

STUBBE'S PRECAST HEAD OFFICE



PROJECT CREDITS

OWNER

Stubbe's Precast

ARCHITECT OF RECORD

IBI Group Architects (Canada) Inc.

ENGINEER OF RECORD

Stubbe's Precast

GENERAL CONTRACTOR

Stubbe's Precast

MATERIAL SUPPLIER

Stubbe's Precast

ADDITIONAL PARTICIPANTS

- Development Engineering
- Ironworkers Local 786
- Sika Canada

PROJECT FACTS

LOCATION Harley, Ontario

PROJECT TYPE Commercial Office Building

CONSTRUCTION START Spring 2018

OCCUPANCY March 2019

GENERAL DIMENSIONS

Floors: 43.3 metres x 39 metres (142 linear ft x 128 linear ft)

Span Length: 10 metres (33 linear feet)

Total Building Height: 15.9 metres (52 linear feet)

Storeys: 3 and basement

PRECAST PRODUCTS USED

- 2,211 square meters (23,800 square feet) of precast wall panels
- 2,350 square metres (25,300 square feet) of (432- and 483-millimetres thick (17- and 19-inches) loadbearing precast sandwich wall panels
- 3,670 square metres (39,500 square feet) of hollow core floor slabs
- 195 metres (640 square feet) of precast landings with 16 precast stairs
- 701 metres (2,300 linear feet) of precast columns and precast beams
- 335 metres (1,100 linear feet) of double tees





Stubbe's Precast Head Office is a 3-storey total precast building that is an exceptional concrete showcase. The office displays impressive building products the company offers, highlighting more than 30 unique precast architectural finishes. This includes various formliners and patterns, coated with single and multi-tonal stains to accentuate the details of each design.

The front entrance leads to the wide open 3-storey atrium with catwalks and main public access stairways to each level. An availability of abundant natural light in this central area opens up into a public display of Stubbe's products exemplifying the structural possibilities of both interior and exterior precast products.

A large water feature wall behind the reception desk shows an alternate way to utilize precast. One of the many boardrooms in the office has a full height world map recessed into the precast wall, while another area in one of the workstations is a graphic picture etched into the precast. Various other walls throughout the office display how versatile and realistic precast concrete can look using the range of formliners Stubbe's Precast offers: brick, stone, fluted, plus other options.

In the atrium area double tee planks were utilized as catwalks. Beside one of the catwalks, a suspended boardroom can be seen that looks as though it is "floating." Also, in the atrium are fully precast stairs featuring raker beams and precast step, open risers and glass guards that kept the atrium open and clear of obstructions. The catwalks connect the east and west wings of the building. These paths also help keep the atrium area open instead of having hollowcore slabs cover the first and second floors.

The main atrium staircase went through several design iterations to achieve the challenging open concept "floating look." To create the staircase individually cast

steps were installed on two main precast stringers that had to be cranked horizontally to create the proper profile and look. With the limited step thickness removing the pieces from the form and securing them onsite required a creative solution. This was solved by using a dual purpose connection to remove the step from the form and provide a final connection which required no patching of the step onsite. Cantilevered hollowcore floor slabs support a walkway on the second floor making for a functional design and an architectural feature as it makes the area more open. Acting as a passive heat exchanger, the atrium heats the interior concrete walls thus reducing the building's energy costs.



A larger architectural feature above the central atrium would be the angled glass roof skylight. This "saw-tooth" step between the two main building wings and a feature that posed unique design challenge. To create this architectural feat, cantilevered walls were installed with fixed end connections with gussets limited and hidden under the depth of the insulated roof structure and braced at the top with angled brace beams creating the support frame. Using this approach eliminated the need for any additional bracing structure for the cantilevered walls which kept a clean exterior look and helped

maintain the open concept feel in the atrium. In addition, sloped hollowcore roof slabs flank each end of the skylight glass closing in this area, again highlighting the versatility of hollowcore.

The building envelope consists of precast sandwich wall panels with a white cement exterior finish. The precast walls act as the structural system and exterior finish while also providing a high R-value (R34) all in a single panel. The walls continue to the foundation walls below-grade and connect to the footings. A thin brick was attached to the upper panels on the South-East side of the building to add dimension and display cladding options utilizing mixed products. The interior face of the panels were power troweled and left exposed which removed the need for furring and dry walling the interior side of the exterior walls. This improved durability and efficiency of the building during its lifespan. All electrical boxes and conduits were also cast into the precast walls.

Additional interior concrete features include the countertops, planters, large polished concrete board room table, a polished concrete slab on grade in the atrium with stained Stubbe's Precast logo and hollowcore light fixtures. Some ceilings have exposed hollowcore slabs accentuating the urban-modern look. There are large windows throughout each floor providing natural light for each work station and accentuating the open concept atmosphere.

Stubbe's acted as their own engineer of record and precast engineer. The design team worked closely together to ensure the vision displayed was structurally sound and created an eye-catching building.

Stubbe's total precast structures provide all the benefits of concrete such as structural integrity and durability, while providing added quality, design, reduced site time, and ease of construction. The Head Office building's structural system consists of solid precast and insulated precast walls, precast beams and columns, and precast double tee system. These specialty products are manufactured on-site and erected with Stubbe's Precast own install crews. The building process continued through the winter months which meant construction could run smoothly and stay on schedule.

