



SUBJECT	DOUGLAS T. KENNY BUILDING (PSYCHOLOGY) FOURTH FLOOR RENOVATION
MEETING DATE	DECEMBER 4, 2018

Forwarded on the Recommendation of the President

**APPROVED FOR
SUBMISSION**

Santa J. Ono, President and Vice-Chancellor

DECISION REQUESTED	<p>IT IS HEREBY REQUESTED that the UBC Board of Governors grant BOARD 2 approval for the Douglas T. Kenny Building Fourth Floor Renovation project for the Department of Psychology with a funding release of \$500,000 to complete working drawings and tender documents, and to commence selective interior demolition and hazardous material abatement.</p>	
	Capital Budget	\$7,640,000
	Operating Budget	See report
	Schedule	
	Proceed to working drawings and tender	
	Funding Release – Board 2	\$500,000
	Information	
	Expenses to date	\$192,000
	Funding released to date	\$500,000

Report Date	November 2, 2018
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Presented By Andrew Szeri, Provost and Vice-President Academic
Peter Smailes, Vice-President Finance & Operations
Gage Averill, Dean, Faculty of Arts
John Metras, Associate Vice-President Facilities
Jennifer Sanguinetti, Acting Managing Director, Infrastructure Development

<p><i>If this item was previously presented to the Board, please provide a brief description of any major changes since that time.</i></p>	<p>Seismic screening: The initial seismic screening assessment completed in 2017 indicated that the Kenny Building is a Tier III building (20-49% risk of collapse in a very rare earthquake). Subsequent detailed modelling has been completed in draft form and will allow the design team to strategically isolate likely areas of intervention so that a future retrofit can be performed with minimal impact.</p> <p>Hazardous materials abatement: Given the floor’s long-term use as an animal research facility, the team anticipates that extensive abatement is required. Therefore, the project team proposes beginning demolition and hazmat abatement in December 2018 providing the opportunity to better manage the project scope, schedule and budget in advance of Board 3.</p>
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EXECUTIVE SUMMARY

UBC's Department of Psychology, ranked first in Canada and tenth in the world by *Times Higher Education* in 2018, has reached this distinguished status from its primary home in the Douglas T. Kenny Building (the Kenny Building). Departmental members conduct leading research in a broad range of areas, including behavioural neuroscience, clinical, cognitive, developmental, health, quantitative, and social/personality psychology. The department expects to welcome five new faculty members in the near future, and needs to create lab space to support their research.

The fourth floor of the Kenny Building was originally fitted out as a dedicated animal research facility. It was decommissioned in spring 2017, and the research relocated to newer, custom-built research spaces elsewhere on campus as part of the overall consolidation of animal research facilities. As a result, the approximately 16,000 sq.ft., fourth floor is currently vacant and is proposed to be fully renovated to create research labs, similar to other labs in the building, that will be suitable to accommodate the required expansion of the department.

The project team has completed schematic design and is continuing to work to an anticipated start of construction in April 2019 should Board 3 approval be granted at that time. Because the area of the renovation within the Kenny Building was used as an animal care facility and because of the vintage of the building, preliminary assessment indicates that there is significant hazardous material and asbestos remediation necessary but until the work starts and walls are opened, it is challenging to determine the exact extent of the work needed. The team feels that it would be wise to mitigate the risk of unknown remediation needs by commencing selective demolition and hazardous material remediation upon Board 2 approval. This advance work would be necessary regardless of the future use of the fourth floor and could be completed during the December break, reducing impact on building occupants.

Detailed seismic modelling has been completed on the building and while it does indicate that the building has a very high probability of collapse in a very rare earthquake, a retrofit concept has been developed that will allow the design team to strategically isolate likely areas of intervention so that a future retrofit can be performed with minimal impact.

The project has a preliminary capital budget of \$7.64M and will be fully funded by the Faculty of Arts and the Department of Psychology. No central funding or financing is required for this project. Project completion is targeted for December 2019.

The Kenny fourth floor renovation project received Board 1 approval on June 14, 2018.

Attachments

1. Context Map

INSTITUTIONAL STRATEGIC PRIORITIES SUPPORTED

Learning

Research

Innovation

Engagement
(Internal / External)

International

or Operational

DESCRIPTION & RATIONALE

The Department of Psychology at UBC Vancouver is one of the world's leading units of its kind, currently ranked first in Canada and tenth in the world by *Times Higher Education*. It is the largest unit within the Faculty of Arts, with seven primary research areas – behavioural neuroscience, clinical, cognitive, developmental, health, quantitative, and social/personality.

The Department plans to welcome five new faculty members in the near future, and it anticipates future faculty growth in subsequent years. Each new researcher will require a dedicated research lab plus space for their graduate students to work, but no such space is currently available. The department is also in need of space for teaching assistants to meet with students. In addition, the existing departmental lounge on the second floor is undersized and inadequate as the department's only large meeting room, and there is a significant need for a multi-use space for departmental meetings, public lectures, and other events.

As a former animal research space, the fourth floor was designed with very few windows, making the space mostly unsuitable for offices. The few existing windows will be used primarily for shared offices for teaching assistants. Based on experience with research labs on other floors, it is expected that most of the fourth floor research labs will not require windows, making this an ideal location for research lab expansion. The fourth floor is also an excellent location to create a new appropriately-sized multi-purpose departmental meeting space.

Seismic Review

UBC is in the process of updating its seismic mitigation plan. The initial seismic screening assessment completed in 2017 indicated that the Kenny Building is a Tier III building, which translates to a 20-49% risk of collapse in a very rare earthquake. As reported to the Board of Governors in June 2018, the Kenny Building was prioritized for detailed seismic modelling to fully understand the level of seismic risk and vulnerability of the building. In order to provide the detailed model with as high a degree of accuracy as possible, destructive testing was completed in summer 2018 in order to verify the material strength of the columns and shear walls in the present structure. The detailed seismic modelling work for Kenny was completed in October 2018.

The seismic study subjected the detailed model to a series of ground motions that simulate seismic events most likely to occur in UBC's geological position. A baseline study was undertaken to simulate a large scale, very rare event (975-year return period), to fully understand potential for failure, including partial or total collapse. The results confirm that Kenny has areas of critical structural vulnerability that pose a significant risk in a large magnitude seismic event. The Kenny building remains a high priority seismic risk with a high degree of critical vulnerability.

Using the detailed model, a concept seismic retrofit study has been completed to fully understand the scope of an intervention required to address the structural deficiencies. Having both of these studies will allow the fourth floor consultant team to strategically isolate likely areas of intervention, so that a future retrofit can be performed with minimal impact. For instance, the detailed modelling study points to structural vulnerability at the perimeter of the floor space under consideration – for example, at the atrium edge at the column connection. By keeping new services away from the perimeter edges in question, a future structural intervention could potentially be performed without disruption to the renovated interior building systems.

With the detailed seismic vulnerability modelling, the project team will now be tasked with strategically designing around areas that are likely to require intervention, to anticipate a future seismic upgrade or structural retrofit. While a future seismic upgrade of the Kenny building remains likely to be a costly and complicated intervention, the current fourth floor renovation can be designed with a high degree of anticipation of its impact on this floor level. As outlined in the Risks section below, there is also a risk with slowing or stopping the renovation and not providing the space that would allow the department to meet its research priorities in a timely way. Consequently, the fourth floor renovation remains a prudent and necessary investment to meet Psychology’s needs over the coming years.

Existing Facilities

The department is currently located across three buildings. The Kenny Building is the primary, dedicated home for the department; there is additional faculty office and research lab space in the Audain Arts Centre and the CIRS Building. The department also holds space for its group of behavioural neuroscience faculty members and their research teams in the Centre for Brain Health/Koerner Hospital. These faculty members' animal colonies are located in the nearby Centre for Disease Modeling in the Life Sciences Centre. The current project considered incorporating some faculty offices from CIRS as part of the fourth floor renovation project. However, the fourth floor is not a desirable location for faculty offices due to the deep floorplates and limited access to windows.

BENEFITS

Learning, Research,
Financial,
Sustainability &
Reputational

- The fourth floor of the Kenny Building is currently vacant after over 30 years of use as animal research labs. Renovating the space will provide a significant amount of much-needed capacity to a signature department in the Faculty of Arts with minimal impact on surrounding buildings and no impact on the campus’ limited site capacity.
- The renovation will allow the department to continue to attract leading research faculty for several years.
- With the detailed seismic vulnerability modelling, the consulting team can strategically design around areas that are likely to require intervention in anticipation of a future seismic upgrade or structural retrofit.

RISKS

Financial,
Operational &
Reputational

- The Kenny Building has a high degree of structural vulnerability as determined by a detailed seismic modelling study simulating building performance in a very rare earthquake. A concept structural retrofit study has also been completed, which points to potential measures that the present renovation could anticipate to mitigate life-safety risks within the building.
- The building was constructed in 1983 and is expected to require major renewal work in the next 10 years. Renewal of the roof was recently completed; renewal and upgrade of the atrium glazing and skylights and major components of the building’s mechanical systems are currently underway as part of the Routine Capital program. Some building system renewal will be undertaken on the fourth floor as part of this project. Given the critical need for additional research space, the Department of Psychology is prepared to move forward with the renovation project with the understanding that further

operational disruption may be incurred in the building to address future building renewal and seismic upgrade requirements.

- Current market conditions are resulting in unusual levels of cost escalation due to a high level of market activity that has reduced contractor availability and bid coverage. An escalation contingency of 4% has been included in the cost estimate to mitigate this risk. The escalation factor has been reduced from the previous 6% to reflect the reduced timeline to point of tender from Board 1. The design contingency has also been reduced from 10% to 7% to reflect to greater understanding of project parameters and increased design definition.
- Due to its age, the Kenny building has significant asbestos remediation requirements and removal of glass pipes is required, adding further complexity to the demolition phase. While the project team has done as much due diligence as is feasible at this stage of the project, there is still a risk of unexpected asbestos or other similar findings such as lead paint, chemical leaching or mould. This risk has been factored into the construction contingency allowance. Mitigating this risk by advancing selective demolition and hazardous material abatement forms part of the current recommendation.
- To reduce the risk of unexpected delays during the demolition stage, approval to begin interior demolition ahead of Board 3 approval is being sought. The floor is vacant and beginning demolition work early will not unduly hinder any current uses; proceeding with demolition early will allow time to address any unexpected conditions without adversely affecting the overall project schedule.

COSTS Capital Budget

Capital & Lifecycle
Operating

The capital cost estimate below was prepared by UBC Project Services based on a design milestone prepared by PUBLIC Architecture. Project Services has estimated the total cost of the project to be \$7.64M based on the latest Class C estimates provided by Ross Templeton + Associates (cost consultant), IT Services, AV Services and Secure Access.

The total estimated project cost is unchanged from Board 1. This is classified as a Class C schematic design estimate. The accuracy for a Class C estimate is +/- 15-20%.

CAPITAL BUDGET		
Component	Total \$	\$/gsf
Construction (includes hazmat abatement)	\$ 3,548,9000	
General Conditions	\$ 680,000	
Construction Management Fee	Included above	
Construction Contingency	\$ 474,000	
Total Construction	\$ 4,702,900	301
FF+E	\$ 240,000	
UBC IT + AV Equipment Allowance	\$ 455,000	
Fire, Safety & Security	\$ 68,000	
Building Operations	\$ 71,000	
Design Contingency (7%)	\$ 325,200	
Escalation Contingency (4%)	\$ 178,900	

CAPITAL BUDGET		
Component	Total \$	\$/gsf
Total Cash Allowances	\$ 1,338,100	86
Design Consultants	\$ 914,000	
Project Management	\$ 423,000	
Permits - BP/IIC	\$ 37,000	
Insurance/Legal	\$ 3,500	
Commissioning Insp + Testing	\$ 22,500	
Total Soft Costs	\$ 1,400,000	89
Project Subtotal	\$ 7,441,000	475
Tax	\$124,500	
Construction Period Financing	-	
Retained Risk Fee	\$74,500	
PROJECT TOTAL	\$7,640,000	488
<i>Gross Area (ft²)</i>	<i>15,650</i>	

Operating Cost

There is no increase in building area required for this project. Therefore, there will be no change in the annual operating cost and no requirement for additional operating funding.

FINANCIAL
Funding Sources,
Impact on Liquidity

The Faculty of Arts and the Department of Psychology will fund this project by utilizing reserves. The Faculty can fund the project up to the cost noted in this estimate. Should the estimated project cost increase, scope reductions will be investigated to bring the project back within budget. Treasury has taken the accompanying liquidity draws into account and confirmed that there is sufficient liquidity to support the project. Internal debt financing will not be required for this project.

SCHEDULE
Implementation
Timeline

It is estimated that design, construction and fit up can be completed in approximately 18 months, with demolition targeted for December 2018 and construction start by April 2019. The preliminary project schedule including approval steps is outlined below.

Milestone	Target Date
Executive 1+2	April 2018
Property & Planning Advisory Committee + Senate Academic Building Needs Committee	April 2018
Executive 3	April 2018
Board 1	June 2018
Board 2	December 2018
Demolition Start	December 2018
Board 3	April 2019
Construction Start	April 2019
Occupancy Permit	December 2019
Board 4	December 2021

CONSULTATION

Relevant Units,
Internal & External
Constituencies

The Kenny Fourth Floor Renovation Project was presented for information at the April 17, 2018 meeting of the Property & Planning Advisory Committee (PPAC) and the Senate Academic Building Needs Committee (SABNC).

UBC Project Services is managing the design and construction of the project.

Previous Report Date

June 14, 2018

Decision

Board 1 approval with a funding release of \$500,000 to commence schematic design.

Action / Follow Up

Complete schematic design.

Attachment 1. Context Map

