



LOCATION
301 Front Street West, Toronto, Ontario

OWNER/DEVELOPER
Canada Lands Company Limited

ARCHITECT
Cumulus Architects Inc.

GENERAL CONTRACTOR
PCL Constructors Canada Inc.

STRUCTURAL CONSULTANT
RJC Engineers

MECHANICAL CONSULTANT
The Mitchell Partnership Inc.

ELECTRICAL CONSULTANT
Mulvey & Banani

INTERIOR DESIGN
mackaywong

TOTAL SIZE
15,000 square feet

TOTAL COST
\$16 million

CN Tower Observation Level Renovation

by ROBIN BRUNET

Anyone who rode the elevators to the top of Toronto's CN Tower prior to the landmark celebrating its 42nd birthday on June 26 will likely remember touring its main observation floor as a dark, vaguely claustrophobic experience – with meals in the tower's restaurant being a satisfying but unmemorable diversion.

All of that is a distant memory, thanks to owner Canada Lands Company Limited retaining Cumulus Architects Inc. and PCL Constructors Canada Inc. to perform an upgrade 1,136 feet above Toronto's downtown core.

The \$16-million undertaking, split into two phases, first saw the replacement of two out of 12 column bays in the LookOut level with new floor-to-ceiling glazing and demolition of the Horizons restaurant. This was followed in October of 2017 by a complete open-concept redevelopment of the remaining space and two additional window bays, all of which for guests would mean far greater accessibility (soon to be certified by the Rick Hansen Foundation), new bistro-style drink and food options featuring Canadian-inspired cuisine, and space for private events accommodating anywhere from 80 to 800 people.

Many other features – including a new glass floor on the upper level that looks down on the existing glass floor of the level below (which itself provides brave guests with vertiginous views straight down to ground level) – would bring new life to the observation floor, but arguably the most effective element aside from the transparent floor and massive windows was a relatively simple architectural instalment. “We covered the ceilings with mirrored panels,” says Sheldon Catarino,



principal and director of Cumulus Architects. “And although we knew they would have a substantial visual impact, we were amazed by how they not only open up the space but also combine with the windows to provide guests with incredible vistas of the city and waterfront, as soon as they leave the elevators.”

When Cumulus was awarded the project after an extensive design competition under a design-build process, Catarino quickly appreciated that “over 50 percent of the public floor space in CN Tower was taken up by the restaurant, but the venue generated only two to three percent of the tower's overall revenue, and this along with accessibility and other considerations greatly influenced our work.”

Cumulus decided to scrap the restaurant concept and establish five different configurations that would accommodate different types of social events, “and we changed the food offering to a higher quality three kiosk set-up, each themed according to their orientation towards the city, the waterfront, and the lake,” says Catarino.

Gordon Mackay, co-founder of the hospitality design firm mackaywong, points out that the core idea of the new food offering “was to pull it back from the windows where the old restaurant used to be and towards the inner core. Storytelling was also an important goal for us, and so we enhanced the three kiosks with applied graphic treatments reflecting the three different views: for example, an abstract grid matrix



map for the waterfront, an azure blue graphic for the lake, and a pure graphic play of a street grid for the city.”

As evidenced by the mirrored ceiling, relatively simple touches made a big difference in the 15,000 square feet of space Cumulus redesigned. “For example, we got rid of the very busy carpeting and replaced it with a white vinyl floor, which really helped open everything up and would look great at night,” says Catarino.

Other materials, including the porcelain tiles near the elevator cores, were selected as much for their resiliency as their visual appeal. “We also installed a free-form tiered bleacher made of Corian, with melted-in and buffed out colours that contribute to this seating area being a unique showcase,” says Catarino.

In bringing the design vision to life, PCL Constructors Canada faced three enormous challenges: working in a confined space that had to remain



the mirrored panels “there was no need to light in daylight. By contrast at night our lighting scheme would turn the white surfaces into beautiful canvases.”

As for travelling up and down the elevator daily, Lee says, “If contractors were unfortunate enough to forget something in their truck, it was enormously time consuming to wait for a spare elevator, descend over 1,000 feet, grab the item, and then go all the way back up. And although the elevators were quite large, the contractors still had to dismantle equipment for the trip up and down.”

But for those who got the first look at the revamped CN Tower on June 26, all the efforts were well worth it. “It’s as if we stitched the CN Tower back into the fabric of Toronto,” says Mackay. “It was an honour to reshape this iconic environment.”

Neil Jones, chief operating officer at CN Tower who welcomed the guests, summarized the sentiment of Canada Lands Company by saying: “The CN Tower enjoyed record-breaking attendance last year, but we believe it is important to keep innovating. As a national icon, the experiences we offer our guests should always be at world-class levels. We feel this renovation accomplishes that goal.” **A**

and to prevent debris from falling to the ground, we created an engineered, 14-foot exterior tarp system that was anchored by welding it into the wall structure once the siding was removed.”

The glass panels, each of which measured five-by-eight feet and weighed 1,000 pounds, were brought up from the service level by elevator; the new glazing frame was installed from the interior, followed by the glass, which contains Thermochromic film that allows the glass to adjust its darkness based on sunlight and external temperature, in order to improve energy efficiency and make it easier to take photos.

Hammell and her colleagues demolished the restaurant down to the studs and slab. “As is the case with so many renovations, the original documents

weren’t always clear, so there was always something unexpected to deal with – but nothing spectacular,” she says. “Design changes as a result of the demolition included opening up the ceilings by about a metre in some areas, which meant existing services had to be rejigged.”

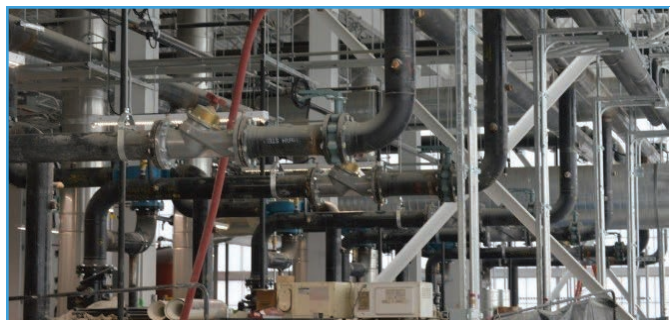
Peter Lee, senior associate with Mulvey & Banani, says one of the biggest challenges of the entire upgrade was time. “We only had a few months to get everything done, and even with the two phases we still worked a lot of nights, scrambling to restore everything for the morning’s new wave of guests.”

Lee says the lighting concept was intended to draw people out towards the observation windows, and thanks to

operational; being obliged to transport all materials and crews in a single bank of elevators daily; and ensuring both crews and Torontonians 1,136-feet below would remain safe when the tower’s windows were replaced.

Removing the existing windows was completed with the use of the tower’s exterior maintenance cage, but Cheyanne Hammell, project manager for PCL, explains that due to weight limitations of the cage, the new window installation was completed from the interior. “And to keep everyone safe

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CN TOWER - OBSERVATION LEVEL



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