



SUBJECT	Board 4 Post-Completion Report - Henry Angus Tower Seismic Upgrades
SUBMITTED TO	Property Committee
MEETING DATE	February 6, 2020
SESSION CLASSIFICATION	Session criteria from Board Meetings Policy: OPEN
DISCUSSION REQUEST	If discussion is being requested, please indicate length of time: ✓ NOT REQUESTED
ACTION REQUESTED	Please indicate requested Board action: No decision requested: for information
SUBMISSION DATE	January 15, 2020
EXECUTIVE PROPONENT	Peter Smailes, Vice-President Finance & Operations
PRESENTED BY	John Metras, Associate Vice-President, Facilities
SUPPORTED BY	Andrew Szeri, Provost and Vice-President Academic, UBC Vancouver Robert Helsley, Dean, Sauder School of Business Ron Holton, Chief Risk Officer Yale Loh, Treasurer Michael White, Associate Vice-President, Campus & Community Planning Jennifer Sanguinetti, Managing Director, Infrastructure Development

PRIOR SUBMISSIONS

The subject matter of this submission has been considered previously by the Property Committee on the following occasions:

- [February 2016](#) , Board 1, Board 2, Board 3 Approval, for seismic upgrades to the Henry Angus office tower with authorization to issue a development permit and release project funding of \$4,162,500 to complete working drawings and tender documents, and award of construction contracts, subject to tenders being at or below budget based on 80% of tenders.

Capital Budget	\$4,162,500
Operating Budget	N/A
Schedule	
Project in Principle	
Program	
Authorization to issue development permit	
Proceed to working drawings and tender	
Award construction contracts	
Funding Release	\$4,162,500

The following Executive Summary assumes familiarity with the prior submissions and provides a status update from the date of the most recent submission.

EXECUTIVE SUMMARY

In accordance with the Capital Projects Policy, this Board 4 post-completion report is provided as part of the project management process following the construction, occupancy and warranty period for seismic upgrades of the Henry Angus Tower.

The Henry Angus office tower, occupied by the Sauder School of Business, was assessed as a very high seismic risk and prioritized for upgrade. The priority was based on the relatively straightforward and minimal nature of the work required, which meant that the bulk of the work could be completed in the summer window between April exams and the start of the Fall school term in September. The availability of office type swing space following completion of Ponderosa Commons Phase 2 was also key in the ability to proceed with the project.

The seismic upgrade work consisted of addition of a reinforced concrete buttress at the south east entry, addition of two new concrete shear walls on the west elevation, restraint of interior concrete block partitions, and creation of an expansion joint between the tower and adjacent classroom block.

The project was funded through the Provincial Routine Capital allocation and the UBC Seismic Upgrade Fund, which was established by UBC Risk Management using insurance premium savings. The final cost of the project was \$4,212,410, which was \$50,160 more than the Board 1,2,3 approved budget. The additional cost was covered by the UBC Seismic Upgrade Fund.

A stakeholder meeting of occupants, operators and the project delivery team was held on November 6, 2019 to review project successes, constraints and lessons learned. All agreed that overall the project went well. The southeast entry seismic buttress was skillfully designed and the associated realignment of walkways was successful. Sauder appreciated the professionalism and ease of working with UBC Project Services, the consultant team and site supervisor, as well as the availability of swing office space, and the fact that the project was delivered in time for the faculty and staff to move back and receive students in September.

The largely exterior seismic upgrade scope of work was conceptually believed to be of low cost and impact but further investigation revealed the requirements to be more complicated and costly. A lesson learned is that even low impact seismic upgrade work will likely always be very invasive. Further, a noise and vibration impact study indicated that due to planned drilling and sawcutting activities, both the tower occupants and staff in the adjacent classroom block required relocation for summer operations to continue; however some staff groups who did remain in the classroom block reported that they were able to keep working. This suggests that where the upgrades are relatively low impact and do not involve complete upgrade to interior walls and foundations, there should be further investigation into the feasibility of scheduling the most disruptive work in a way that would avoid having to completely vacate all areas of the building.

Construction impacted an older underground sewer pipe which was not located as per underground utility record drawings, with resulting disruptive backups. Stakeholders suggested that increased requirements for test holes, and the robust engagement and communications between Energy and Water Services, Building Operations and the contractor that is now standard practice could help mitigate similar types of situations.



Photo 1 – Exterior View of Shear Walls and Buttress

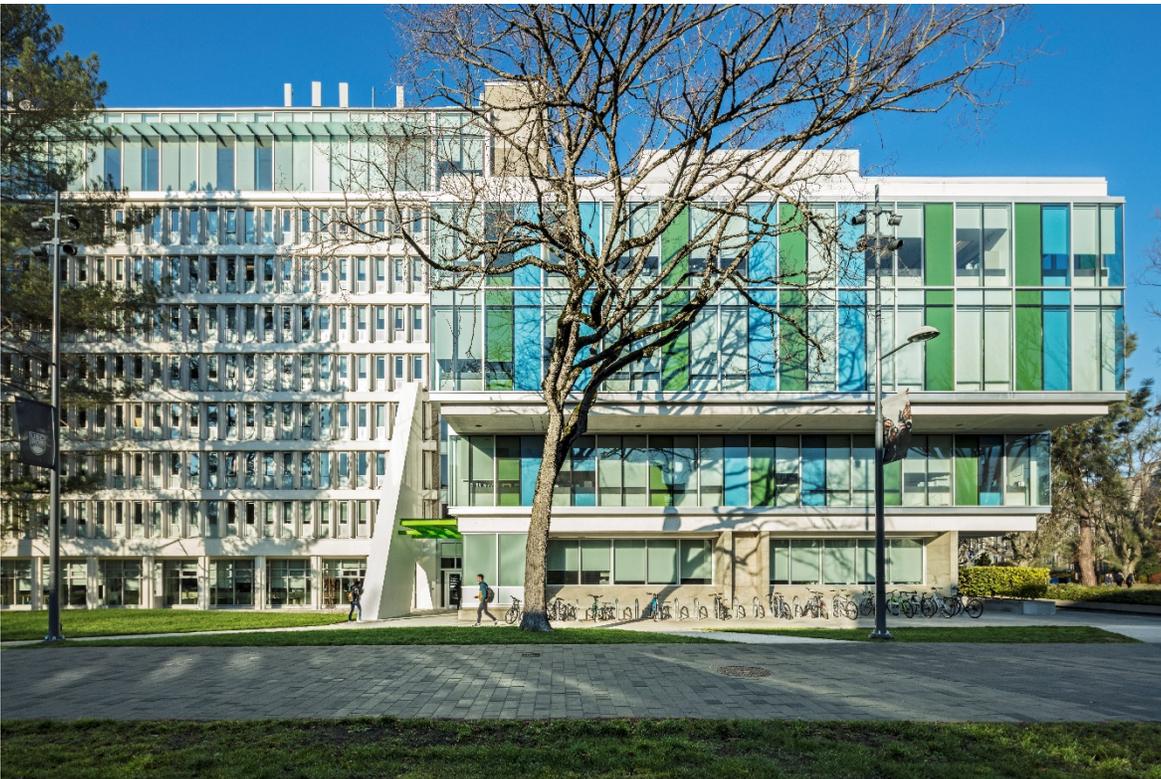


Photo 2 – Exterior View of Entrance with Buttress



Photo 3 – Exterior View of Buttress