

CONCRETE SUPPORTS THINKING OUTSIDE THE BOX

Built in the shape of a drawn curtain, Vancouver House is a unique building that incorporates several innovative techniques.

**BUILD WITH
STRENGTH**



Vancouver House

1480 Howe St., Vancouver, BC V6Z1R8 Canada

Vancouver House is an unusual building built in a high seismicity region that required unique solutions from all disciplines.

The design architects at Bjarke Ingels Group sculpted the outline of the tower around airspace clearance requirements surrounding the Grandville Street Bridge. The curved silhouette comes courtesy of a reinforced concrete core and innovative systems that have never been used in the local residential high-rise construction industry. The use of the latest technology in non-linear analysis made it possible for a tower like this to exist.

01. Innovation Takes Shape. The top of the building is rectangular, but as you go further into the building the floors narrow and transform the tower to a triangular shape nearly half the size of the roof at only 6 feet. The summation of both gravity and seismic forces called for a rigid but flexurally and torsionally robust design to stabilize the building.

02. Inventive Solutions All Around. Innovation featured heavily in all aspects of the project. Mechanical and electrical services had to do design gymnastics to scale its height, centralizing in one single location just north of the concrete core at the base of the tower. The services then branch out to the outer extremities of the building like branches of a tree. With only a handful of special lighting features and mechanical lines at each floor, everything had to be meticulously coordinated into the structure.

03. Constant Testing Reinforced Strong Ideas. The engineers at Glotman Simpson worked diligently with the construction team from ICON West Construction in the planning and duration of the construction and in monitoring the verticality of the tower through each floor construction sequence. Movement surveys of the tower at every second floor were performed for the duration of construction up to one year after topping off the building to confirm the calculated performance of the building well into the long lifespan of this world-class tower.

