

Breaking ground

High-rises held to exacting standards

Today's towers are better built and more energy-efficient than their predecessors

High-rise residential buildings have come a long way in the past 50 years. Compared to the concrete slab structures that dominated the GTA's landscape throughout the 1960s and 1970s — beefy and imposing, energy-consuming and unattractive — today's glass condo towers are tall and slender, eco-friendly and, in the best cases, boast designs that can captivate and intrigue (and often win worldwide accolades as a result).

These high-rises are also being built to more exacting standards than ever before.

"The old slab buildings had nowhere near the kind of energy performance and quality of the buildings being put up right now," says renowned architect David Pontarini, who has designed such iconic Toronto condo projects as One Bloor, Shangri-La and Massey Tower, winner of the Building Industry and Land Development Association's (BILD) high-rise project of the year award in 2013.

"And the quality will continue to get better as the industry has pressure put on it to keep the standards high and to keep raising them."

Indeed, recent changes to the Ontario Building Code mean the GTA's high-rise construction industry faces some of the most rigorous quality control requirements of any jurisdiction.

"The rules are more stringent now," says Paul Golini, executive vice-president of Empire Communities, which develops new condominiums in the GTA. "The industry is being pushed to build better buildings."

Many of the changes to the building code reflect a drive on the part of the province to make high-rise buildings more energy efficient and earth-friendly.

"Sustainability is a big part of every project we do now," says architect Barry Graziani, a principal with Graziani + Corazza Architects. His firm designed Aura, Canada's tallest condo building, among other high-profile projects around the GTA.

"Whereas five to 10 years ago, (green building) was something you might have thought about but never did, now it's right at the forefront of everything we do."

In addition to stringent new building code requirements, buildings in Toronto also must meet the city's Tier 1 and Tier 2 Green Standard as part of the development approvals and inspections process. The city's green standard covers everything from the air quality to the energy performance of a building, as well as its water efficiency and carbon emissions.

"We have engineers who come to do energy models for all of our projects for energy consumption and lighting, to maximize efficiencies," Graziani notes.



ABOVE: A full-time crew of experts is advising on the installation of One Bloor's curtain wall window system, says Alan Vihant, senior vice-president of high-rise at Great Gulf Homes.



"The industry is being pushed to build better buildings," says Paul Golini, executive vice-president of Empire Communities.

"So there's a lot that goes behind the design and construction of these buildings," he adds. "We're not putting these things up in a week."

Building materials are constantly evolving and despite the misgivings of some, today's glass towers are now safer than they've ever been.

"The actual percentage of glass in glass balconies that has failed is a very small portion of all the glass that ever got installed in this city," says Alan Vihant, senior vice-president of high-rise at Toronto-based developer Great Gulf Homes and a trained architect. "And it was something that was dealt with immediately by the industry, working with both the province and the city, with amendments to the building code (to improve quality control for glass)."

At One Bloor, Great Gulf's glass condo tower — currently under construction at Yonge and Bloor streets — a full-time crew of experts has been brought in from New York to advise on the installation of the building's substantial curtain wall window system. The company has also stationed staff members on the glass factory floor to oversee the production of the glazing for the landmark project, Vihant notes.

Builders and architects have every reason to want their building design to be of the highest standard. After all, in a very competitive condo market like Toronto's, having a name that's associated with quality work is essential to survival.

"A company like ours that's been around for 40 years, we've got a reputation," says Vihant. "We've got a brand that people look to because we continually deliver high-quality buildings, or else we wouldn't stay in business."

"You're only as good as your last job," adds Graziani. "That's the motto in our firm."



Massey Tower won the Building Industry and Land Development Association's high-rise project of the year award in 2013.

Evolution of building construction since the 1960s

Techniques and materials have changed a fair bit over the past 50 years

MATERIALS USED

Then: Usually concrete for structure and facade, with limited space for windows.

Today: Concrete for structure, with window walls or glass curtain walls; pre-cast concrete and masonry used for accent.

AVERAGE TIME TO BUILD A HIGH-RISE, FROM PLANNING TO CONSTRUCTION

Then: 4 years: 2 for planning, design and approvals, 2 for construction.

Today: 4 years: 2 for planning, design and approvals, 2 for construction*

*Efficiencies have been made in construction in the ensuing decades, but today's sites are tighter and buildings are more complex in their design and engineering, so things even out.

TECHNICAL DETAIL AND QUALITY CONTROL

Then: Fair: "We used to do a set of drawings for a tower with 20 sheets," says architect Barry Graziani.

Now: Extensive: "We're pushing 80 to 100 sheets of drawings for a similar project, because of the detailing and care taken to make sure everything is put together," Graziani says.

ENERGY EFFICIENCY

Then: Energy efficiency just wasn't a priority back then.

Now: "Much improved versus what it used to be," says Graziani.

HOW A HIGH-RISE GETS BUILT

The average 20-storey building takes about six years to build, from preliminary planning through to construction completion and occupancy. There are many steps along the way...

1 Finding the right site: Factors shaping the decision include walkability, community amenities, land prices and proximity to transit options.

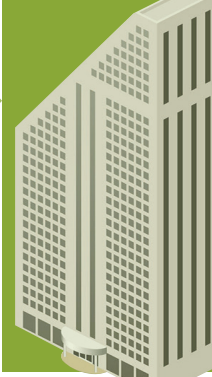
2 Design: The builder's engineering and architecture consultants come up with preliminary plans for the building, based on site conditions and zoning guidelines. They meet with city council and staff for feedback, and undertake community consultations.

3 Development approval: The project must receive development approval before breaking ground. A disconnect between provincial and municipal land use policies often caused unnecessary delays and expenses for homeowners at this stage.

4 Sales: A new project goes on sale before the start of construction to secure financing. Banks usually require 70 per cent of is the units to be sold before they'll fund its construction.

5 Construction begins: Excavating the ground can take between six to eight months, and it takes the same time to get back up to ground level. Podium construction typically takes a month per floor, and each floor of the main building takes a week. A typical 40-storey building can take up to five years to build, creating up to 500 new jobs during that period.

6 Inspections and occupancy: The building is subject to municipal and Tarion inspections, and opened for occupancy.



This is the first in a 4-part series sponsored by BILD. Look for the next one on Saturday, May 31.

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WORKING TOGETHER TOWARD A GREATER GTA

Building healthy, complete communities is a team effort. That's why BILD works closely with our partners in government to establish fair and effective policies that affect the land development, home building and professional renovation industry in the GTA. We are always at the table on behalf of the industry and new home buyers. So why is advocating on your behalf so vital to us?



BECAUSE THE GTA IS OUR HOME TOO

