in Canada. The facility was constructed by Ontario Hydro between 1970 and 1987. Bruce Power Limited Partnership, which consists of OMERS-Ontario Municipal Employees Retirement System, Power Workers' Union, Society of United Professionals and TC Energy (formerly TransCanada Corporation), signed a long-term lease agreement with Ontario Power Generation (OPG) in 2001 to operate the plant.

Bruce Power entered into the Bruce Power Refurbishment Implementation Agreement (BPRIA) with the government of Ontario in 2005 to restart Units 1 and 2, which had been shut down by Ontario Hydro, and refurbish the entire plant in phases. The agreement aims to extend the life of Bruce nuclear generating station's CANDU reactors to 2064.

The refurbishment of the four CANDU reactors at the Darlington nuclear power plant in Canada has now passed the midway point with work beginning at unit 1, Ontario Power Generation (OPG) announced. Unit 2 returned to service in June 2020 following its refurbishment, while work on unit 3 began in September 2020. "The refurbishment team's successful track record on units 2 and 3, combined with detailed planning for unit 1, position us well for continued success," said OPG Senior Vice President for Nuclear Refurbishment Subo Sinnathamby.



\$12 BILLION MUSKRAT FALLS PROJECT

The lower Churchill River is one of the most attractive hydroelectric resources in North America and is a key component of the province's energy resource portfolio. The project's two sites at Muskrat Falls and Gull Island have a combined capacity of over 3,000 megawatts (MW).

With the completion of the Muskrat Falls Project, Newfoundland and Labrador will be a leader in clean energy. It is estimated that power from the project can displace three to four megatonnes of carbon dioxide annually from thermal generating facilities. This will reduce greenhouse gas emissions and the carbon footprint throughout Northeastern Canada and the United States — equivalent to taking almost one million cars off the road for one year.

The Muskrat Falls Project includes construction of an 824 megawatt (MW) hydroelectric generating facility, over 1,600 km of transmission lines across the province and associated electrical equipment. In addition, EmeraNL has constructed the Maritime Link between Newfoundland and Nova Scotia. The province's public utility, Newfoundland and Labrador Hydro, will now borrow \$1 billion. The debt will be guaranteed by the federal government, which means being able to optimize Ottawa's AAA credit rating, at a time when interest rates are already low.

\$11.9 BILLION EGLINTON CROSSTOWN LRT

The Eglinton Crosstown is a light rail transit line that will run along Eglinton Avenue between Mount Dennis (Weston Road) and Kennedy station. This 19-kilometre corridor will include a 10-kilometre underground portion, between Keele Street and Laird Drive. The Crosstown will have up to 25 stations and stops. It will link to 54 bus routes, three subway stations and various GO Transit lines. The Crosstown will provide fast, reliable and convenient transit by carrying passengers in dedicated right-of-way transit lanes separate from regular traffic.

The vehicles will use the PRESTO proof-of-payment system and will have multiple entrances and low floors to ensure fast and accessible boarding. Light rail vehicles can travel as fast as 80km/hr. However, actual speed is determined by the spacing of the stops and the speed limits of surrounding traffic.

The projected ridership of the Crosstown is 5,500 passengers per hour in the peak period per direction by 2031. The capacity of the Crosstown vehicles is 15,000 passengers per hour per direction. Cars can be removed or added easily, thus providing the flexibility to accommodate ridership demands. Light rail transit is a proven technology that is used around the world, including extremely cold places such as Edmonton, Calgary and Minneapolis.



\$16 BILLION GORDIE HOWE BRIDGE

The Gordie Howe International Bridge project is the largest and most ambitious bi-national infrastructure project along the Canada-United States border. It will provide for the safe, efficient and secure movement of people and goods across the Detroit River to support the economies of Ontario, Michigan, Canada and the United States. This project will provide an additional crossing option at one of the busiest Canada-U.S. commercial border crossings. The bridge will be publicly owned by both Canada and Michigan, and delivered by Windsor-Detroit Bridge Authority through a public-private partnership (P3).

The construction of the Gordie Howe International Bridge will directly create thousands of jobs in Ontario and Michigan. It is anticipated that local businesses will supply goods and raw materials during construction, which will provide regional economic benefits and additional employment opportunities in the area. Many permanent jobs will be created for the operation and maintenance of the bridge and Ports of Entry once open. With direct connections to Ontario's Highway 401 and Michigan's Interstate 75, the bridge will provide the capacity to increase trade and encourage investment between Canada and the U.S., supporting the largest bilateral trading relationship in the world.



\$4.6 BILLION HURONTARIO LRT

The \$4.6 billion Hurontario LRT, which will be renamed the Hazel McCallion Line, a critical 18-kilometre north-south connection between Port Credit and Brampton, is on track with plenty of work on tap for 2022.

Crews will be installing a tunnel underneath the GO rail tracks at Port Credit station and building a new underpass under the QEW at Hurontario Street. New flood walls are also being erected to protect Mary Fix Creek. "The delivery of the Hazel McCallion Line is making great progress," says Matt Llewellyn, a spokesperson for Metrolinx. "Significant pieces of work were completed in 2021, creating for an exciting start to 2022."

Last year crews installed about 7.5 kilometres of new watermain, sanitary and stormwater sewers along Hurontario Street. The 11,000-square-metre Operations Maintenance Storage Facility (OMSF) south of Highway 407 and west of Kennedy Road is nearing completion, with the internal fit-out now underway. It will have an operating centre that will control the LRT system. Tracks will be installed in the yard this year.

"The building is nearing completion, with much of the structural steel already installed," says Llewellyn. "The building will be complete later this year and fully commissioned by spring 2022."



\$2.4 BILLION NEW HOSPITAL FOR SICK KIDS

broke ground on November 2019 on the first of our two buildings. The first will house the SickKids Learning Institute with 1,200 world-class trainees, a Simulation Centre for hands-on teaching, and provide our 6,000 professionals, management and support staff with up-to-date spaces to do their best work. The second building will house critical-care and inpatient units, adding 437,415 square feet. It will reflect the very latest in medical design: private one-family rooms, dedicated mental-health beds, a state-of-the-art blood and marrow/cellular transplant therapy unit, specialty operating theatres, advanced diagnostic imaging facilities, and a vastly expanded emergency department.

B+H Architects' proposed design for the new 22-storey Patient Support Centre (PSC) located on The Hospital for Sick Children (SickKids) campus in Toronto includes a undulating façade, a centrepiece blue ribbon staircase encased in glass, and interdisciplinary education and simulation spaces that will bring physicians, nurses, hospital administration and Foundation employees together in a light-filled environment.

"The design of the new Patient Support Centre provides an important architectural framework for a workplace environment designed to transform the way SickKids works," said Patrick Fejér, Project Lead and Senior Design Principal at B+H.



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