

YWCA ON BEATTY STREET

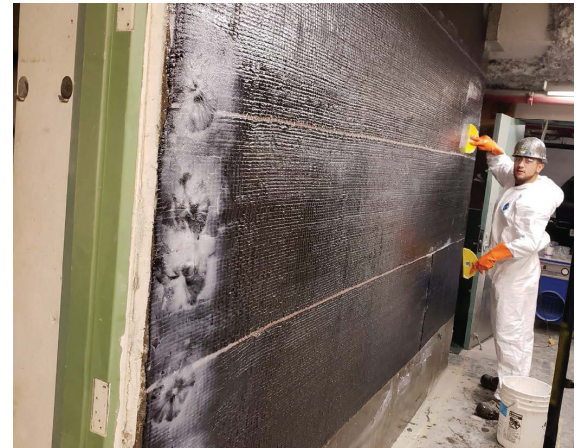
Structural upgrades and tying in adjacent structures

OVERVIEW

The YWCA Hotel in Vancouver, British Columbia was in the process of expanding its footprint to incorporate a new tower directly adjacent to the existing structure. The engineer of record, who was to oversee these expansions, had the challenge of not only structurally upgrading the existing tower to handle increased loading but to also tie the existing and new structures together. After careful consideration of multiple options to achieve these goals, the EOR decided that using the Tyfo® fiber-reinforced polymer (FRP) system was the most sound and cost-effective method to meet all the hotel's needs.

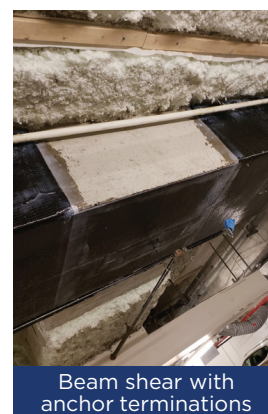
To achieve the desired structural upgrades and effectively tie the two structures together, the EOR contacted Fyfe to help with the FRP design of multiple structural elements including wall shear, beam shear and beam flexure. Fyfe was able to provide a solution using the Tyfo® SCH 41 system, carbon fiber-reinforced polymer, with the addition of carbon fiber anchors and two-hour fire rated assembly for the beams. The carbon fiber anchors were used in locations where limited access available to terminate sections of the FRP and the two-hour fire rated assembly was used as per the CSA S806 code which dictates that this fire rating be applied when structural members are introduced to newly increased gravity loads.

Working closely with Polycrete, a Fyfe certified applicator, Fyfe was able to provide direct and upfront assistance to the EOR during the design phase and assistance to both the applicator and EOR during the submittal/construction phases. In doing so, Fyfe was able to ensure that both the hotel's cost needs and the EOR's design needs were protected and achieved.

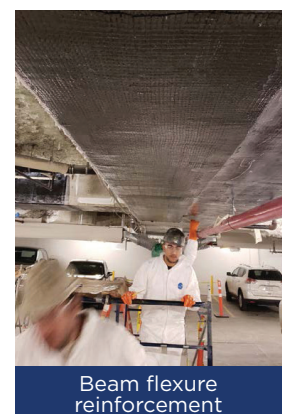


Wall shear and anchor termination

Project Overview	
Project	YWCA on Beatty Street
Location	Vancouver, British Columbia
Owner	YWCA Hotel
Engineer	CWMM Consulting Engineers, LTD.
Contractor	Polycrete



Beam shear with anchor terminations



Beam flexure reinforcement