



# UNIVERSITY OF TORONTO

## Office of the Vice-Provost, Space & Facilities Planning

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May 25th, 2002.

### MEMORANDUM

**To:** Planning and Budget Committee  
**From:** Ron Venter, Vice-Provost, Space and Facilities Planning  
**Re:** Update on Lash Miller Chemistry Addition and Renovation

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#### Item Identification

User Committee Report for the Department of Chemistry: May 1998.

#### Sponsor

Ron Venter, Vice-Provost, Space and Facilities Planning

#### Jurisdictional Information

The Committee considers reports of the Project Committee and recommends to the Academic Board approval in principle of projects.

#### Highlights

In May, 1998 the Planning and Budget Committee approved the Users Committee Report for the Department of Chemistry. This project addressed the planned expansion in the St. George Street wing and renovations in the existing Lash Miller tower. The project cost was estimated at \$19.2 million. The funding for this project in the amount of \$12 million was made available through the generous benefaction of the Davenport Family. Additional funding was to be [and was subsequently secured] from the Canadian Foundation for Innovation [CFI] and the Ontario Research & Development Challenge Fund [ORDCF]. The project was planned to proceed in phases, as detailed in P & B memoranda of May 13<sup>th</sup>, 1998 and April 5<sup>th</sup>, 1999 [Attachment 1].

In October 1999, a further P & B memorandum, Attachment 1, identified all sources of funding for this project which now included CFI and ORDCF contributions for a total project cost of \$25.5 million [CFI contribution of \$7.27 million and ORDCF contribution of \$7.27 million]. Of this amount, \$20,336,858 was approved to undertake a series of phased projects with the balance of approximately \$5.16 being identified to fund further renovations in the tower, which would complete the master plan of the Department of Chemistry.

As a consequence of the numerous phases of this project, Business Board approval was secured through staged approvals, as follows:

June, 1998:	\$12.300 million
May 1999:	\$ 2.316 million
October 1999:	\$ 3.600 million
June 2000:	\$ 1.800 million
November, 2000:	\$ 0.830 million
Total	\$ 20.846 million

Table 1 identifies all major elements of the numerous phases of this master plan project for the Department of Chemistry. The individual projects identified as # 1-19 and # 29 are essentially

completed or in an advanced stage of construction, whereas projects #20 –32 are now planned to be implemented. The cost of all projects listed is estimated at \$25,550,927.

Table 1 lists all projects still to be undertaken. Each individual project will require approval by the Accommodations and Facilities Directorate [AFD]; detailed reports will also be required for those projects in excess of \$500,000 but less than \$2 Million. All projects will be sequentially completed to guarantee no cost overruns on the available funding. All projects being financed from the same source of funds.

#### **Resource Implications**

No resource implications; the funds were established previously for this collection of projects directed to the Lash Miller and Davenport Buildings, home of the Department of Chemistry. The total project cost is estimated at \$25,550,927 which is equivalent to the total funding available from the Davenport Family, the CFI and ORDCF and includes the interest accrued on these funds. To date \$20,846,000 has been approved for expenditure. The balance, amounting to \$4,704,927 is now to be directed to the outstanding projects as identified in Table 1, projects #20-32, excluding #29 [already completed].

#### **Funding Sources**

CFI and ORDCF funds secured as a result of the original gifting contribution by the Davenport Family in 1998.

#### **Recommendations**

That the Planning and Budget Committee recommend to the Academic Board:

1. THAT the Users Committee Report for the Department of Chemistry that identified numerous projects including the Davenport Building and renovation of facilities within the Lash Miller Building be fully implemented.
2. THAT the remaining funds originally provided from contributions from the Davenport Family, and the Canadian Foundation for Innovation [CFI] and the Ontario Research & Development Challenge Fund [ORDCF] be approved in the amount of \$4,704,927 and directed to each of the listed projects to be approved by the Accommodations & Facilities Directorate [AFD], according to policy procedures. [This allocation will exhaust all current funding available in support of these improvements directed to the Davenport and Lash Miller Buildings initiated in 1998].

TABLE 1: Davenport Building & Lash Miller Building: Department of Chemistry						
Projects	Rooms	square feet	cost/ square foot	Budgeted cost	Status	Final Cost
# Descriptor	Lash Miller					
1 Davenport Building including 4 shelled laboratories and library		40,000	361	\$14,455,249	completed	\$14,468,815
2 4th Floor: Fit out of 4 laboratories		6,500	405	\$2,630,000	completed	\$2,477,404
3 J. Abbott [refit of laboratory # 1]	324-325	1,200	170	\$203,711	completed	\$203,711
4 Computer Laboratory	119	2,000	104	\$207,906	completed	\$226,781
5 Refit for Environmental Group	315-322	3,993	81	\$322,439	completed	\$322,439
6 Scanning Tunneling Microscope Laboratories	3, 4, 5	2,852	102	\$290,000	completed	\$289,339
7 Library Fit-out		4,800	145	\$695,108	completed	\$695,108
8 2nd Floor G. Scholes & A. Dahirani [refit of laboratories]	250-252	1,320	91	\$120,761	completed	\$120,761
9 Business Office	154	200	100	\$20,000	completed	\$16,600
10 Air Balance				\$6,400	completed	\$6,439
11 Graduate Lounge	406	470	149	\$70,000	completed	\$66,232
12 J. Polanyi [refit of laboratory]	255-258	1,320	50	\$66,000	completed	\$58,728
13 E. Kumacherava [refit of laboratories]	624-626, 617	2,640	104	\$275,000	completed	\$277,110
14 Atrium project				\$148,285	completed	\$140,523
14a Atrium project				\$50,772	completed	\$50,772
15 J. Abbott [refit of laboratory # 2]	323	880	135	\$119,000	completed	\$118,511
16 D. Miller [refit of Laboratory # 1]	3e			\$175,000	completed	\$130,509
17 D. Miller [refit of Laboratory # 2]	242	440	91	\$40,000	construction	
18 Davenport Building washrooms				\$105,361	completed	\$94,408
19 G.A. Ozin [refit of laboratories]	306-308, 326-330	5,300	125	\$662,000	construction	\$627,674
20 Davenport Building water line				\$14,000	completed	
Total		73,915		\$20,676,992		\$20,391,864
Completion date						
20 X-ray, electronics & Biological laboratory	429-433	2,400	100	\$240,000	planning phase	Aug-02
21 Faculty Offices	406	350	30	\$10,000	planning phase follows project # 22	
22 Theory Group Offices	414-428	6,545	100	\$654,500	drawings in process	Dec-02
23 M. Thompson [laboratories]	621-623	2,640	120	\$316,800	planning phase	Dec-02
24 M. A. Winnik [refit of laboratories]	511-513, 516, 520, ;	3,500	120	\$420,000	planning phase	Oct-02
24a M. A. Winnik [refit of laboratories]	25,26	800	120	\$96,000	planning phase	Oct-02
25 CRC Nanotechnology Laboratory	135, 141, 146	2,000	125	\$250,000	planning phase	
26 Chair in Chemical Biology [5th floor east]	502, 523, 525, 527	2,400	125	\$300,000	planning phase	
27 Biological chemistry facility [lab. refit]	517, 518	1,200	125	\$150,000	planning phase	
28 Lobby, estimated cost \$643,000				\$643,000	planning phase	
30 Non-phase specific contingency allowance				\$696,188	spent + budgeted	
31 Future allocation to U/G Laboratories				\$1,072,447	longer term planning	
32 Air Balancing				\$25,000		
Total		21,835		\$4,873,935		
Grand Total		95,750		\$25,550,927		
		Total funds		\$25,550,927		
31		Balance		\$0		

May 13, 1998

**MEMORANDUM**

**To:** Planning and Budget Committee

**From:** Derek McCammond



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**Item Identification**

Department of Chemistry Users' Committee Report

**Sponsor**

Derek McCammond, Vice-Provost, Planning and Budget

**Jurisdictional Information**

The Committee considers reports of users' committees and recommends to the Academic Board approval in principle of projects (i.e., site, space plan, overall cost and sources of funds). The Business Board is responsible for approving the establishment of appropriations for individual projects and authorizing their execution within the approved costs.

**Highlights**

See attached memorandum.

**Resource Implications**

The total project cost is estimated at \$19.2 million. Funding of \$12 million is available through the generous benefaction of the Davenport Family. Funding is being sought from the Canada Foundation for Innovation for the remainder. The project can be phased with the first phase estimated to cost \$12.2 million.

**Action Sought**

Recommend approval of the Users' Committee Report.

DM/ek



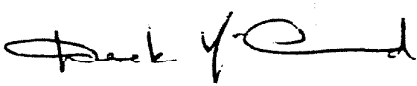
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## MEMORANDUM

**To:** Planning and Budget Committee

**From:** Derek McCammond 

**Subject:** Lash-Miller Chemistry Addition and Renovation

**Date:** April 5, 1999

In May, 1998, the Planning and Budget Committee approved the Users Committee Report for the Department of Chemistry which described the proposed expansion in the St. George Street wing and renovations in the existing Lash-Miller Tower. This work was divided as follows:

3,700 gsm of research laboratories	\$12.256 million
Renovation of undergraduate laboratories	\$5.507 million
Conversion of vacated research laboratory space to low service research space	\$1.167 million
Infrastructure improvements	\$0.252 million
Total Project Cost	\$19.182 million

The addition of 3,700 gsm would also increase the University's annual operating budget by \$320,000. The generous benefaction of the Davenport family provided \$10 million towards the project and the accrued interest on this gift was projected to raise the available funding to \$12 million. The estate of Edna Davenport also provided \$2.8 million to be endowed with the proceeds of the endowment to be used for continued equipment renewal.

The initial Phase I building program for the building was matched to the available funding - \$12.256 million which would permit the construction of 3,700 gross square meters at \$3,312 per gross square meter. The elements of the space program were prioritized to direct the development of the concept design within the available funding.

During the design stage, discussion ensued regarding the best long term option for the department -- to build a two-storey research addition equal to the template of the lower two floors, with the mechanical penthouse on the roof versus a 3,700 square meter addition with the mechanical room within the envelope of the addition. It was determined that the best strategy would be the first option, but the building program would increase to 5,321 gsm versus 3,700 gsm originally anticipated. Cost and funding options were reviewed.

The strategy now proposed involves staging the construction. The first stage will be the construction of the new third and fourth floors and the mechanical penthouse, with the entire third floor of the addition and one half of the fourth floor completely outfitted. The west half of the

fourth floor will be shelled-in, with provision made in the mechanical and electrical equipment for outfitting the space as funds became available.

The table below illustrates the original program and the proposed plans:

**3<sup>rd</sup> & 4<sup>th</sup> Floors, Research Addition, St. George Street Wing**

<b><u>New Construction</u></b> (as per Users Committee Report May 1998)	<b><u>Program (nasm)</u></b>		<b><u>1<sup>st</sup> Stage (nasm)</u></b>		<b><u>Shell (nasm)</u></b> (completed at a later date)	
Preparatory Lab	18@70	1260	15@77	1161	4@77	311
Workspace Adjacent	18@12	270	15@15	223	4@15	60
Equip/Instr Rooms	18@20	360	15@28	418	4@25	102
Cold Lab	1@37	37	1@20	20		
Solvent Purification	2@20	40	2@20	40	1@20	20
Faculty Offices	18@12	216	9@14	126	1@14	14
Group Rooms	2@17	34	4@23	93		
Group Rooms	4@25	100	5@29	147	1@30	30
Grad Common Rooms	2@17	34	1@31	31		
Theoretical Lab		210		351		
<b>Sub-Total</b>		<b>2561</b>		<b>2610</b>		<b>537</b>
<b><u>Additional Program Requirements</u></b> (January, 1999)						
Seminar Rooms			1@89	89		
Secretary/Reception			4@9	37		
Extra Area - Equip or Group Rm				86		27
3 <sup>rd</sup> Floor Lounge				102		
<b>Sub-Total</b>				<b>314</b>		<b>27</b>
<b>Total Net Space</b>		<b>2561</b>		<b>2924</b>		<b>564</b>
<b>Actual Gross Floor Areas</b>						
3 <sup>rd</sup> Floor				2361		
4 <sup>th</sup> Floor	Built Out			1435		
	Shell			833		
Mechanical Penthouse				692		
<b>Total Gross Floor Area (gsm)</b>		<b>3700</b>		<b>5321</b>		

About the same time as the design stage was underway, grant applications were being prepared and submitted to the Canada Foundation for Innovation by the Department. The space requirements identified in the grant applications required that research activities be located in the newly constructed laboratories and in the renovated space in the Lash-Miller Tower. While the space to be constructed in the addition could accommodate the research identified in the application, the space necessary to accommodate the activities in the Tower could not. The amount of space and the quality of space necessary for the research activities exceeded the improvements initially identified and was estimated to cost more than stated in the users committee report.

As more detail became available regarding the scope of the research activities proposed in the grant applications it became apparent that the renovations in the Lash-Miller Tower identified in the users committee report could not entirely support the activity.

With the support of the Dean's Office, the Department engaged in an exercise which resulted in a master plan for the Chemistry Building. When complete, it will accommodate all of the research activities foreseen in the CFI applications. The space will be upgraded to become modern research facilities. Items of deferred maintenance will be rectified, and improvements made to the infrastructure. Grant funding from CFI will fund the proposed renovations.

The following table illustrates the proposed program identified in the master plan for renovation and new construction for the Lash Miller Tower and the St. George Street Wing.

**Lash Miller Chemistry Building, University of Toronto**  
**MasterPlan**  
**Net Assignable Floor Area Program Summary**

<u>Program</u>	<u>Existing NASM</u>	<u>Masterplan NASM</u>
Administration	305	430
Undergraduate Laboratories	3,720	3,500
Undergraduate Laboratory Support	610	500
Undergraduate Lecture/Seminar	815	815
Undergraduate Tutors	60	110
Undergraduate Computing Laboratories	210	315
Undergraduate Student Services	115	115
Chemical Stores, Workshops	1,290	1,290
ANALEST Laboratories	175	340
ANALEST Laboratory Support	40	40
Research Laboratories, Willcocks Wing	4,000	4,180
Addition	0	2,110
Research Laboratory Support, Willcocks Wing	220	225
Addition	0	460
Research Offices, Willcocks Wing	885	885
Addition	0	140
Research Group Rooms, Willcocks Wing	600	575
Addition	0	355
Theorists	220	460
Research Library, Willcocks Wing	260	0
Addition	0	245
Graduate Lounge, Willcocks Wing	35	35
Addition	0	100
<b>TOTAL NASM</b>	<b>13,560</b>	<b>17,225</b>

### **Project Cost**

The projected costs and available funding for the first stage of the third and fourth floor addition to the St. George Street Wing are shown below:

	<b><u>Governing Council Approval (June, 1998)</u></b>	<b><u>Current Design</u></b>
<b>Space</b>	3700 gsm	5321 gsm
<b>Project Cost</b>		
Construction	9,000,000	11,200,000
GST	207,900	259,000
<b>Total Construction Cost</b>	<b>9,207,900</b>	<b>11,459,000</b>
Contingency	919,100	1,115,000
Permits & Insurance	135,000	162,000
Professional Fees	1,368,000	1,590,000
Telephone/Data/AV Infrastructure	60,000	60,000
Furniture & Signage	400,000	20,000
Moving & Staging	30,000	30,000
NIC Trades	10,000	10,000
Commissioning incl. Fees	70,000	70,000
Landscape	100,000	100,000
<b>Total Project Cost</b>	<b>12,300,000</b>	<b>14,616,000</b>
<b>Funding</b>		
Donation	10,000,000	10,000,000
Interest	2,300,000	918,000
<b>Total</b>	<b>12,300,000</b>	<b>10,916,000</b>
<b>Shortfall</b>	<b>0</b>	<b>3,700,000</b>

Interim financing is required in order to tender the project, with the \$3.7 million shortfall in funding to be paid back in one of the following ways:

- CFI funding, if the research application is approved,
- Additional private donations,
- Should either of the first two options fail to materialize, a loan agreement to be negotiated with the Chief Financial Officer. The Faculty of Arts and Science will assume responsibility for the repayment of the loan and debt service charges.

### **Schedule**

Assuming a tender price within the budget, the construction of the first stage of the addition will begin June 1, 1999, with occupancy by September, 2000.



**Recommendation**

On June 25<sup>th</sup>, 1998, Governing Council approved the following two part motion,

THAT the capital project contained in the Users' Committee Report for the Department of Chemistry, including the appendices, a copy of which is attached to Report Number 89 of the Academic Board as Appendix "B", be approved in principle at an estimated cost of \$19.2 million; and

THAT the first phase including the addition of 40,000 gross square feet (3,700 gross square metres) of research laboratories on top of the St. George wing and modifications to the mechanical servicing systems, be approved at an estimated cost of \$12.25 million, the funds to be provided from a benefaction.

It is proposed,

THAT part two be changed as follows,

- the cost be increased from \$12.25 million to \$14.6 million
- the space plan to be increased from 3,700 to 5,320 gross square metres
- the source of funding for the additional cost be the Canada Foundation for Innovation, additional private donations, or a loan agreement with the Faculty of Arts and Science responsible for the repayment of the loan and debt service charges.




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## MEMORANDUM

**To:** Planning and Budget Committee

**From:** Derek McCammond 

**Re:** Lash Miller Chemistry Addition and Renovation

**Date:** October 7, 1999

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In April, 1999, and May, 1998, the Planning and Budget Committee approved staged construction of the first phase addition and renovations to the Lash Miller building and the Users' Committee Report for improvements to the existing portions of the building.

The Users' Committee Report identified laboratories which would be upgraded to become modern research facilities, items of deferred maintenance which would be rectified and required improvements to the infrastructure. It was anticipated that grant funding from the Canada Foundation for Innovation (CFI), when approved, would fund the proposed renovations in sequence.

During the concept design process for Phase I, it was concluded that a more effective approach to the project would be to build the two storey addition to the full template of the lower floors. The increased scope of the construction resulted in an increase to the project cost. In order to minimize the increased cost, it was agreed to shell four laboratories.

The subsequent success of the CFI application matched to the Davenport gift now enable the Department to complete the plan. In this regard, the Department of Chemistry requests permission to proceed with Phase II of the Lash Miller renovations. However, rather than immediately proceeding with completion of the laboratory shell space, the first priority is to renovate the lobby, construct the Davenport seminar room and fit out the library. These together with renovations to the stair tower will complete the logical sequence to construction now occurring.

Funding will be encumbered to complete the unfinished laboratories as soon as researchers who will occupy the laboratories are identified. Similarly, the undergraduate laboratories, now located on the first and second floors of the St. George Street block will be upgraded and remain in use for these purposes only if a larger plan for central laboratories is not realized.

The Department will begin preparing the detailed plan for the renovations to the tower this fall.

### Sources of Funding

Davenport gift	\$11 M (interest @ \$.55 M/year)
CFI	7.27 M
ORDCF	<u>7.27 M</u>
Total	\$25.5 M

The following table identifies project cost estimates for portions of the projects described earlier (see attached Table A).

<u>Project Components</u>	<u>Total Project Cost</u>
Phase I (under construction	\$ 14,616,000
Stair Tower	572,520
Lobby Renovations	888,456
Davenport Seminar Room	271,599
Library Fit-Out	1,056,826
Theorists/4 <sup>th</sup> Floor Renovations	782,048
Completion of Shelled-in Laboratories	<u>2,149,409</u>
Sub-Total	\$20,336,858

The remaining funding of approximately \$5.16 M will fund renovations in the tower, completing the Department's master plan.

### Recommendation

It is recommended that the Department of Chemistry proceed to complete the renovations identified in the Users' Committee Report in the revised priority sequence.

DM/ek