



University of Toronto

FACILITIES AND SERVICES

TO: Business Board

SPONSOR: Cathy Riggall, Assistant Vice president, Facilities and Services

CONTACT INFO: 416-978-7473 or Catherine.riggall@utoronto.ca

DATE: October 23, 2003 for November 10, 2003 Meeting

AGENDA ITEM: 9(a)

ITEM IDENTIFICATION:

Report on Deferred Maintenance

JURISDICTIONAL INFORMATION:

The Business Board is responsible for University owned or leased property, including physical plant and equipment and any general policies governing the maintenance of buildings and grounds.

PREVIOUS ACTION TAKEN:

None. This report is a follow up report to "Crumbling Foundations" presented in April 2003.

HIGHLIGHTS:

This report provides an updated view of the state of deferred maintenance, this time incorporating information from all three campuses. The focus is on identifying the five year plans for dealing with deferred maintenance issues, describing sources of funding as well as the three categories of priority used in decision making. There is still a shortage of funding on all three campuses, but the situation does improve over the five year horizon.

FINANCIAL AND/OR PLANNING IMPLICATIONS:

The report will provide input to the long range budget planning process.

RECOMMENDATION:

Report is for information only.

Report on Deferred Maintenance

November 2003



**C. Riggall
P. Donoghue
K. McLean**

Table of Contents

Introduction	1
The Inventory of Buildings	1
St. George	1
Scarborough	2
Mississauga	2
Other Data Sources	2
Solving the problem of deferred maintenance – funding	3
Solving the problem of deferred maintenance – priorities	3
Solving the problem of deferred maintenance – other Strategies	4
Appendix A – Facilities Condition Indices	5
Chart I – Deferred maintenance summary of priority projects and funding, all campuses	9
Appendix B - Detail list of priority projects	10
Appendix C – Project descriptions	19

Report on Deferred Maintenance – November 2003

Introduction

In April of 2003, a report entitled *Crumbling Foundations* was presented to the Business Board for information. The report reviewed the state of the infrastructure on the St George campus, with a particular focus on buildings and the deferred and pending maintenance requirements. The campus has an investment of \$2 billion in buildings; the deferred maintenance amount at that time was \$273 million.

This report is intended to provide an updated view of the situation, this time incorporating data from the Mississauga and Scarborough campuses. The data is a combination of the results of building specific engineering surveys and theoretical data that incorporates the life cycle of the building and assumes the normal work that will be required. All Ontario universities are involved in a project to review all buildings and prepare a comparative data base that indexes the results by dividing the amount of deferred and pending maintenance by the current replacement cost of the building. The output is referred to as the Facilities Condition Index or FCI.

The Inventory of Buildings

St. George Campus

At the time of the original report, the data included 103 buildings, with a gross floor area of 886,000 gross square metres. Engineering studies had been completed on 18 buildings that accounted for 53% of the gross square metres. The FCI at the time was 13.6

Since that time, another 21 buildings have been surveyed with the total floor space included now reaching 69%. The new FCI is 12.3. The primary reason for the improvement in the FCI is the improvement in the data. The new index includes a larger percentage of buildings for which specific studies have been completed, and a smaller percentage of buildings for which the theoretical model has been used. While we do not have comparable data for all other universities, it seems reasonable to assume that the average index has also been improving as more focused data is included.

Two more years of engineering surveys remain to be done before all buildings on the St George campus will have been reviewed in detail. The final data will be available in February of 2005.

University of Toronto at Scarborough

There are 14 buildings in the database for the UTSC campus, with a total gross floor area of 61448 square metres. Total replacement value of these buildings is estimated at \$97.4 million, with a total deferred maintenance at \$42 million. This translates to an FCI of 43.0. This number seems exceptionally high when compared with either St George or Mississauga. One possible cause is that the replacement cost of the buildings may be understated. Scarborough has a replacement value of \$1585 per gross square metre, compared to St. George at \$2271 and Mississauga at \$3488. The model also assigns a higher value to buildings that have labs than to classroom and office buildings. Scarborough has fewer labs than the other two. For the time being, the data should be viewed as indicative only.

It should be noted that the total gross square meters includes several portables that were on site when the original inventory was done. It does not include the new buildings completed or under construction.

UTSC has elected not to have the engineering surveys done until calendar 2004, when most of the construction and renovations that would distort the data will be completed. These results will be added to the database in February 2005.

University of Toronto at Mississauga

The survey data includes 8 buildings with a gross square area of 72088 metres. Total replacement value of the buildings was estimated at \$251 million, with deferred maintenance of \$21 million. The FCI is estimated to be 8.5.

New buildings have been added or are under construction. These are not included in the database.

UTM has had the surveys done for their buildings, but the data will not be available for inclusion in the database until February 2004.

See appendix A for building detail for all three campus units.

Other Data Sources

Each of the Facilities departments on the three campuses has maintained lists of projects that need to be done. These are identified in a variety of ways, ranging from failure situations (something breaks) to work that is required to comply with laws or regulations. Attempts are made to package and prioritize work into manageable projects to maximize the impact of the funds available. Differences in data definitions mean that we cannot track projects from the FCI list to the Facilities list of priorities, although we are working on increasing the consistency. However, all the work on the FCI list is included on the deferred maintenance list.

Solving the problem of deferred maintenance - funding

Simply knowing the size of the problem does not help solve it. Funding is required. Traditionally the primary source of funding for deferred maintenance has been the Provincial Government's Facilities Renewal Program. Each year, \$42 million is allocated to universities and colleges to assist with deferred maintenance. The allocation to each university is based on its share of space, although a minimum is set so that no one gets less than 0.5% of the total. U of T's share of this funding is \$4,896,546. St George gets \$4,164,800; UTSC gets \$348,674 and UTM gets \$383,072. Clearly this is inadequate in all three cases.

Some years, this FRP money has been augmented by Superbuild funding, but for 2003 no Superbuild funds were available.

Recognizing the inadequacy of government funding, and in fact the explicit expectation of the province that the University will use its own funds for deferred maintenance, the administration have indicated that in the new long range planning cycle, incremental funds will be made available, increasing over two years until a level of 1% of the annual operating budget is allocated to this purpose. The first increment of \$4.9 million is planned for 2004/05, with an equal amount added the following year. It should be noted that this is not yet a committed amount – the overall financial situation of the University will have to be taken into account, particularly in view of the recent change in government.

Solving the problem of deferred maintenance – priorities

Each campus has developed a five year plan to deal with the most critical maintenance items on a priority basis. Three categories of projects have been established -

- Required – are projects that must be done for legal or regulatory reasons or to alleviate unsafe conditions. In some cases, we have some discretion with regard to time, but in all cases, the work must be done.
- Priority 1 – are projects that are considered high priority because serious damage is likely to occur if they are delayed any longer.
- Priority 2 – are projects that should be done soon, but are slightly less critical than the preceding two categories.

Chart I summarizes the funding from government sources and the University, and project costs by category for all campuses over the next five years. It highlights the fact that we will still be under funded for some very important projects. The problem is equally acute on all three campuses.

Appendix B contains a list of all projects for each of these categories for the next five years with the preliminary estimate of costs.

Appendix C provides more description of the required projects.

It should be noted that projects that are not funded in the year they are identified are not automatically moved to the top of the priority list for the next year. Each year, we will

reevaluate the outstanding work and set new priorities. It is possible that new projects will be added that have higher priorities, depending on the situation at the time.

Solving the problem of deferred maintenance – other strategies

Two other strategies for funding deferred maintenance are under consideration. We are having conversations with Development about the possibility of creating a new endowment fund, focused on generating funds to be used for maintenance and repairs to buildings.

We are also considering how this information can be used to approach the new Provincial government, to make the case for increased funding.

Appendix A

	Building Name	Bldg Usage	Age	GSM	Replacement Value	Deficiencies	FCI 2001	FCI REV. 2002
Audited in 2001	001 - University College	Academic/Administration	144	16,922	\$40,259,130	\$1,953,000	0.05	0.05
	003 - Sigmund Samuel Library Building	Library	110	17,818	\$24,645,858	\$7,846,750	0.32	0.32
	005 - Medical Sciences Building	Acad & Research	34	72,372	\$237,249,167	\$22,602,200	0.10	0.10
	006 - John P. Roberts Library Building	Library	29	80,882	\$111,875,982	\$27,845,000	0.25	0.25
	008 - Wallberg Building	Acad & Research	53	17,160	\$56,253,740	\$3,564,300	0.06	0.06
	009 - Sanford Fleming Building	Acad & Research	95	21,833	\$71,572,722	\$2,259,200	0.03	0.03
	022 - Mechanical Engineering Building	Acad & Research	93	9,723	\$31,873,841	\$2,623,000	0.08	0.08
	025 - FitzGerald Building	Acad & Research	75	9,392	\$30,788,760	\$1,854,000	0.06	0.06
	033 - Sidney Smith Hall	Academic/Administration	41	28,039	\$46,152,194	\$14,188,900	0.31	0.31
	051 - Edward Johnson Building	Academic	42	14,881	\$22,439,953	\$2,735,600	0.12	0.12
	062 - Earth Sciences Centre	Acad & Research	13	30,345	\$99,476,676	\$4,521,500	0.05	0.05
	065 - Dentistry Building	Acad & Research	52	23,898	\$78,342,185	\$6,224,000	0.08	0.08
	068 - Clara Benson Building	Athletic Facility	52	9,988	\$12,986,398	\$3,964,752	0.31	0.31
	068A - Warren Stevens Building	Athletic Facility	22	19,568	\$25,442,314	\$3,364,932	0.13	0.13
	070 - Galbraith Building	Academic	42	19,577	\$29,521,333	\$3,398,500	0.12	0.12
	072 - Ramsay Wright Zoological	Acad & Research	37	22,997	\$75,388,535	\$7,561,500	0.10	0.10
	073 - Lash Miller Chemical Laboratories	Acad & Research	39	21,681	\$71,074,437	\$5,955,000	0.08	0.08
	078 - McLennan Physical Laboratories	Acad & Research	35	31,826	\$104,331,675	\$10,425,100	0.10	0.10
Audited in 2002/2003	004 - McMurrich Building	Administration	79	5,400	\$8,888,400	\$587,751	0.34	0.07
	006A - Claude T. Bissell Building	Academic	31	9,298	\$14,021,012	\$903,735	0.21	0.06
	006B - Thomas Fisher Rare Book	Library	29	6,383	\$8,828,966	\$708,078	0.33	0.08
	007 - Mining Building	Academic	98	11,064	\$16,684,069	\$3,688,710	0.27	0.22
	008A - D.L. Pratt Building	Acad & Research	37	8,130	\$26,651,685	\$1,099,500	0.17	0.04
	010 - Simcoe Hall	Administration	78	5,893	\$9,699,878	\$1,363,884	0.32	0.14
	010A - Convocation Hall	Academic	95	4,348	\$12,028,307	\$2,970,567	0.20	0.25
	016 - Banting Institute	Acad & Research	72	9,466	\$31,031,347	\$6,187,093	0.25	0.20
	018 - Central Steam Plant	Maintenance	50	3,264	\$29,185,741	\$3,647,528	0.06	0.12
	019 - Kings College Circle-21	Administration	44	2,331	\$3,836,826	\$636,879	0.27	0.17
	020 - Rosebrugh Building	Academic	81	5,628	\$8,486,799	\$1,825,044	0.17	0.22
	021 - Engineering Annex	Acad & Research	82	1,941	\$6,362,967	\$1,122,916	0.19	0.18
	023 - University College Union	Administration	117	2,090	\$3,440,140	\$684,442	0.35	0.20
	036 - Nursing Building	Academic	49	3,131	\$10,264,013	\$1,217,208	0.18	0.12

To Be Audited	039 - St. George Street-49	Academic	102	787	\$1,186,765	\$422,988	0.27	0.27
	052 - Best Institute	Acad & Research	48	6,884	\$22,567,060	\$2,778,628	0.18	0.12
	054 - Spadina Crescent-1	Administration	127	8,647	\$14,232,962	\$4,753,710	0.25	0.33
	079 - F. Norman Hughes Pharmacy	Acad & Research	39	6,196	\$20,311,665	\$1,418,160	0.27	0.07
	084 - CIUT Radio	Other	110	660	\$1,632,063	\$348,114	0.15	0.21
	122 - North West Chiller Plant	Maintenance	31	1,316	\$11,767,290	\$2,051,011	0.10	0.17
	123 - Ont. Inst. for Studies in Educatio	Administration	42	38,156	\$62,804,776	\$5,779,493	0.23	0.09
	002 - Hart House	Athletic Facility	83	19,022	\$45,255,240	\$11,118,125	0.25	0.25
	011 - Tanz Neuroscience Building	Acad & Research	70	5,421	\$17,771,068	\$1,106,447	0.06	0.06
	012A - Munk Nort	Academic	93	2,264	\$3,414,021	\$10,000	0.00	0.00
	012B - Munk Centre Sout	Academic	93	2,238	\$3,374,814	\$10,000	0.00	0.00
	012C - Munk East	Academic	93	2,276	\$3,432,117	\$10,000	0.00	0.00
	014 - Bloor Street West-371	Administration	92	16,568	\$27,270,928	\$5,276,306	0.19	0.19
	024 - Haultain Building	Administration	98	3,258	\$4,912,934	\$1,089,981	0.22	0.22
	026 - Cumberland House	Administration	142	1,581	\$2,384,085	\$513,762	0.22	0.22
	027 - Physical Geography Building	Academic	76	1,952	\$2,943,538	\$553,098	0.19	0.19
	028 - Architecture Building	Academic	94	6,452	\$9,729,358	\$2,144,192	0.22	0.22
	032 - Wetmore Hall - New College	Academic	37	12,919	\$13,494,283	\$2,925,900	0.22	0.22
	032A - Wilson Hall - New College	Academic	33	18,360	\$27,686,146	\$1,091,400	0.04	0.04
	034 - Massey College	Academic	39	7,456	\$17,738,570	\$4,534,571	0.26	0.26
	037 - DDO	Acad & Research	69	2,132	\$6,989,101	\$435,158	0.06	0.06
	038 - Woodsworth College	Academic	109	5,332	\$12,685,361	\$1,200,639	0.09	0.09
	040 - Flavelle House	Academic	100	11,512	\$17,359,636	\$5,111,674	0.29	0.29
	043 - School of Graduate Studies	Academic	111	1,139	\$1,717,566	\$240,186	0.14	0.14
	047 - Canadiana Gallery	Library	52	2,864	\$3,961,485	\$823,200	0.21	0.21
	049 - Aerospace	Acad & Research	43	8,104	\$26,566,452	\$5,853,563	0.22	0.22
	050 - Falconer Hall	Administration	101	2,453	\$4,037,638	\$803,589	0.20	0.20
	053 - Institute of Child Study	Academic	71	2,489	\$3,753,312	\$256,880	0.07	0.07
	055 - Highland Avenue-93	Residential	86	1,777	\$1,856,130	\$565,918	0.30	0.30
	056 - Graduate Students Union	Administration	82	920	\$1,514,320	\$372,774	0.25	0.25
	057 - Bancroft Building	Administration	76	3,728	\$5,621,675	\$1,056,341	0.19	0.19
	061 - Borden Building South	Administration	82	2,443	\$3,683,946	\$908,050	0.25	0.25
	061A - Borden Building North	Administration	92	3,425	\$5,164,763	\$1,086,823	0.21	0.21
	067 - Huron Street-215	Administration	41	11,572	\$19,047,512	\$1,524,914	0.08	0.08
	069 - Willcocks Street-47	Administration	92	458	\$753,868	\$170,843	0.23	0.23
	071 - College Street-92	Administration	82	592	\$974,432	\$220,403	0.23	0.23

To Be Audited	074 - Spadina Avenue-581	Administration	97	441	\$725,886	\$213,577	0.29	0.29
	076 - Willcocks Street-45	Administration	92	469	\$771,974	\$153,080	0.20	0.20
	077 - Sussex Court	Academic	99	3,293	\$4,965,712	\$1,570,305	0.32	0.32
	080 - Bahen Information Technology	Acad & Research	0	29,000	\$95,067,510	\$10,000	0.00	0.00
	080A - Bahen Underground Parking	Agriculture	0	11,600	\$9,104,956	\$10,000	0.00	0.00
	082 - Gage Building	Academic	49	1,353	\$3,218,922	\$693,169	0.22	0.22
	083 - McCaul Street-254/256	Academic	90	4,391	\$6,621,452	\$1,230,938	0.19	0.19
	088 - St. George Street-123	Administration	103	790	\$1,300,340	\$445,701	0.34	0.34
	089 - Admissions Office	Administration	94	1,802	\$2,966,092	\$594,790	0.20	0.20
	090 - College Street-88	Academic	120	1,734	\$2,614,803	\$208,440	0.08	0.08
	091 - Studio Theatre	Academic	88	442	\$1,222,749	\$261,972	0.21	0.21
	093 - Electrometallurgy Lab	Acad & Research	55	176	\$576,961	\$115,169	0.20	0.20
	097 - Centre for Medieval Studies	Academic	99	799	\$1,204,860	\$380,996	0.32	0.32
	097A - Queens Park Crsc. E.-39(rear)	Administration	99	165	\$271,590	\$89,014	0.33	0.33
	102 - Soldiers Tower	Other	78	300	\$713,730	\$135,565	0.19	0.19
	103 - School of Continuing Studies	Academic	52	1,706	\$2,572,580	\$449,550	0.17	0.17
	104 - Economics Department	Academic	104	2,403	\$3,623,628	\$1,016,072	0.28	0.28
	105 - Fields Inst for Research in Math S	Academic	7	3,239	\$4,884,282	\$200,610	0.04	0.04
	110 - St. George Street-121	Administration	114	1,244	\$2,047,624	\$289,019	0.14	0.14
	111 - Bloor Street West-246	Academic	52	6,698	\$10,100,316	\$1,925,206	0.19	0.19
	115 - St. George Street-97	Administration	113	1,039	\$1,710,194	\$261,479	0.15	0.15
	117 - W.B. MacMurray Field House	Athletic Facility	106	368	\$875,509	\$73,591	0.08	0.08
	120 - Louis B. Stewart Observatory	Academic	145	537	\$809,775	\$223,291	0.28	0.28
	123A - OISE Underg. Parking Garage	Agriculture	33	8,260	\$6,483,357	\$10,000	0.00	0.00
	125 - Spadina Avenue-703	Administration	112	705	\$1,160,430	\$216,720	0.19	0.19
	132 - Innis College	Academic	26	3,361	\$5,068,254	\$619,814	0.12	0.12
	134 - Joseph L. Rotman School of Managem	Academic	7	9,987	\$15,059,997	\$1,120,143	0.07	0.07
	138 - Huron Street-370	Academic	118	443	\$668,026	\$238,350	0.36	0.36
	142 - Spadina Ave-713	Administration	97	311	\$511,906	\$161,799	0.32	0.32
	143 - Koffler Student Services Centre	Academic	96	11,511	\$27,385,820	\$5,734,843	0.21	0.21
	145 - Koffler Institute for Pharmacy	Academic	12	2,118	\$3,193,859	\$170,232	0.05	0.05
	146 - Sussex Avenue-40	Administration	112	375	\$617,250	\$77,897	0.13	0.13
	153 - Spadina Road-56	Administration	92	899	\$1,479,754	\$279,552	0.19	0.19
	171 - Spadina Ave-455	Administration	74	987	\$1,624,602	\$370,017	0.23	0.23
	172 - Macdonald-Mowat House	Residence	130	1,514	\$1,581,418	\$293,422	0.19	0.19
	174 - College Street-203	Administration	31	1,369	\$2,253,374	\$541,311	0.24	0.24

	Values as at January 2003				\$2,013,741,422	\$273,165,188	0.136
	Values as at October 2003			\$886,451	\$2,013,741,422	\$248,483,044	0.123
	UTSC (Scarborough)						
	200S - S-Wing	Multi-Use	37	29,568	\$44,587,361	\$28,475,139	0.64
	261 - Coach House	Academic	90	250	\$325,050	\$136,893	0.42
	200D - Portable S-359	Storage	22	71	\$45,175	\$16,124	0.36
	200R - R-Wing	Academic/Administration	30	19,839	\$32,654,994	\$9,574,057	0.29
	200F - Portable S-361	Academic	32	214	\$322,703	\$75,802	0.23
	200H - Humanities Building	Academic/Administration	37	9,217	\$15,171,182	\$3,210,246	0.21
	263 - Miller Lash House	Administration	90	1,203	\$1,980,138	\$291,365	0.15
	200C - Portable S-358	Academic	22	71	\$107,065	\$12,835	0.12
	202 - Soil Erosion Building	Acad & Research	14	323	\$1,058,855	\$82,867	0.08
	200E - Portable S-360	Academic	22	285	\$429,769	\$32,591	0.08
	200A - Portable S-356	Academic	22	71	\$107,065	\$8,115	0.08
	200B - Portable S-357	Academic	22	71	\$107,065	\$8,115	0.08
	230 - Student Village Centre	Academic/Administration	12	191	\$454,408	\$25,428	0.06
	262 - Greenhouse Old Kingston Road	Storage	90	74	\$47,084	\$263	0.01
	Total Scarborough			61,448	\$97,397,915	\$41,949,840	0.430706
	Average replacement cost			\$636			
	MISSISSAUGA (Erindale)						
	322 - Geomorphology	Acad & Research	22	60	\$196,691	\$61,783	0.31
	311 - North Building	Acad & Research	34	9,459	\$31,008,399	\$6,043,579	0.19
	317 - Rock Magnetism Laboratory	Acad & Research	19	209	\$685,142	\$104,717	0.15
	313 - South Building	Academic/Administration	31	52,478	\$172,032,855	\$13,077,689	0.08
	312 - Central Utilities Plant	Maintenance	34	3,181	\$28,443,580	\$1,895,836	0.07
	316 - Drama Workshop	Academic	32	334	\$923,978	\$16,007	0.02
	314-Kaneff Ctr for Mgmt & Social Science	Acad & Research	9	3,376	\$11,067,169	\$177,871	0.02
	328 - Erindale College Student Centre	Administration	3	2,991	\$7,115,888	\$59,084	0.01
	Total Erindale			72,088	\$251,473,702	\$21,436,566	0.085
	Average replacement cost			\$3,488.43			

Deferred Maintenance - all Campuses - Five Year Spending Plan

			2003/04	2004/05	2005/06	2006/07	2007/08
Funding	FRP		4,896,546	4,896,546	4,896,546	4,896,546	4,896,546
	U of T		0	4,900,000	9,800,000	9,800,000	9,800,000
Total funding	Total		<u>4,896,546</u>	<u>9,796,546</u>	<u>14,696,546</u>	<u>14,696,546</u>	<u>14,696,546</u>
St. George funding	FRP		4,164,800	4,164,800	4,168,400	4,164,800	4,164,800
	U of T		0	4,167,738	8,335,476	8,335,476	8,335,476
	Total		<u>4,164,800</u>	<u>8,332,538</u>	<u>12,503,876</u>	<u>12,500,276</u>	<u>12,500,276</u>
Required			3,182,300	4,252,000	3,006,500	7,295,100	4,829,700
Priority 2			1,700,000	3,010,000	4,335,000	3,490,000	4,390,000
Priority 3			1,060,000	3,127,136	7,174,200	3,193,000	4,832,000
Total priority work			<u>5,942,300</u>	<u>10,389,136</u>	<u>14,515,700</u>	<u>13,978,100</u>	<u>14,051,700</u>
Not funded			<u>1,777,500</u>	<u>-2,056,598</u>	<u>-2,011,824</u>	<u>-1,477,824</u>	<u>-1,551,424</u>
UTSC funding	FRP		348,674	348,674	348,674	348,674	348,674
	U of T		0	348,920	697,840	697,840	697,840
	Total		<u>348,674</u>	<u>697,594</u>	<u>1,046,514</u>	<u>1,046,514</u>	<u>1,046,514</u>
Required			120,000	205,000	1,630,000	140,000	1,922,000
Priority 2			2,196,700	4,296,000	2,875,000	2,995,000	1,095,000
Priority 3			30,000	905,000	945,000	3,365,000	3,375,000
Total priority work			<u>2,346,700</u>	<u>5,406,000</u>	<u>5,450,000</u>	<u>6,500,000</u>	<u>6,392,000</u>
Not funded			<u>1,998,026</u>	<u>-4,708,406</u>	<u>-4,403,486</u>	<u>-5,453,486</u>	<u>-5,345,486</u>
UTM funding	FRP		383,072	383,072	383,072	383,072	383,072
	U of T		0	383,342	766,684	766,684	766,684
	Total		<u>383,072</u>	<u>766,414</u>	<u>1,149,756</u>	<u>1,149,756</u>	<u>1,149,756</u>
Required			4,105,000	2,205,000	1,415,000	1,390,000	845,000
Priority 2			450,000	1,340,000	675,000	500,000	475,000
Priority 3			0	1,395,000	1,810,000	1,630,000	1,440,000
Total priority work			<u>4,555,000</u>	<u>4,940,000</u>	<u>3,900,000</u>	<u>3,520,000</u>	<u>2,760,000</u>
Not funded			<u>4,171,928</u>	<u>-4,173,586</u>	<u>-2,750,244</u>	<u>-2,370,244</u>	<u>-1,610,244</u>
Total funding all campuses			<u>4,896,546</u>	<u>9,796,546</u>	<u>14,700,146</u>	<u>14,696,546</u>	<u>14,696,546</u>
Required			7407300	6662000	6051500	8825100	7596700
Priority 2			4346700	8646000	7885000	6985000	5960000
Priority 3			1090000	5427136	9929200	8188000	9647000
Total priority work			<u>12844000</u>	<u>20735136</u>	<u>23865700</u>	<u>23998100</u>	<u>23203700</u>
Not Funded			<u>7,947,454</u>	<u>-10,938,590</u>	<u>-9,165,554</u>	<u>-9,301,554</u>	<u>-8,507,154</u>

**FACILITIES RENEWAL PROGRAM ALLOCATION PLAN - Facilities and
Services St. George Campus
Five year plan
As at : October 2003**

**Category 1 - Projects Resulting from Legislation or Unsafe
Conditions**

	<u>2003/04</u>	<u>2004/05</u>	<u>2005/06</u>	<u>2006/07</u>	<u>2007/08</u>
PCB Transformers Replacement:					
MSB 1B	752,300				
MSB 1E & 5B		2,202,000			
UC, Banting, S. Smith, Pratt-Wallberg & Rosebrugh			1,796,500		
Robarts				1,202,400	
NWCP & Warren Stevens					1,239,800
CFC Chillers:					
Overhaul S. Smith	60,000				
Overhaul Zoology	60,000				
Overhaul Chemistry		120,000			
Overhaul Physics		120,000			
Overhaul Warren Stevens		120,000			
Overhaul NWCP & Dentistry		240,000			
Overhaul ESC, Bora Laskin & OISE		300,000			
Connect Physics and Chemistry to BCIT				2,476,000	
Connect Koffler to BCIT					150,000
Replace Chiller #2 and 3 in NWCP				1,181,700	1,181,700
Replace chiller at OISE				1,685,000	
Replace Zoology chiller					668,200
Replace Sidney Smith chiller					1,040,000
Asbestos:					
Tunnels Phase 2	200,000				
Central Steam Plant Phase 2	500,000				
Mechanical Rooms in Buildings Phase 2	300,000	300,000	300,000	300,000	300,000
Mould:					
Physics, Zoology	250,000				
Various other buildings		250,000	250,000	250,000	250,000
Underground Fuel Tanks:					
Medical Sciences	230,000				
Faculty of Education			60,000		
Aerospace	60,000				
Gage Institute	60,000				
School of Continuing Studies	60,000				
Dept. of Economics	60,000				
Faculty of Social Work	60,000				
Roof Anchors		600,000	600,000	200,000	
Fire Alarm Systems					

Lash Miller - Replace garage sprinkler system	80,000				
Electrical Hazards: Sigmund Samuel Library - Rewire emergency and main power circuits	450,000				
Sub-Totals, Category 1	3,182,300	4,252,000	3,006,500	7,295,100	4,829,700
<u>Category 2 - High Priority Repairs - Serious Damage May Occur if Deferred</u>	<u>2003/04</u>	<u>2004/05</u>	<u>2005/06</u>	<u>2006/07</u>	<u>2007/08</u>
Roof Replacement: 49, 65, 79& 97 St. George, Bissell, Fisher, S.Smith, Geography, Falconer Hall, E. Johnson, S. Fleming, UC, Mech. Eng., Banting, Con. Hall, S. Samuel Library, Benson	1,200,000	1,500,000	1,500,000	1,000,000	500,000
Envelope Rehabilitation: UC, Tanz, MSB, Robarts, S.Fleming - tuck pointing, step repairs, precast repairs, caulking		500,000	750,000	750,000	750,000
Exterior painting: Various buildings - Exterior wood soffits, fascia & historically significant decorative windows		100,000	100,000	100,000	100,000
Window Replacement/Repairs: Mining, Robarts, Banting, Wallberg, Borden, Con Hall, etc.			600,000		900,000
Lecture Halls/Laboratories: Convocation Hall, etc. seating, MSB millwork			200,000	500,000	500,000
Plumbing Upgrade: Replace galvanized supply piping in Fitzgerald, Tanz, Banting and Best Replace sewer lines in Banting and Best		250,000	400,000	400,000 200,000	400,000 400,000
Concrete/asphalt repairs to roads & sidewalks	100,000	140,000	140,000	140,000	140,000
Fire Alarm Systems 1 Spadina Sprinkler system Flushing and repairs Mining Bld. Install sprinkler system w/wing basement MSB replace pre-action sprinkler syst basement Lash Miller - install sprinklers 1st & 2nd flr N/S wing		100,000	210,000 35,000		300,000
Locking systems and hardware Key cylinder replacement Phases v, vi, vii, viii Lockset replacement i, ii, iii, iv		220,000 200,000	200,000 200,000	200,000 200,000	200,000 200,000
Sub-Totals, Category 2	1,300,000	3,010,000	4,335,000	3,490,000	4,390,000
Totals, Category 1 and 2	4,482,300	7,262,000	7,341,500	10,785,100	9,219,700
<u>Category 3 - Priority Deferred Maintenance</u>	<u>2003/04</u>	<u>2004/05</u>	<u>2005/06</u>	<u>2006/07</u>	<u>2007/08</u>
CSP - Replace HTHW convertors	200,000				

OISE - Replace cooling tower	200,000				
CED - Install new cable to Bora Laskin	150,000				
ESC - Refit fumehood drives		120,000	120,000	120,000	120,000
CSP - Repair chimney exterior			50,000		
Rotman - Replace humidification	180,000				
Physics - Upgrade HVAC in tower			250,000		
Physics - Replace elevator controls			600,000		
S. Fleming - Replace chilled water coils			65,000		
OISE - Replace boiler			585,000		
MSB - Replace burners on incinerator			39,000		
MSB - Replace duct insulation	500,000	500,000	500,000	500,000	
Interior painting			300,000	300,000	300,000
Washroom upgrades	100,000	300,000	300,000	300,000	300,000
Flooring:					
Carpet replacement	250,000	250,000	250,000	250,000	250,000
VCT replacement	100,000	100,000	100,000	100,000	100,000
Security System	250,000	250,000	250,000	250,000	250,000
Falconer Hall, Simcoe/Con Hall, Mechanical, Haultain - Replace electrical distribution panels		200,000	200,000	200,000	200,000
Sandford Fleming - Repair fire stopping					250,000
Engineering Annex - Replace stair treads		100,000			
S. Samuel, etc.- Replace doors		50,000	200,000	300,000	
T-8 Lighting Retrofits:					
Robarts			2,210,200		
Medical Sciences	1,117,136				
OISE				718,000	
Grounds Services					
Repair campus sanitary & storm syst	60,000		60,000		60,000
Gerstein Library - Irrigation	50,000				
Analysis of underground water distribution		100,000			
Galbraith Road sidewalk		150,000			
Philosophers Walk - South gates		60,000			
Repairs to ornamental fences			200,000		100,000
Water Mains system repairs	90,000	90,000	90,000	90,000	90,000
Bancroft Road - Brick and drain repairs		40,000			
Installation of irrigation systems various on Campus	60,000	60,000	60,000		
Philosophers Walk - Lighting		100,000			
Sigmund Samuel - South gates			30,000		
Recladding & painting waste bins		45,000	45,000		
Koffler Pharmacy regrading landscaping & driveway			30,000		
Massey Quad, walkway, flagstone and drainage					60,000
93 Highland repairs walkway & driveway					40,000
Fire alarm systems					
Pharmacy replace obsolete fire alarm syst			70,000		
Edward Johnson replace obsolete fire alarm syst			180,000		

Clara Benson replace obsolete Fire Alarm Syst			110,000		
GSU replace obsolete fire alarm system					25,000
Geography replace obsolete fire alarm syst					40,000
Best replace obsolete fire hose reels					20,000
150 St. George St. replace obsolete Fire alarm syst					65,000
Mining bld, replace obsolete fire alarm syst.					92,000
Banting upgrade and enclose exits					1,500,000
Warren Stevens replace obsolete fire alarm syst					110,000
DDO perimeter fencing			100,000		
Asphalt walkways Campus wide	50,000		50,000		
DDO main entrance & roads repairs			100,000		
Aerospace gates and fence repairs					60,000
Lash Miller patio - membrane	200,000				
Ramsay Wright - dielectric couplings	200,000				
Sub-Totals, Category 3	1,060,000	3,127,136	7,174,200	3,193,000	4,832,000
Grand Total, all categories	5,542,300	10,389,136	14,515,700	13,978,100	14,051,700

UTSC Deferred Maintenance/FRP List October 2003
(in thousands)

Location	Description	Five Year Plan				
		2003-04	2004-05	2005-06	2006-07	2007-08
Campus	PCB Transformers Replacement					1,773.0
Campus	Asbestos Removal/Re-Insulation	120.0	205.0		140.0	149.0
S-Wing	Replace 700 ton CFC Chiller			1,630.0		
	Required	120.0	205.0	1,630.0	140.0	1,922.0
Main Campus	Electrical Distribution - East Campus	451.0				
Main Campus	Elec Dist (West) + Outdoor Transformers		1,471.0			
S-Wing	New De-Aerator+Pumps	1,423.0				
S-Wing	Add Boiler 3		1,300.0			
S-Wing	New 1000 ton Chiller				1,870.0	
S-Wing	Add Boiler 4			1,350.0		
Main Campus	Ductwork and air circulation upgrade and repair	87.7	250.0	250.0		
S-Wing	Ductshafts -insulation and cladding		165.0			
H-Wing	Structural Repairs	30.0				
H-Wing	Rewiring and upgrade electrical supply			300.0	300.0	300.0
S-Wing	Rewiring and upgrade electrical supply		300.0	300.0	300.0	300.0
B-Wing	Roof Repairs - Exam & Test Facility		200.0			
H-Wing	Pod Roofs	90.0				
H-Wing	Chimney concrete repairs		50.0			
H-Wing	Exterior Concrete Repairs	80.0		250.0	250.0	
S-Wing, Level 1	Floor/Ceiling Tile Replacement	35.0	50.0	50.0	50.0	50.0
Main Campus	Network Infrastructure Upgrade: Classrooms, Offices, Labs			140.0		140.0
S-wing	Emergency Generator		300.0			
Main Campus	Exterior Campus Lighting		60.0	60.0	60.0	60.0
Main Campus	Repair and Repave Parking Lots A , B and D			75.0	75.0	75.0
Main Campus	Repair, Replace Asphalt, Relamp H-Wing entrances			100.0		
Campus	Replace Walkway to Sport Fields And Miller Lash				90.0	
Valley	Reinforcement of Bridge to Miller Lash		150.0			
Valley	Watermain Replacement (Valley)					170.0
	Priority 2	2,196.7	4,296.0	2,875.0	2,995.0	1,095.0

S-Wing	Switchgear Replacement		540.0			
H-wing	New Winterized Cooling Tower				1,290.0	
S-Wing	New Cooling Tower					1,370.0
S-Wing	Replace Boiler 1 (main)				1,400.0	
S-Wing	Replace Boiler 2					1,400.0
Main Campus	Roofing - general repairs		25.0	25.0	25.0	25.0
S-Wing	Exterior Concrete Repairs			50.0	50.0	
Main Campus	Replace deteriorated glazing			100.0	100.0	100.0
S-Wing	Fire Route Upgrade				200.0	
Main Campus	Elevators Upgrades		60.0	60.0	60.0	60.0
Main Campus	Doors and Hardware Replacement	30.0	40.0	40.0	40.0	40.0
S-Wing	Walkway repair		50.0	50.0	50.0	50.0
Campus	Signage/Wayfinding		20.0	20.0	10.0	10.0
Main Campus	Fire Alarm Upgrade		60.0	60.0	60.0	60.0
R-wing	Squash Court Air Conditioning Replacement		30.0			
Main Campus	Remove Ellesmere Stairs			60.0		
Main Campus	Replace and Maintain Internal Pathways		30.0	30.0	30.0	30.0
Main Campus	East Arrival court Upgrade Lot C			250.0		
Valley	High Voltage Feeder Replacement (Valley)					100.0
Miller Lash	Disabled Access To Miller Lash House			40.0		
Miller Lash	Landscaping, Fencing And Lighting			50.0		
Miller Lash	Waterproofing Of Foundation					80.0
Miller Lash	Exterior Repairs			30.0		
Miller Lash	Plaster Repair			30.0		
Priority 3		30.0	855.0	895.0	3,315.0	3,325.0
Total		2,346.7	5,356.0	5,400.0	6,450.0	6,342.0
		-	-	-	-	-

University of Toronto at Mississauga

Facilities Renewal Program Allocation Plan

Draft - October 15, 2003

(Awaiting official Chimera Engineering report)

(Note: Does not include residences, except power transformers and asbestos removal)

Category 1	2003/04	2004/05	2005/06	2006/07	2007/08
<u>Legislations or Unsafe Conditions</u>					
PCB Transformer Replacement:					
Main Power Distribution	880,000				
Central Utility Plant		330,000			
South Building			660,000		
North Building				165,000	
Residences (Phases I - V)					220,000
CFC Chillers:					
Central Utility Plant	1,200,000				
South Building		400,000			
Asbestos:					
Lislehurst	65,000				
Residences (Phases I - V)		300,000			
Central Utility Plant			50,000		
South Building				750,000	
North Building					125,000
Rock Lab, Geomorphology Lab, Thomas Cottage, Artist Cottage					50,000
Mould:					
Lislehurst		50,000			
Rock Lab, Geomorphology Lab, Thomas Cottage, Artist Cottage			50,000		
Underground Fuel Tanks:					
Central Utility Plant		30,000			
Grounds Compound			20,000		
North Building				20,000	
Elevators:					
South Building #1&2	100,000				
South Building #5		30,000			
North Building			30,000		
AccessAbility:					
South Building	200,000				
North Building		50,000			
Emergency Lighting:					
South Building	70,000				

North Building		40,000			
Kaneff Centre			10,000		
Drama Theatre				5,000	
Electrical Hazards:	125,000	125,000	125,000		
Rewire all outdoor lighting poles	100,000	200,000	200,000	200,000	200,000
Replace electrical panels - various buildings	65,000	50,000	50,000	50,000	50,000
Replace electrical distribution transformers	300,000	200,000	20,000	200,000	200,000
Replace MCC panels - various buildings	500,000	200,000	100,000		
Replace high power distribution cables	500,000	200,000	100,000		
Sub-Totals, Category 1	4,105,000	2,205,000	1,415,000	1,390,000	845,000
Category 2	2003/04	2004/05	2005/06	2006/07	2007/08
<u>High Priority Repairs</u>					
<u>Serious Damage May Occur If Deferred</u>					
Roof Replacement:					
Central Utility Plant	275,000				
South Building Research Wing		500,000			
Paleomagnetism Lab		40,000			
Envelope Rehabilitation:					
South Building, North Building - step repairs, caulking		50,000	50,000		
Exterior Painting:					
Various Buildings - soffits, fascia, window frames, door frames, siding, doors		25,000	25,000	25,000	25,000
Lecture Halls, Classes, Laboratories:					
Seating, Chalkboards, Tables, Benches	100,000	100,000	100,000	100,000	100,000
Plumbing Upgrades:					
Upgrade utility and HVAC piping throughout Central Utility Building, South and North Building	10,000	200,000	200,000	100,000	100,000
Diesel Generators:					
Central Utility Plant		150,000			
South Building			150,000		
North Building				125,000	
Kaneff Centre					100,000
Upgrade Fume Hood Motor Systems:					
Increase Capture Velocities and Install Vent Alarms	65,000	100,000	100,000	100,000	100,000
Concrete/Asphalt Repairs:					
Roads and Sidewalks		50,000	50,000	50,000	50,000
Extend Outer Circle Sidewalk		125,000			

Sub-Totals, Category 2	450,000	1,340,000	675,000	500,000	475,000
	-	-	-	-	-
Category 3 - Priority Deferred Maintenance	2003/04	2004/05	2005/06	2006/07	2007/08
Upgrade Windows and Frames - various buildings		370,000	45,000	25,000	25,000
Upgrade Exterior Doors - Various Buildings		20,000	20,000	20,000	20,000
Upgrade Greenhouse Lighting - South Building		25,000	25,000		
Repair Chimney - Central Utility Plant		40,000			
Replace Weeping Tiles - Lislehurst			55,000		
Upgrade Building Monitoring Systems - North/South Buildings		40,000	40,000	40,000	
Replace HVAC Eliminators - South Building		30,000	30,000	30,000	30,000
Add Steam Humidity Controls - North/South Buildings		100,000	100,000	100,000	100,000
Overhaul Main Cooling Tower and Pumps - Central Utility Plant			100,000	100,000	50,000
Replace Ceiling Tiles and Grids - Various Buildings		50,000	50,000	50,000	50,000
Upgrade HVAC Units - North Building		150,000	100,000		
Upgrade HVAC Controls - South Building		200,000	200,000	200,000	200,000
Replace/Overhaul Piping, Pumps and Valves - Various Buildings		100,000	100,000	100,000	100,000
Replace Domestic Water Systems - North/South Buildings			200,000	200,000	100,000
Overhaul Reheat Valves - North/South Buildings			50,000	50,000	50,000
Replace HVAC Chilled Water Coils			100,000	100,000	100,000
Replace Classroom Furniture		100,000	100,000	100,000	100,000
Flooring:					
Replace Quarry Floor Tiles - South Building		50,000	50,000	50,000	50,000
Replace Carpet - Various Buildings		40,000	40,000	40,000	40,000
Replace VCT - Various Buildings		25,000	25,000	25,000	25,000
T-8 Lighting Retrofit:					
Upgrade Lighting Fixtures - South & North Buildings		250,000	250,000	250,000	250,000
Painting:					
Interior Painting - Various Buildings		125,000	125,000	125,000	125,000
Grounds Services:					
Repair Sanitary and Storm Systems		50,000	50,000	50,000	50,000
Sub-Totals, Category 3	0	1,395,000	1,810,000	1,630,000	1,440,000
	-	-	-	-	-
Totals, Category 1, 2, 3	4,555,000	4,940,000	3,900,000	3,520,000	2,760,000

FACILITIES RENEWAL PROGRAM ALLOCATION PLANS

St. George Campus

Category 1 – Projects Resulting from Legislation or Unsafe Conditions

- 1. PCB Transformer Replacement, Phase 2 \$752,300**

Draft legislation requires us to remove from service and dispose of equipment containing over 500mg/kg of PCB, a suspected cancer-causing oil used in the past for cooling electrical equipment. This must be achieved by December 31, 2007. The St. George campus still has 33 transformers containing PCBs of this concentration. Replacement costs are estimated at \$7.2 million.
- 2. CFC-Refrigerant Chiller Overhauls, Phase 1 \$120,000**

While the production of refrigerants containing CFCs was legislated out of existence in 1996, there was no ban against continuing to use and refill large chillers with existing inventory until now. Draft legislation will still allow topping up chillers with this type of refrigerant until 2015; however, a complete refill will not be allowed after 2005. This means that if we have major repairs or an overhaul to be performed on a machine, legally we cannot put back the refrigerant that was removed to allow the work to take place. We have 19 such chillers, some of which have not been overhauled for as long as 15 years. (It should be noted that in July 2003, one of these failed catastrophically in the Zoology building.) It is estimated that to overhaul all of them prior to the deadline would cost \$1.14 million. Replacement costs for the oldest (14 of them exceed the standard service life) is estimated at \$8.7 million.
- 3. Asbestos Clean-up, Phase 2 \$1,000,000**

On November 28, 2002, the Ministry of Labour issued orders to remove all fallen asbestos in the steam tunnels and repair or remove any asbestos that will continue to fall because of deterioration of the coverings. Simply entry into the steam tunnels or moderate work in the Steam Plant or many mechanical rooms must be performed under Type 2 conditions (i.e. wearing respirators and Tyvek suits). Repair work can take 2 or 3 times longer under these conditions. Work refusals are common. If a serious breakdown of the steam system occurs during the winter, delays in repairing the problems could result in no heat to large parts of the campus.

In 2002-3, a first phase of the clean-up work was achieved in the steam tunnels, the plant and a number of mechanical rooms in the buildings. In 2003-4, the remaining tunnels will be cleaned in accordance with the Ministry's schedule, as

well as the plant and the beginning of ongoing annual remedial work necessary in the mechanical rooms.

4. Mould Abatement, Phase 2 \$250,000

The Zoology Building contains very low temperature cooling piping running in the ceiling spaces to cold and environmental rooms. Two years ago, many insulation repairs and tile replacements treating the most acute areas prevented the building from being closed. Planned reductions in the facility's requirements this year will provide an opportunity to extend the remedial work.

A sub-cooled raised computer room floor has resulted in severe mould growth on the underside of the concrete slab. Remedial work will involve mould removal and the installation of insulation and a vapour barrier to prevent re-contamination.

5. Underground fuel storage tanks, Phase 1 \$530,000

There are 11 sites on the St. George campus and at the Institute for Aerospace Studies that either are known or are suspected to contain buried tanks. Of these, only 4 are still in use for storing either diesel fuel for emergency generators or back-up heating oil for boilers. Legislation requires that tanks over 25 years in age and still in use be replaced with double-walled fiberglass tanks by October 1, 2006. Out-of-service tanks are to be removed as soon as possible.

It should be noted that a major leak of a buried tank at the Medical Sciences Building this year resulted in an estimated \$2-300,000 in remediation and replacement costs. Fortunately, the University was not fined for polluting the storm sewer system, simply because the appropriate action was taken to minimize the effect after the fact. However, a commitment was made to the City to take proactive measures to ensure that it does not occur again.

6. Lash Miller – Replace garage sprinkler system \$80,000

The existing Fire Sprinkler System in the underground garage at Lash Miller is badly corroded and leaking in many places. The system is constantly tripping due to the leakage problems and creating false alarms. If activated we have serious concerns as to whether or not it would be able to sustain the water pressure before bursting. It is imperative that this system be replaced immediately in order to protect the Public and University property.

7. Sigmund Samuel Library – Rewire emergency and main power circuits \$450,000

It was recently discovered that the emergency power system and the main power system have somehow become interconnected in the past 10 years. Shutting

down one system for maintenance or renovation work will not necessarily cut all the power. This situation was judged by the Electrical Safety Authority (the having legislated jurisdiction over the granting of electrical permits) to pose a serious life and/or fire hazard. It is essential that these two systems be re-designed and re-wired to ensure separation.

Category 2 – High Priority Repairs – Serious Damage May Occur if Deferred

1. Roof Replacements

\$1,200,000

Six buildings are the highest priority roof replacements given our budget. These building roof areas have no service life remaining. (Condition report from IRC roofing consultants is available upon request.) Included in the proposed tender will be: 49 St. George – Transitional Year Program, 65 St. George – School of Graduate Studies, 79 St. George – UC Union building, 97 St. George – Classic Department, 103 St. George – Robarts Library (Bissell and Fisher sections), and 230 College – Architecture Building. Based on tenders we will determine of all of the buildings can be completed given the budget limitations.

2. Concrete/Asphalt Repairs Around Campus, Phase 1 \$100,000

Winter damage and constant renovations and repairs to the Utilities infrastructure i.e. hydro, water mains, sewers, telephone, etc. has left the roads and sidewalks around the campus with pot holes, trip hazards, drainage problems, uneven patches and winter erosion. All of this leaves us with unsafe and esthetically unsightly transportation corridors for vehicles and pedestrians. This condition requires annual repairs, and this request is for Phase 1.

FACILITIES RENEWAL PROGRAM ALLOCATION PLANS

Scarborough

Category 1 – Projects Resulting from Legislation or Unsafe Conditions

1. CFC Refrigerant Chillers **\$1,630,000**

The production of refrigerants containing CFCs was legally banned in 1996, but there was no ban against the continuing use and refilling of large chillers with existing inventory until now. Draft legislation will allow topping up chillers with this type of refrigerant until 2015; however a complete refill will not be permitted after 2005. This means that if major repairs or overhaul to a chiller have to be done, the refrigerant that was removed to allow the work cannot be replaced. UTSC has one such chiller.

2. PCB Transformers Replacement **\$1,773,000**

Draft legislation requires us to remove from service and dispose of equipment containing over 500mg/kg of PCB, a suspected cancer causing oil used as a coolant in transformers in the past. This must be achieved by December 31st, 2007. UTSC has a total of six transformers containing PCBs of this concentration.

3. Asbestos Removal **\$614,000**

An asbestos analysis report is being prepared. An initial assessment indicates that there is no blown asbestos on the campus, but that there is asbestos in pipe insulation and in some floor tiles. Some asbestos pipe insulation has been removed this year, but more remains in the central boiler room and elsewhere and will be replaced as infrastructure upgrades to boilers and related equipment are undertaken over the next five years. Tiles with asbestos have to be replaced as part of any renovations in affected areas over the next five years

Category 2 – High Priority Repairs – Serious Damage May Occur if Deferred

1. Electrical Transformer and Electrical Distribution **\$4,322,000**

The main transformer for UTSC has ample capacity but is severely corroded and needs immediate repair. The distribution system from the main transformer to the rest of the campus is 35 years old and has to be upgraded to meet current demands and safety standards. The switchgear for the wiring and electrical supply is seriously

overloaded in both the Humanities and the Sciences Wings and inadequate for the demands of current computers and other devices; it needs to be completely overhauled. The Emergency Generator in the Science Wing is about to fail.

2. Mechanical Systems

\$6,866,000

There are serious problems with the 35 year old mechanical systems at UTSC. The two main boilers are operating with serious inefficiencies and are at the end of their life. Additional small boilers are required to ensure maximum flexibility, capacity and efficiency. Parts of the de-aerator have had to be patched and are now effectively beyond further repair and at the end of its life. UTSC is committed to a trimester operation and additional chilling capacity is essential to permit cooling in the summer semester. Many of the steam pipes are seriously corroded or almost plugged with deposits. In effect most parts of the mechanical systems at UTSC require substantial upgrading.

3. Concrete and Building Envelope Rehabilitation

\$1,185,000

The original buildings at UTSC are a massive poured concrete structure. The concrete is now deteriorating, and there are exposed rebars and problems with spalling that need to be corrected. Some roof repairs have been carried out over the last three years but the pod roofs in the Humanities Wing in particular urgently require repair if serious internal damage and damage to structural concrete through water penetration is to be avoided.

4. Asphalt, Road and Walkway Repairs

\$805,000

The main access roads and walkways on the Inner Campus at UTSC have deteriorated over the last decade because of a lack of funds for fundamental repairs, and have been further damaged by the current construction activity. The uneven surfaces and potholes look unsightly and pose an increasing safety problem. An engineering report suggests that the bridge to the Miller Lash House requires structural reinforcement if it is not to be washed away in the next major flood.

5. Network Infrastructure Upgrade

\$280,000

Network cables and hubs have been installed piecemeal over the last decade. They are already close to the limits of their capacity and will need to be replaced and/or upgraded to ensure dependable network services and to keep pace with the increasing demands for bandwidth for teaching, administration and research

FACILITIES RENEWAL PROGRAM ALLOCATION PLANS

Mississauga

Category 1 – Projects Resulting from Legislation or Unsafe Conditions

- 1. PCB Transformer Replacement \$2,255,000**
Draft legislation requires us to remove from service and dispose of equipment containing over 500mg/kg of PCB, a suspected cancer-causing oil used in the past for cooling electrical equipment. This must be achieved by December 31, 2007. UTM has a total of 27 transformers containing PCBs of this concentration.
- 2. CFC-Refrigerant Chillers \$1,600,000**
While the production of refrigerants containing CFCs was legislated out of existence in 1996, there was no ban against continuing to use and refill large chillers with existing inventory until now. Draft legislation will still allow topping up chillers with this type of refrigerant until 2015; however, a complete refill will not be allowed after 2005. This means that if we have major repairs or an overhaul to be performed on a machine, legally we cannot put back the refrigerant that was removed to allow the work to take place. UTM has 3 such chillers of which are older than 25 years and must be replaced.
- 3. Asbestos Clean-up \$1,340,000**
We are awaiting a final campus asbestos analyses report; however, a draft study indicates that a type 1, 2, 3 procedure is necessary to remove and replace this product. To date, some asbestos has already been removed from Lislehurst and the Central Utility Power Plant.
- 4. Mould Abatement \$100,000**
The buildings in question are secluded and aged dwellings with no direct humidity control system. This year, humidification controls were added at Lislehurst basement; however, more remedial work is necessary to control this situation in all areas.
- 5. Underground Fuel Storage Tanks \$70,000**
There are 4 sites on the UTM campus that are known to contain buried tanks all of which are still in use for storing either back-up heating oil for boilers or fuel for the Grounds' equipment. Legislation requires that tanks over 25 years in age and still in use be replaced with double-walled fiberglass tanks by October 1, 2006. Out-of-service tanks are to be removed as soon as possible.

- 6. Elevators** **\$160,000**
UTM has 4 remaining hydraulic elevators with single bottom cylinders requiring changes to double cylinder type. This is a requirement in order to operate and maintain the elevators in proper working order. To date we have already converted 3 which resulted in immediate shutdown due to hydraulic fluid leakage.
- 7. AccessAbility** **\$250,000**
UTM continues to provide proper "AccessAbility" to those in need. We have provided exterior ramps and automatic interior door openers throughout various buildings; however, much more remedial work is necessary.
- 8. Emergency Lighting** **\$125,000**
The emergency lighting fixtures throughout the various buildings are aged and do not meet code compliance; they must be replaced.
- 9. Electrical Hazards** **\$3,260,000**
The electrical power distribution systems throughout the campus are showing signs of fatigue use and are beginning to short out in many areas: The outside lighting pole fixtures have shorted out throughout the Outer Circle Ring Road and are currently being rewired (phase I); the motor control centers (MCC) at the Utility Power Plant caught on fire and were patched up temporarily to restore power (awaiting tenders to restore permanently); similarly all other remaining MCC units are showing similar potential hazards; the electrical distribution panels and transformers are also indicating their age and must be replaced; and lastly the main high voltage distribution cables must also be replaced (we already lost one of the main cables and are currently relying on our only spare cable of which we no longer have).

Category 2 – High Priority Repairs – Serious Damage May Occur if Deferred

- 1. Roof Replacements** **\$815,000**
Three of our building areas are in need of roof replacements – they have reached their service life and already possess patch work.
- 2. Envelope Rehabilitation** **\$100,000**
The North and South Building envelopes are showing severe cracks and deterioration at various entrance/exit steps which must be removed and re-poured.

- 3. Exterior Painting \$100,000**
Throughout various building soffits, fascia, window frames, door frames and exterior doors are all areas showing deterioration and must be scraped and properly repainted.
- 4. Lecture Halls, Classrooms, Laboratories \$500,000**
The furniture in the lecture halls, classrooms and laboratories are in need of replacement. Most of the equipment is 35 years old – tables are warped, chairs are cracked and most lab benches have deteriorated from chemical use products.
- 5. Plumbing Upgrades \$610,000**
The utility service piping is badly corroded, constrained internally and frailly supported after 35 years in service. The domestic hot and cold water piping must all be replaced and new insulation must be installed.
- 6. Diesel Generators \$525,000**
UTM only possess four diesel generators in total. The first three were installed more than 30 years ago and spare parts are no longer produced. The fourth unit is only two years old and is functioning very well. But there is a need to install two new generators to service the North and Kaneff Buildings – these buildings are relatively large in size and have a large occupancy quantity.
- 7. Research Equipment \$4,500,000**
The environmental chambers, autoclaves, glass washers, coolers, ice machines and many other research equipment are all over 30 years old, have reached their service life expectancy and must all be replaced.
- 8. Upgrade Fume Hood Motor Systems \$465,000**
With the guidance and support from the University's Health and Safety Department, it is necessary to replace the existing small motor systems at all fume hood installations. The newly sized motors provide a much better capture velocity when the sash opening is maintained at its proper height. UTM has already started to exchange some units but many more are in need to be done.
- 9. Concrete/Asphalt Repairs \$325,000**
Winter damage and constant renovations and repairs to the Utilities infrastructure i.e. hydro, water mains, sewers, telephone, etc. has left the roads and sidewalks around the campus with pot holes, trip hazards, drainage problems, uneven patches and winter erosion. All of this leave us with unsafe and esthetically unsightly transportation corridors for vehicles and pedestrians. In addition, the Outer Circle Ring Road sidewalk needs to be extended.