<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>1:30</td>
<td>Remarks from the Chair</td>
<td>Oral</td>
<td>Information</td>
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<tr>
<td>1:35</td>
<td>2. Grand Openings: Quantum-Nano Centre, Stratford Campus; Student “Success Week”</td>
<td>Video</td>
<td>Information</td>
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<td>1:45</td>
<td>3. Agenda/Additional Agenda Items</td>
<td>Oral</td>
<td>Decision</td>
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<tr>
<td>1:50</td>
<td><strong>Consent Agenda</strong></td>
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<td></td>
<td><strong>Motion:</strong> To approve and/or receive for information by consent items 4-8 below.</td>
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<td>4. Minutes of the 5 June 2012 Meeting [enclosed]</td>
<td></td>
<td>Decision</td>
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<td>5. Report of the President</td>
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<td></td>
<td>a. Promotion to Professor</td>
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<td>b. Recognition and Commendation</td>
<td>2-4</td>
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<td>c. Sabbatical Leaves/Leave Cancellations/Change and Administrative Appointments</td>
<td>5-12</td>
<td>Decision/Information</td>
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<td>6. Report from the Executive Committee</td>
<td>13</td>
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<td>7. Board of Governors Retreat</td>
<td>14-16</td>
<td>Information</td>
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<td>8. Constitution of The Graduate Studies Endowment Fund of the University of Waterloo</td>
<td>17-23</td>
<td>Decision</td>
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<tr>
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<td><strong>Regular Agenda</strong></td>
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<td>9. Business Arising from the Minutes</td>
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<td>2:00</td>
<td>10. Report of the Dean of Applied Health Sciences</td>
<td>Oral</td>
<td>Information</td>
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<td>2:15</td>
<td>11. Q &amp; A Period with the Dean of AHS</td>
<td>Oral</td>
<td>Information</td>
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<td>2:20</td>
<td>12. Report of the President</td>
<td>24</td>
<td>Information/Discussion</td>
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<tr>
<td></td>
<td>a. Global Scan</td>
<td>Oral</td>
<td>Information/Discussion</td>
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<td></td>
<td>b. University Scan</td>
<td>Oral</td>
<td>Information/Discussion</td>
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<td></td>
<td>d. Strategic Planning Update</td>
<td>Oral</td>
<td>Information/Discussion</td>
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<td>e. Strategic Mandate Agreement</td>
<td>Oral</td>
<td>Information/Discussion</td>
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<td>3:30</td>
<td>Break</td>
<td>Oral</td>
<td>Information</td>
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<td>3:50</td>
<td>14. Research Presentation: Professor Heather Keller, Department of Kinesiology</td>
<td>Oral</td>
<td>Information</td>
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Note: directions/parking information enclosed
4:05  15. Q & A Period with Professor Keller  

16. Reports from Committees  
   a. Audit  
   b. Building & Properties  
   c. Finance & Investment  
   d. Pension & Benefits  

4:10  30-47  Decision/Information  
4:20  48-85  Decision/Information  
4:30  86  Information  
4:40  87-98  Decision/Information  

17. Other Business  
   a. Federation Hall Update  
   b. Office for Persons with Disabilities Name Change  

5:00  Oral  Information  
5:10  99  Decision  

5:20  CONFIDENTIAL SESSION  

CONSENT AGENDA  

Motion: To approve or receive for information by consent items 18-20 below.  

18. Minutes of the 5 June and 18 July 2012 Meetings  
   [enclosed]  

19. Report of the President  
   a. New Appointments with Tenure  
   b. Tenure Recommendations  

20. Report from the Executive Committee  

REGULAR AGENDA  

21. Business Arising from the Minutes  
   a. TechTown Update  

5:25  Oral  Information  

22. Reports from Committees  
   a. Audit  
   b. Finance & Investment  
   c. Governance  

5:35  CS24  Information  
5:45  CS25  Decision  
5:55  CS26  Decision  

6:05  23. Other Business  

24. Next Meeting/Adjournment  
   Tuesday 5 February 2013 at 1:30 p.m.  

Note: To allow the board to complete a number of matters quickly and to devote more of its attention to major items of business, the agenda has been divided between items that are to be approved and/or received for information by consent and those that are to be presented individually for discussion and decision and/or information.  

A consent agenda is not intended to prevent discussion of any matter by the board, but items listed under the consent sections will not be discussed at the meeting unless a governor so requests. Governors are supplied with the appropriate documentation for each item and all items will be approved by means of one omnibus motion. The board will then move immediately to consideration of the items on the regular agenda.  

LA: tad/22 October 2012  
Logan Atkinson, Secretary of the University  

Please convey regrets to Tracy Dietrich at (519) 888-4567, x36125 or tdietric@uwaterloo.ca
FOR INFORMATION

Promotion to Professor

Policy 77, Tenure and Promotion of Faculty Members, provides that “Promotion to the rank of Professor recognizes a high order of achievement in both scholarship and teaching by tenured Associate Professors, together with satisfactory performance in service.

Although evidence of strong teaching performance is required, normally the greatest emphasis is placed on scholarship and achievement within an individual’s discipline. However, in exceptional cases, a tenured Associate Professor may be promoted on the basis of an outstanding teaching record accompanied by a continuing and long-standing record of satisfactory or better scholarship and service.

A continuous program of scholarship with positive peer review by nationally and internationally recognized scholars is essential for promotion to Professor. The candidate’s record is to be judged in comparison with the records of faculty members recently promoted at UW and other universities of comparable standing. Promotion to Professor is not an assured step in the career of a faculty member, and some will not attain this rank.”

The 2011-12 promotion cycle carried out under Policy 77 resulted in the following individuals being promoted to professor, effective July 1, 2012:

Joanne M. Atlee, Cheriton School of Computer Science  
Hany Aziz, Department of Electrical & Computer Engineering  
Mark Giesbrecht, Cheriton School of Computer Science  
Andrew Hunt, Department of History  
Eric Jervis, Department of Chemical Engineering  
Alejandro López-Ortz, Cheriton School of Computer Science  
David McKinnon, Department of Pure Mathematics  
Elizabeth Meiering, Department of Chemistry  
B. Doug Park, Department of Pure Mathematics  
Leonardo Simon, Department of Chemical Engineering  
John Watrous, Cheriton School of Computer Science

Feridun Hamdullahpur  
President
FOR INFORMATION

Recognition and Commendation
Professor Claudio Cañizares of the Department of Electrical & Computer Engineering has received one of Canada’s highest academic honours by being named a Fellow of the Royal Society of Canada. Cañizares was among the recipients of 11 medals and awards, which recognize outstanding achievements in several fields of research and scholarship. Founded in 1882, the Royal Society of Canada is the senior national body of distinguished Canadian scholars, artists and scientists. “Claudio Cañizares has done pioneering work in the field of voltage stability analysis of power systems, which has helped electric utilities worldwide, understand and prevent voltage collapse,” reads the Royal Society’s citation. “He is currently working on various aspects of power system analysis, control and optimization in the context of Smart Grids, renewable resources, energy systems and competitive electricity markets. He is considered one of the top power engineering researchers in Canada.” The medals and awards will be presented at the Society’s Induction and Awards Ceremony on 17 November 2012 at the Ottawa Convention Centre. [6 September 2012 Daily Bulletin]

The UK Institute and Faculty of Actuaries has awarded the Finlaison Medal to Professor Mary Hardy of the Department of Statistics and Actuarial Science in recognition of “her service to the Profession, both within the UK and internationally, in education, research, transition of research into practice and governance in furthering these aims.” Hardy’s research focuses on solvency and risk management for life insurance and pension plans. She is a Fellow of the Society of Actuaries and of the Institute of Actuaries, and is a Chartered Enterprise Risk Analyst. “The Finlaison medal is named after John Finlaison, inaugural president of the Institute of Actuaries from 1848 until his death in 1860,” reads the announcement. “The medal is awarded from time to time, in recognition of service to the actuarial profession in furtherance of one or more of the various objects set out in Institute and Faculty of Actuaries’ Royal Charter.” The award ceremony will be held in October at the Staple Inn Hall, London. [14 August 2012 Daily Bulletin]

Professor Robert Sproule of the School of Accounting and Finance has won one of three Desire2Excel Awards. The awards, established by learning solutions provider Desire2Learn, were announced at the Fusion 2012 Desire2Learn user’s conference in San Diego, California in July. The Desire2EXCEL Awards “recognize organizations and institutions that have used Desire2Learn technology to deliver learning experiences that are innovative, collaborative, or have a significant impact on education.” Sproule won in the Innovation Award category. Finalists for the award included entries from Daytona State College, USFQ Universidad San Francisco de Quito, and the Colorado Community College System. His winning course entry was AFM 131: An Introduction to Business in North America, which uses the Desire2Learn platform. He is the course author and instructor, with instructional design and development support coming from the Centre for Extended Learning. The awards committee stated that “Sproule was hailed as a ‘dedicated and creative teacher who is using technology in innovative ways to engage students.’” The committee added that “the course is offered in a blended model as well as a fully online format and has over 1,000 students who take the course. While high engagement in an online course is difficult to achieve, that is exactly what Sproule has achieved in AFM131.” [17 August 2012 Daily Bulletin]
Greg Michalenko, professor emeritus of the Department of Environment and Resources Studies, has received the Niagara Escarpment Commission’s (NEC) Lifetime Achievement Award for his outstanding contribution to the promotion of education and scientific research in the Niagara Escarpment Biosphere Reserve. With Michalenko’s input, a third-year environmental monitoring course was established at the University of Waterloo in 1996. The annual, week-long course studies forest biodiversity change in the Escarpment’s protected areas. Under Waterloo and NEC staff leadership, course participants assess an Escarpment study plot, collecting tree, shrub/sapling, ground cover and forest health data. Data are compiled and analyzed to evaluate trends and report on the state of Escarpment forests. The course has received worldwide attention as an academic-government collaborative success story. “Greg has brought the Niagara Escarpment to life for hundreds of students over sixteen years,” said NEC’s Senior Strategic Advisor Lisa Grbiniec. “We are delighted to acknowledge his efforts to further our understanding of the Niagara Escarpment with this award.” [1 August 2012 Daily Bulletin]

Two-year, $70,000 Banting Postdoctoral Fellowships have been award to Waterloo researchers James Bergstra, Eduardo Martin-Martinez and Prateep Nayak. Bergstra and Martin-Martinez have received the fellowships from the Natural Sciences and Engineering Research Council of Canada. Nayak was awarded a Banting fellowship by the Social Sciences and Humanities Research Council. “We are delighted to attract these three world-class young scholars to the University of Waterloo,” said Sue Horton, associate provost, graduate studies. “The Banting fellowships enable us to compete internationally for these extraordinarily talented individuals.” The Banting Postdoctoral Fellowships Program is designed to attract and retain top-tier postdoctoral talent, both nationally and internationally, to develop their leadership potential and to position them for success as research leaders. Seventy new fellowships are awarded each year. [18 September 2012 Daily Bulletin]

Ten graduate students have received prestigious Vanier Canada Graduate Scholarships. The awards recognize top academic achievement and leadership skills. The awards include Vanier scholarships from the Natural Sciences and Engineering Research Council of Canada (NSERC), the Social Sciences and Humanities Research Council of Canada (SSHRC) and Canadian Institutes of Health Research (CIHR). There are 156 scholars at 29 universities across Canada this year. The awards are open to Canadian and international doctoral students, and are worth $50,000 per year for three years. The following Waterloo students received Vanier scholarships:

- **Ahmed Abdel Aziz**, NSERC Vanier: He is in his second year of his doctoral program conducting research in nano electro-mechanical system. He has demonstrated excellence in the areas of applied engineering and theoretical and experimental physics. Aziz’s research has been published in top journals and conference proceedings such as IEEE MEMS conference.

- **Wilson Brenna**, NSERC Vanier: He is pursuing a master’s degree in the Department of Physics and Astronomy. When he begins doctoral studies in the fall, his research will involve the study of modifications to Einstein’s theory of relativity.

- **John Doucette**, NSERC Vanier: He is currently completing his master’s degree at the David R. Cheriton School of Computer Science. He will begin his doctoral program in the fall and begin his research on resource allocation in multi-agent systems. He began his post-secondary education at Dalhousie University at the age of 15. He is a recipient of the NSERC Canada Graduate Scholarship, an Ontario Graduate Scholarship and a David R. Cheriton Graduate Scholarship.

- **Kent Fisher**, NSERC Vanier: He is near completion of his master’s program in the Department of Physics and Astronomy. He is researching linear optics quantum channels at the Institute of Quantum Computing, and he plans to begin doctoral studies in the fall. Fisher has published and submitted papers in peer-reviewed journals, including in *Nature Physics*, a top physics journal.

- **Tanya Jonker**, NSERC Vanier: She is pursuing her PhD in the area of cognitive neuroscience in the Department of Psychology. She completed her master’s program in only nine months and received the NSERC Canada Graduate Scholarship. Her degree of volunteerism shows an exceptional and deep commitment to helping others in need.
• **Laura Sauder**, NSERC Vanier: She is pursuing her PhD in the Department of Biology. Her research involves investigating the ecology of microorganisms responsible for ammonia detoxification in sewage treatment plants. Her work will help improve efficiencies in wastewater treatment. She has received the NSERC Canada Graduate Scholarship, an Ontario Graduate Scholarship and several other awards.

• **Paul Seli**, NSERC Vanier: His research involves investigating the behavioural instability that accompanies sustained attention failures with the goal of providing better understanding of the basic cognitive mechanisms underlying such failures. He is currently involved in a number of research projects spanning a wide range of areas in psychology.

• **Lana Vanderlee**, CIHR Vanier: She is pursuing her PhD in health studies and gerontology. She is conducting groundbreaking research on the impact of nutrition labeling on menus. She has in the past received the Ontario Graduate Scholarship and the CIHR Banting and Best graduate scholarships.

• **Mohit Verma**, NSERC Vanier: As he begins his pursuit of his PhD in the Department of Chemical Engineering in May 2012, he will conduct research involving engineering nanoparticles for enhancing drug delivery to the back of the eye. He has held three NSERC grants as an undergraduate student.

• **Tracey Wagner-Rizvi**, SSHRC Vanier: She is in a doctoral program in global governance. Her research examines the dimensions of the power of transnational advocacy networks and transnational corporations with regard to global social policy development. She is a recipient of the SSHRC Canada Graduate Scholarship, the Balsillie Master’s Fellowship, and is currently receiving a Balsillie Doctoral Fellowship. [4 July 2012 Daily Bulletin]

The University of Waterloo's **Faculty of Engineering** is the best Canadian engineering school, according to a recent survey by Business Insider, a respected US-based website. Of the 723 survey respondents to the survey, 91 per cent reported having a computer science, engineering or equivalent degree. Most engineers who responded were research scientists, mobile developers or mechanical engineers. Most respondents said the two most important criteria that went into choosing an engineering school were the skills and knowledge that they acquired in school and the brand value of the school. The same survey placed Waterloo engineering 29th in the world. The other Canadian engineering schools to make the list of the world’s top 50 engineering schools were the University of Toronto at 35th place, and the University of Ottawa ranked 44th. According to the survey, the top engineering school in the world is the California Institute of Technology, followed by the Massachusetts Institute of Technology and Stanford University. The Business Insider website was launched in February 2009 and is based in New York City. Founded by DoubleClick founder and former CEO Kevin P. Ryan, the site provides and analyzes business news and acts as an aggregator of top news stories from around the web. [19 July 2012 Daily Bulletin]

Feridun Hamdullahpur  
President
FOR APPROVAL

1. Sabbatical Leaves/Leave Cancellations/Change

UW Policy 3, Sabbatical and Other Leaves for Faculty Members [excerpts below, full text available at: http://wwwadm.uwaterloo.ca/infown/Policies/policy3.html], sets out the purpose of leaves for faculty members as well as the requirements/responsibilities of faculty who are granted such leave.

*The granting of a leave... depends on the University’s assessment of the value of such leave to the institution as well as to the individual, and on whether teaching and other responsibilities of the applicant can be adequately provided for in her/his absence. A faculty member who is granted a sabbatical or other leave is expected to return to duties in the University for at least one year and upon return will be expected to submit a brief report to the Department Chair regarding scholarly activities while on leave.*

*The purpose of a sabbatical leave is to contribute to professional development, enabling members to keep abreast of emerging developments in their particular fields and enhancing their effectiveness as teachers, researchers and scholars. Such leaves also help to prevent the development of closed or parochial environments by making it possible for faculty members to travel to differing locales where special research equipment may be available or specific discipline advances have been accomplished. Sabbaticals provide an opportunity for intellectual growth and enrichment as well as for scholarly renewal and reassessment.*

*... the granting of sabbatical leave is contingent upon the faculty member’s department being able to make the necessary arrangements to accommodate such an absence, and also upon the financial resources of the University in any given year. Should problems arise in any of the above, it may be necessary to postpone individual requests until such time as all the conditions can be satisfied.*

- **Sabbatical Leaves**
  - **Acheson, Katherine**, English, July 1, 2013 to June 30, 2014 at 85% salary
    *I will be working on two new research projects: “A Visual History of the Canadian Beaver,” and “Writing in Bibles.” I will visit relevant archives and rare books collections, attend conferences, and work on the objectives of each project.*
  - **Bedi, Sanjeev**, Mechanical and Mechatronics Engineering, January 1, 2013 to June 30, 2013 at 100% salary
    *The goal of the leave is to rejuvenate my research program. In proposals developed in the area of life cycle testing of bicycles, we have two ongoing research projects. In addition, a new program in orthotic design recently started has great potential for expansion, but will require effort and time for it to evolve. The sabbatical will be devoted to working on the on-going projects and to expand the areas of interest. I also intend to write a book in the field of tool positioning methods to revive my research in this area.*
  - **Bobier, William**, School of Optometry and Vision Science, January 1, 2013 to December 31, 2013 at 100% salary
    *My current research on the mismatch between ocular focus and alignment will be extended to
cases of manifest ocular misalignment (strabismus) specifically where one eye becomes highly dominant (amblyopia). The underlying visual – motor processes serving to restore ocular alignment and focus following these development disruptions in early infancy and childhood will be investigated with colleagues at the University of McGill.

**Buss, Jonathan,** Computer Science, September 1, 2012 to August 31, 2013 at 85% salary
Research to explore computations that have either or both of (a) small components of the input with a disproportionally large effect on the solution requirements, and (b) two or more separate restrictions on the allowed resources (e.g., computation time and memory space).

**Casello, Jeffrey,** Planning, January 1, 2013 to June 30, 2013 at 100% salary
*Wiley Press has expressed interest in publishing a new edition of “Transportation for Livable Cities” – a book published by my colleague in 1999. We intend to prepare an updated manuscript. I also intend to continue research collaboration on sustainable transport – transit and non-motorized modes – with colleagues in Karlsruhe, Germany with whom I have also initiated a student exchange program.*

**Clausi, David,** Systems Design Engineering, January 1, 2013 to June 30, 2013 at 85% salary
*During my sabbatical, I plan to primarily remain close to the University of Waterloo in order to concentrate on my research program in the field of computer vision. This will give me the opportunity to spend dedicated time conducting research, applying for new grants, growing the VIP research group, and writing journal papers.*

**Cooke, Martin,** Sociology and Legal Studies, January 1, 2013 to June 30, 2013 at 85% salary
*Research activities include continuing work on CIHR research grant on obesity among Aboriginal children, and community consultation and ethics review for a proposed 4-year ($1.6m) PHAC grant. Alternative research activities include preparation of a manuscript on social policy. Teaching activities include preparing a new course in Sociology and Legal Studies and renewing a core online course in the MPH programme.*

**Dubin, Joel,** Statistics and Actuarial Science, January 1, 2013 to June 30, 2013 at 100% salary
*I will be finishing my current NSERC Discovery Award research and preparing for my next application, to be submitted in Fall 2013. This work involves methodological development for complex longitudinal data analysis problems arising from applications in health research. I also will begin work on writing a text book for teaching Biostatistics, related to a course that I teach at UW.*

**Eagles, Paul,** Recreation and Leisure Studies, January 1, 2013 to June 30, 2013 at 100% salary
*The research aims: 1) to better understand the principles governing the choice of delivery models for parks, recreation and tourism services in national parks; 2) to test alternate models of government service provision against the current practices; and 3) to understand how outsourcing decisions relate to efficiency, effectiveness and equity.*

**Ghodsi, Ali,** Statistics and Actuarial Science, November 1, 2012 to April 30, 2013 at 100% salary
*I plan to visit collaborators in Yahoo research (Santa Clara, California), Google Research (Mountain View, California), Stanford University and University of Southern California. I also plan to work on a book that I have already started. The theme for the book is exploration of recent techniques in dimensionality reduction.*
**Giesbrecht, Mark**, Computer Science, January 1, 2013 to June 30, 2013 at 85% salary

*I will spend my sabbatical leave studying algorithms and mathematics for sparse polynomials and matrices. I plan research visits to ENS Lyon, the University of Delaware, Simon Fraser University, and the Tutte Institute in Ottawa.*

**Gracie, Robert**, Civil and Environmental Engineering, January 1, 2013 to June 30, 2013 at 100% salary

*The primary objectives of the sabbatical are to expand my research into carbon sequestration through collaborations with German researchers at the University of Stuttgart. In addition, I intend to convert existing research on microscale models of plasticity into journal articles.*

**Graham, Kenneth**, English, January 1, 2013 to June 30, 2013 at 85% salary

*I will complete a book about the relationship between poetry and church discipline from the English Reformation to the Restoration. I will also begin several new projects, including collaboration with Walter Lim (National University of Singapore) on Shakespearean adaptation and the world’s religions.*

**Hall, Peter**, Kinesiology, January 1, 2013 to June 30, 2013 at 100% salary

*My primary project for the sabbatical leave will be to complete a sole authored book entitled “Foundations of Social Neuroscience in the Public Health Context”; this book will be aimed at graduate level students in the Health Sciences. Secondarily, I will be aiming to complete two new operating grant applications for submission in the fall of 2013 to Tri-Council agencies.*

**Hardy, Mary**, Statistics and Actuarial Science, January 1, 2013 to December 31, 2013 at 100% salary

*I am working on a project to bring a new perspective to occupational pension plans, to better meet member and employer needs, through improved benefit design supported by cutting edge risk management strategies. I will also work on the second edition of my book “Investment Guarantees: Modeling and Risk Management for Equity Linked Life Insurance,” first published in 2003 (Wiley).*

**Hare, Kathryn**, Pure Mathematics, July 1, 2013 to June 30, 2014 at 85% salary

*My plan is to spend my sabbatical year working with the fractal geometry group at St. Andrews University in Scotland. I propose to continue my investigation of the fractal analysis of Cantor-like sets and measures. I also plan to visit with other experts in harmonic analysis and fractal geometry in Europe.*

**Houston, Andrew**, Drama and Speech Communication, January 1, 2013 to June 30, 2013 at 100% salary

*I will take up an artistic-researcher residency at the prestigious ZK/U Berlin -- Centre for Art and Urbanistics. The focus of this residency will be the creation of models of auto-topographical mapping performance. I will also create a site-specific performance at the former site of the Toronto Stock Exchange, in collaboration with the Design Exchange and UWaterloo’s Games Institute.*

**Huang, Alan**, Accounting and Finance, January 1, 2013 to June 30, 2013 at 85% salary

*During leave I’ll move along in a major way three SSHRC projects that I’ve been recently awarded. I expect to stay in Waterloo most of the time to manage those projects with my co-authors and RAs. The specific focus of research will be public news releases and institutional trading behaviors, and contribution of fair value accounting to the recent financial crisis.*
Khajepour, Amir, Mechanical and Mechatronics Engineering, January 1, 2013 to June 30, 2013 at 100% salary
I am working on a book in electric and hybrid vehicles. This project was started in January 2012 and needs to be finished by May 2013. My sabbatical leave will be used to complete this book project.

Kulić, Dana, Electrical and Computer Engineering, January 1, 2013 to June 30, 2013 at 100% salary
During my sabbatical, I plan to focus on my research activities and supervising my graduate students. I have recently established a new research direction in human motion analysis for rehabilitation, and will be focusing in this area. I also plan to visit collaborators in Japan and Europe to continue existing work in the area of human motion analysis and robotics.

Leung, Debbie, Combinatorics and Optimization, January 1, 2013 to June 30, 2013 at 85% salary
To carry out joint research work at IBM TJ Watson RC, including studies of fault-tolerance in post-selected closed-time-like curves and a study of classical capacity of quantum channel given free quantum correlations that cannot be converted into entanglement. I plan to visit Cambridge University and/or Caltech to participate in research on finite block in quantum channels. I am scheduled to attend 3 international conferences.

Liu, Juewen, Chemistry, July 1, 2013 to December 31, 2013 at 100% salary
I want to take this special early sabbatical leave to be prepared for my tenure application and to establish collaborations with researchers in China. My research program involves DNA-functionalized nanomaterials and soft materials, their fundamental surface science, analytical chemistry applications, and biomedical applications.

Liu, Wing-Ki, Physics and Astronomy, September 1, 2013 to February 28, 2014 at 100% salary
I plan to visit Taiwan, Nanjing University and Sun Yat-Sen University in China to carry out research on the theoretical study of strong field physics, in particular, the dynamics of ionization, dissociation and harmonic generation of molecules by femtosecond laser pulses, and the application to time-resolved molecular imaging of the dynamic processes. In China, I also plan to help the University of Waterloo to set up new 2+2 and 3+x collaborative programs.

Marcoux, Laurent, Pure Mathematics, January 1, 2013 to June 30, 2013 at 85% salary
I intend to pursue my research on the topic of algebras with the total reduction property, as well as generalization of the notion of transitivity for algebras of operators. I expect to make a number of short fields trips throughout my sabbatical, including a two-week visit to the University of Victoria, where I will be visiting Professor A. Sourour.

McKillop, Ian, Public Health and Health Systems, November 1, 2012 to October 31, 2013 at 100% salary
I will spend my sabbatical advancing a research agenda in the area of information systems assurance and strategic planning, with a particular focus on these issues in the context of public health systems. My sabbatical will also provide an opportunity to deepen my existing work in performance measurement and management, also in the context of public health systems.

Narasimhan, Sriram, Civil and Environmental Engineering, January 1, 2013 to June 30, 2013 at 85% salary
I received the Humboldt Fellowship (for experienced researchers) to spend this time at TU-Berlin. I will be working with Prof. Mike Schaich and Dr. Arndt Goldack on research aspects of control of flexible pedestrian bridge vibrations.
Parker, Paul, Geography and Environmental Management, January 1, 2013 to June 30, 2013 and January 1, 2014 to June 30, 2014 at 100% salary

The green economy is growing rapidly. Sustainable energy systems form a large part of this economic transformation. The research examines energy demand and supply opportunities as existing buildings are retrofitted to reduce costs/emissions, smart grid components are introduced, and supply systems shift to low carbon options.

Penlidis, Alexander, Chemical Engineering, September 1, 2013 to February 28, 2014 at 100% salary

I plan to work on (a) my CRC-related research on ‘tailor-making’ properties for polymeric materials for different applications, including coatings, adhesives, paints, water-soluble polymers for enhanced oil recovery, and pipes for trenchless technologies (currently a group of 10 graduate students, possibly 12 by September 2013), (b) developing new research lines on toxic analyte detection with polymeric and non-polymeric materials (in collaboration with a colleague in Systems Design Engineering and GE, and two other companies in Canada and USA), and (c) developing/fine-tuning new courses and lecturing material for the Dubai campus.

Rus, Horatius, Economics, January 1, 2013 to June 30, 2013 at 100% salary

During my sabbatical I will complete two projects in international trade and environmental economics: one of the effects of borders and the form of market competition on the movement of goods between countries, and the other one on the effectiveness of foreign environmental aid. I also intend to begin a new study of the interplay between climate change mitigation and adaptation.

Sheppard, Lola, Architecture, May 1, 2013 to April 30, 2014 at 85% salary

My sabbatical will be dedicated to two primary activities. First, working on a book of architecture, settlements and infrastructures in the Canadian North. This will involve graphic documentation interviews, and essays. The second major activity is to develop the Arctic Food Network project, pursuing community consultations, and government or institutional partnerships, in view of prototyping one or more of arctic cabins. To this end, I will likely spend part of my sabbatical in a northern community.

Taylor, Bruce, Fine Arts, January 1, 2013 to June 30, 2013 at 100% salary

The purpose of my sabbatical leave is to provide me with an opportunity to further my professional growth and development. Specifically, I will be using the time to create a new body of work based in ceramic sculpture, which will culminate in an upcoming solo exhibition in 2014.

Tompa, Frank, Computer Science, November 1, 2012 to April 30, 2013 at 100% salary

The sabbatical leave will be used to spend four months (January through April 2013) at UBC to collaborate with Raymond Ng and Giuseppe Caremini on research in the area of text extraction and summarization. This research will contribute to the Business Intelligence Network (NSERC Strategic Network), in which we all participate.

Walker, James, History, January 1, 2013 to June 30, 2013 at 85% salary

Researching and writing two studies: 1) completion of project on Indo-Canadian campaign for franchise and immigration reform, involves travel to archives in Ottawa and BC; 2) continuation of collaborative project with Rocky Jones and George Elliot Clarke on the “Black Power Movement” in 1960s Canada, involves travel to archives in Ottawa, Toronto, Hamilton, Montreal and Halifax, and meetings with collaborators.
**Wang, Hongying**, Political Science, January 1, 2013 to June 30, 2013 at 85% salary
I plan to work on two projects. The first examines and explains China’s limited participation in global experience, especially in providing global public goods. The second studies the political economy of China’s development model, exploring the causes and consequences of its heavy reliance on investment and exports rather than domestic consumption. Both projects study China in a comparative context.

**Wariner, Keith**, Sociology and Legal Studies, January 1, 2013 to December 31, 2013 at 97.5% salary
Work on completing a textbook on introductory statistics for Arts and Humanities students, as well as continued research on projects investigating environmental planning approaches for sustainable suburban neighbourhoods. I will also be working with co-investigators on a SSHRC supported project examining the effectiveness of government sponsored land stewardship programs in rural communities.

**Weddell, Grant**, Computer Science, January 1, 2013 to June 30, 2013 at 85% salary
The leave will enable more focused research on information integration in the context of large-scale ontological domain knowledge and information sources that include low-level interfaces from two perspectives. The first relates to users that expect either all answers to a query or a recognition that there are insufficient information sources, and the second relates to users that expect all certain answers to a query.

**Wolfe, Mindy**, Accounting and Finance, January 1, 2013 to June 30, 2013 at 100% salary
I plan to develop two new research projects and continue research in the areas of conservatism under International Financial Reporting Standards, CEO investment and stock ownership plans, Discontinued Operations under two regimes, and disclosure and firm risk. I will travel to Utah for three weeks during this time to work with coauthors.

**Yarusevych, Serhiy**, Mechanical and Mechatronics Engineering, January 1, 2013 to June 30, 2013 at 100% salary
During my sabbatical leave, I will be working on a collaborative research project in experimental fluid mechanics at Delft University of Technology, Netherlands. The project will involve applying cutting edge technological advances in stereoscopic, time resolved velocity measurements to investigate external flows over complex cylindrical geometries commonly used in mechanical systems and civil structures.

**Yeow, John**, Systems Design Engineering, September 1, 2013 to August 31, 2014 at 85% salary
I will be co-writing papers on the subject of nanosensors and a book chapter on gas sensing with my collaborators. I will be further strengthening existing collaboration with the research group at IIISC, Bangalore, India, Soochow University, China and NTUST, Taiwan. A proposal will also be submitted to Springer.

**Zanna, Mark**, Psychology, January 1, 2013 to December 31, 2013 at 100% salary
I plan to write-up papers on past SSHRC-funded research (including, research designed to: improve the health of individuals with low self-esteem, convey the message that female students belong in engineering, induce smokers to create smoke-free homes, and uncover negative consequences of positive stereotyping) and launch new SSHRC and CIHR funded research (including, evaluating the consequences of: Canada’s new cigarette warning labels, creating a ‘stereotype safe’ environment for female engineering students, and Ontario’s new online gambling legislation).
Zhuang, Weihua, Electrical and Computer Engineering, March 1, 2013 to August 31, 2013 at 100% salary
I will spend most of the time on campus, working on various research projects and supervising graduate students. I plan to initiate new research directions in smart grid and green communication networks. In addition, I will make short visits to universities and research institutes in United States, Japan, and China, for research collaboration in wireless communication networks.

- Sabbatical Leave Cancellations/Change
  Csima, Barbara, Pure Mathematics, cancelled leave, November 1, 2012 to April 30, 2013 at 85% salary

  McCarville, Ron, Recreation and Leisure Studies, cancelled leave, September 1, 2012 to August 31, 2013 at 100% salary

  Turri, John, Philosophy, cancelled leave, July 1, 2012 to December 31, 2012 at 100% salary

  Westley, Frances, Environment, Enterprise and Development, leave changed from July 1, 2012 – June 30, 2013 at 85% salary to January 1, 2013 – December 31, 2013 at 85% salary

FOR INFORMATION

2. Administrative Appointments
   Cohen, Robin, reappointment as Associate Dean, Research, Faculty of Mathematics, July 1, 2012 to June 30, 2013.

   Coniglio, Mario, appointment as Associate Dean, Undergraduate Studies, Faculty of Science, September 1, 2012 to August 31, 2015.

   DeVidi, David, appointment as Interim Chair, Philosophy, Faculty of Arts, July 1, 2012 to June 30, 2013.

   Hasan, Anwarul, appointment as Associate Dean, Research and External Partners, Faculty of Engineering, January 1, 2013 to December 31, 2015.

   Idziak, Stefan, appointment as Associate Dean, Co-op, Faculty of Science, September 1, 2012 to August 31, 2013.

   Kenyon, Tim, appointment as Associate Dean, Research, Faculty of Arts, July 1, 2012 to June 30, 2016.

   McCarville, Ron, reappointment as Associate Dean, Undergraduate Studies and Co-op, Faculty of Applied Health Sciences, July 1, 2012 to June 30, 2014.

   Muirhead, Bruce, appointment as Associate Vice-President, External Research, Office of Research, July 1, 2012 to June 30, 2015.

   Oldford, Wayne, reappointment as Associate Dean, Computing, Faculty of Mathematics,
July 1, 2012 to June 30, 2013.

Power, William, appointment as Associate Dean, Graduate Studies, Faculty of Science, July 1, 2012 to June 30, 2015.

Rose, David, reappointment as Chair, Biology, Faculty of Science, January 1, 2013 to December 31, 2016.

Sachdev, Manoj, reappointment as Chair, Electrical and Computer Engineering, Faculty of Engineering, July 1, 2012 to June 30, 2016.

Scott, Thomas, appointment as Director, Accounting and Finance, Faculty of Arts, July 1, 2012 to June 30, 2016.

Simpson, Jennifer, appointment as Chair, Drama and Speech Communication, Faculty of Arts, September 1, 2012 to August 31, 2016.

Spafford, Marlee, reappointment as Interim Director, Optometry and Vision Science and Interim Associate Dean of Science for Optometry and Vision Science, Faculty of Science, July 1, 2012 to December 31, 2012.

Tunçel, Levent, reappointment as Associate Dean, Graduate Studies, Faculty of Mathematics, July 1, 2012 to June 30, 2013.

Administrative Appointment Changes
Barnett, James, change of appointment date as Director, Accounting and Finance, Faculty of Arts, from August 1, 2010 – July 31, 2014 to August 1, 2010 – June 30, 2012.

Kenyon, Tim, change of appointment date as Chair, Philosophy, Faculty of Arts, from July 1, 2010 – June 30, 2014 to July 1, 2010 – June 30, 2012.

Feridun Hamdullahpur
President
FOR INFORMATION

1. Appointment to the Pension & Benefits Committee
   As prescribed by its terms of reference*, the committee approved, on behalf of the board, the appointment of Tim Jackson, vice-president university relations, to this committee, term to 30 April 2017.

2. University of Waterloo Financial Statements, 2011-12
   On the delegated authority of the Board of Governors, the committee approved, on behalf of the board, the University of Waterloo Financial Statements for the year ended 30 April 2012.

   Of note:
   - The balance sheet continues to show a strong financial position.
   - Revenues were $825 million, an increase of approximately 5.6% over the prior year.
   - Expenses were $763 million, an increase of approximately 7.1% over the prior year.
   - Income exceeded expenses by $62 million.
   - Scholarships and bursaries paid to undergraduate and graduate students totalled $97 million, an increase of approximately 9.7% over the prior year.
   - The university invested almost $71.2 million in new capital assets.

   There are no audit or accounting issues to note.

*To exercise all the powers held by the Board of Governors, within the limits of the University Act, between regular meetings of the Board except to repeal, amend or modify the University Act or bylaws or to appoint a President or to appoint Governors.

Kevin Lynch
Chair
University of Waterloo
BOARD OF GOVERNORS RETREAT
23 November 2012
Perimeter Institute

8:00 – 8:30    Governors and administrators arrive
8:30 – 9:00    Light Breakfast
9:00 – 10:00   Opening Session

Welcome remarks from the chair and president

External Scan: Challenges with economy, climate, higher education, human resources

The role of the university board, with special focus on the unique reputation and impact of UW. Comments on the projected future of the university with specific emphasis on the following questions:

• What are the key strengths at UW and unique characteristics?
• How do we measure our progress?
• How do we differentiate ourselves?

10:00 – 11:00 Second Session – How is UW Managed? The University Leadership

To be led by the president, with participation by the vice-presidents, this session will focus on the academic and administrative management of the university. Specifically, we will discuss strategic issues such as:

• University finances including infrastructure, pension and investment
• International Relations
• Fund-raising (and its relationship to academic, research, student and other initiatives), government/community relations, outreach
Vice-presidents will be called on for quick summary of key points; their presentations will be moderated by the president. Board members will participate during and/or after the presentations.

11:00 – 11:15 Refreshment Break

11:15 – 12:15 Third Session – Planning and the UW Board
To be led by the chair.

Based on the two sessions above and material previously provided, governors will be engaged in a discussion of the role of individual board members and the board as a whole. What do they have to contribute to university success? Where do they want the university to go, and what is their best advice on how to get there? How can the university realize its ambition to be the global university of the 21st century?

12:30 – 1:30 Lunch – Black Hole Bistro, second floor, Perimeter Institute

Following the Third Session, attendees will be seated for lunch. Each table will be “seeded” with questions for discussion focused on board service, the purpose and limits of their engagement, the university’s governing values and mission. Questions could be clustered around themes, each table with a themed group of, say, three questions.

1:45 – 3:45 Fourth Session
To be led/moderated by the provost.

Status report on mid-cycle review of Sixth Decade Plan and summary of major changes, together with presentation on the Strategic Mandate Agreement. Focus will be on university ambitions, choices in the establishment of plan and agreement parameters, and significant risks facing the university. Presentation on key institutional performance indicators, with reference to their relationship to metrics used by international ranking systems.

Presentations on the Institutional Life Cycle planning elements that have emerged from the Mid-cycle Review. Each of the five chairs of the planning activities will speak briefly on their activity: life cycle of the faculty; life cycle of the student; life cycle of the staff;
graduate research programs; experiential and experienced based learning. Board members will participate during and/or after the presentations.

3:45 – 4:00 Refreshment Break

4:00 – 5:00 Closing Session

To be moderated by the president.

Discussion tables established at lunch will reconvene for about 15 minutes. Tables will then report to the group on the questions initially discussed over lunch. Tables will position their observations in the context of Sessions Three and Four particularly, with a focus on whether their ideas are well reflected in the institutional planning exercise.

The chair and the president will give brief closing remarks.

5:00 – 5:45 Networking and Reception

6:00 – 8:00 Dinner – Black Hole Bistro, second floor, Perimeter Institute

Guest Speaker—Ken McLaughlin, University of Waterloo historian.

Note: Slides for all presentations to be prepared and distributed in advance on memory sticks (or in hard copy for those expressing that preference).
FOR APPROVAL

Constitution of The Graduate Studies Endowment Fund at the University of Waterloo
[Attachment 1]

Recommendation:
To approve the proposed amendments to the Constitution of the Graduate Studies Endowment Fund at the University of Waterloo.

Background:
This constitution was originally approved by the Board of Governors in 2002 and since that time has accumulated over $1 million in principal through a combination of voluntary contributions ($20.00/term for graduate students) and investment income. This endowment funds projects which enhance graduate studies and the learning, research and overall experience of graduate students, including funding research conferences, research travel assistantships and a doctoral thesis completion award.

During July 2012, a referendum was held to determine graduate student support for the proposed amendments. Of the ~4400 eligible voters, 167 votes were cast, and of those 89% were in favour of the changes.

The changes include:
- The provision for online voting and the elimination of proxies
- The provision for online information posting and year-end presentation at the Graduate Student Association’s Annual General Meeting
- Makes the treasurer a voting member
- Clarifies that persons receiving a refund still have the right to vote

Dennis Huber
Vice-President, Administration & Finance
Constitution of The Graduate Studies Endowment Fund at the University of Waterloo
Enacted February 5 2002
Amended April 7 2009
with Proposed Changes for a vote in Spring 2012

1. Name and Purpose
The official name of the organization is The Graduate Studies Endowment Fund at the University of Waterloo, hereinafter referred to as “GSEF”. GSEF functions as a semi-autonomous, non-profit organization within the University of Waterloo, hereinafter referred to as the “University”. GSEF shall operate at arm’s length from the University of Waterloo Graduate Student Association, hereinafter referred to as “GSA.” GSEF shall:
- solicit funds, in accordance with established University practices, for the purpose of funding an on-going commitment to enhance the learning, research, and overall experience of graduate students at the University,
- participate in the administration of said funds held by the University, and
- ensure the proper application for, and allocation of, said funds in accordance with this Constitution and all bylaws established to govern GSEF.

2. Long-Term Goals
The long-term goals of GSEF are the following:
- To promote graduate studies and graduate research at the University
- To financially assist registered graduate students, including those graduate students not normally eligible for financial support.
GSEF shall be a supplementary source of funding for graduate students and projects benefiting graduate student life, and is not a replacement for existing funding at the national, provincial, University, or any other level.

3. Structure
3.1 There shall be a GSEF Coordinator, hereinafter referred to as “Coordinator”, a GSEF Board of Directors, hereinafter referred to as “Board”, and a GSEF Project Application Review Committee, hereinafter referred to as “Review Committee”.
3.2 The Coordinator is responsible for overseeing the operations of GSEF.
3.3 The Review Committee is responsible for receiving project funding applications and recommending funding expenditures.
3.4 The Board is responsible for approving or amending the recommendations of the Review Committee and maintaining the Bylaws. The Board is also responsible for determining what types of initiatives are eligible for GSEF support each term (subject to Articles 1 and 2) and funding priorities.
3.5 The Board shall appoint a GSEF Treasurer (hereinafter referred to as “Treasurer”) to receive receipts, help funding recipients submit financial documents, track expenditures, and liaise with GSEF’s investment managers. The Treasurer must be a UW graduate student or staff member.

4. Powers Held by GSEF
GSEF shall have the following powers, subject to the provisions of The University of Waterloo Act, 1972, and the control and authority of the University’s Board of Governors, the University Senate, and the Office of the President and Vice-Chancellor:
4.1. To make recommendations to the University with respect to the use of funds held by the University on behalf of GSEF,
4.2. To require the University to make available monthly reports to the Board summarizing the income generated by GSEF and the value of GSEF's funds held by the University, and
4.3. To require the University to hire one or more investment managers to administer the held funds. The direct and indirect costs of this shall be borne by GSEF.

5. Powers Not Held by GSEF
GSEF shall not enter into any financial commitments or undertakings of any kind that might be contractually binding on the University. All formal commitments and contracts must be signed on behalf of the University by an appropriate officer of the University in accordance with the directions of the Board of Governors of the University.

6. Voluntary Student Contribution
GSEF shall accept a Voluntary Student Contribution, hereinafter referred to as the “VSC”, from its members. Initially, a refundable VSC of $20.00 per graduate student will be assessed on all graduate student fee statements each academic term, excepting those students in cost recovery programs. This fee is intended to be a charitable donation. The procedure for changing and setting the VSC shall be the following: 6.1. Each fiscal year, the Board shall review the VSC level;
6.2. If a new VSC level is proposed, then the Board shall seek approval of the new VSC level by a 2/3 majority vote at the Annual General Meeting. If approved, the Board shall recommend the new VSC level to the University for ratification by the Board of Governors.
6.1. The Board shall propose changes to the VSC level when deemed necessary. The Board may also propose changes to the VSC structure, such as charging different fees to part-time students.
6.2. Changes to the VSC must be approved by an online vote of the graduate student body, using the procedure described in Article 28. A vote to change the VSC level or VSC structure, will be deemed to have passed if at least 2/3 of voting students are in favour of the change.
6.3. The UW Board of Governors must ratify any VSC changes, after the vote takes place.

7. GSEF Membership
Every graduate student is a member of GSEF and may vote on VSC changes and in referenda, and Annual General Meetings. Whereas the VSC is voluntary, students who get refunds are still eligible to vote.

8. GSEF Coordinator
8.1. The Coordinator must be a registered full-time graduate student at the University of Waterloo.
8.2. The Board is responsible for appointing the Coordinator.
8.3. The term of office of the Coordinator shall normally be one year. The Coordinator is eligible to be re-appointed.
8.4. The student serving as Coordinator may not concurrently serve as an executive officer of the GSA.
8.5. No remuneration shall be received by the Coordinator.

9. Board of Directors
9.1. The Board of Directors shall be composed of the following Directors, with further stipulations as given in the bylaws:
- the Coordinator
- the Treasurer
- one graduate student per Faculty (hereinafter referred to as “At-Large Directors”)
- one alumnus of a UW graduate program
- one member of the UW Graduate Studies Office staff
- one member of the UW Finance Office staff
- one member of the Graduate Student Association Executive
- the Associate Provost, Graduate Studies

9.2. Past and future Coordinators are entitled to attend Board meetings as non-voting members.
9.3. The Board shall approve appointments of new Board members by a 2/3 majority vote.

10. Soliciting Projects
The Board shall, when calling for project proposals, make public through appropriate online and/or printed publication media, the following information relevant to funding project proposals:
10.1. Application package for requesting endowed project funding,
10.2. List of suitable endowed project categories,
10.3. List of past endowed projects, and
10.4. Any other information or materials deemed necessary by the Board.

11. Project Application Review Committee
The Review Committee shall consist of the Coordinator, and other graduate students appointed by the Coordinator (hereinafter referred to as “Reviewers”), with two graduate Reviewers per Faculty. The Coordinator shall strive for diversity in the Review Committee so as to represent all graduate students.
11.1. No student shall serve as a Reviewer for a period longer than 2 years.

12. Reporting Annual General Meeting
- The Board shall call an Annual General Meeting of GSEF once per year. This meeting shall include a report by the Coordinator. The meeting may be co-located with the GSA Annual General Meeting if both parties so desire.
12.1. At the GSA Annual General Meeting, (Informational note: typically this occurs in March or April), the GSEF Coordinator shall make a brief presentation about what took place during their one-year term as Coordinator.
12.2. The winners of GSEF Project Funding shall be announced each term on the GSEF website along with a brief summary of the review process for that term.
12.3. After every fiscal year, a categorized summary of GSEF expenditures and current fund sizes will be posted prominently on the GSEF website.

13. Notice of Motion, Authentication of Acts, and Minutes
13.1. For Annual General Meetings, notice of the meeting, and an agenda including any VSC changes, must be sent to all members at least 2 weeks in advance of the meeting.
An announcement of the GSEF Coordinator’s report at the GSA Annual General Meeting shall be given in the GSA Annual General Meeting agenda, in compliance with GSA regulations. (Informational note: as of 2012, this is two weeks specified in GSA Bylaw 4.4.)
13.2. For Board and Review Committee meetings, notice of the meeting must be sent at least one week in advance; emergency meetings may be called with twenty-four (24) hours notice to deal with specific limited matters.
13.3. Minutes from all General GSEF meetings and Board of Directors meetings shall be made publicly available on the GSEF website within ten (10) days of the meeting, and all members of the respective body shall be notified when the minutes are made available. The Chair may either take the minutes or delegate the duty to another attendee.

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1 Parenthetical segments prefixed by “Informational note” and written in italics are not part of the official constitution text. The GSEF Board may update those parts of this file as necessary without a referendum.
14. Proxies
14.1. Proxies shall be allowed at all Annual General Meetings, all meetings of the Board, and all Review Committee meetings. The proxy holder must be another member of said group.
14.2. Proxy forms must be submitted to the Chair by the start of the meeting.
14.3. Nobody may hold more than two proxies in any meeting.
14.4. The proxy form shall be available on the GSEF website.
While it is expected that all members of the Board of Directors and Review Committee attend meetings regularly, they also may submit advance votes and comments by e-mail when they cannot attend.

15. No Gain
All aspects of GSEF shall be carried on without the purpose of gain for its directors and reviewers. If a Board or Review Committee member or a group in which they have an interest applies for project funding through GSEF, a “Conflict of Interest” shall be noted on the application, and that member shall be absent from all discussion on that application, and shall abstain from voting on it. Board and Review Committee members are expected to identify themselves as having a conflict of interest even if the project application does not explicitly say so.

16. Constitution
Any constitutional amendment will require a 2/3 majority of voting GSEF members in a referendum. Before becoming effective, the amendments must be approved by the Board of Governors. The constitution shall be subject to periodic review by the University's Board of Governors and by the Board. Such reviews are to be carried out in light of any new or revised policies established by the Board of Governors, the University Senate, or the Board, and deemed applicable to GSEF; and the said review shall be for the purpose of defining or controlling the affairs or earnings of GSEF.

17. Fund Definitions
Funds held by the University on behalf of GSEF are categorized as either Capital or Income. The purpose of Capital is to generate interest in the long term; the purpose of Income is to be spent in the short term.
17.1. Only Income shall be used for GSEF expenditures.

18. Handling of Income
Normally, when Income funds are generated, the Board shall strive for them to be spent within a year, and as soon as possible otherwise.

19. Administrative Expenditures
The Board may spend a maximum of 5% of the total Income funds generated per year for administrative expenditures.

20. Fund Inception and Maturity
GSEF will be deemed mature at the end of the first fiscal year in which the interest generated by Capital exceeds fifty percent (50%) of the total of VSC contributions that year.
20.1. From inception until maturity, the funds raised each term shall be directed as follows:
20.1.1. Fifty percent (50%) of the VSC contributions shall be directed to Capital.
20.1.2. Fifty percent (50%) of the VSC contributions shall be directed to Income.
20.1.3. The interest on the Capital shall be directed to Capital.
20.1.4. All other contributions, donations, and bequeaths shall be directed to Capital.
20.2. From the point of maturity onward, the funds raised each term shall be directed as follows:
20.2.1. The interest on the Capital shall be directed to Income.
20.2.2. All VSC contributions shall be directed to Capital.
20.2.3. Annual purchasing power protection shall be provided for by directing an amount equal to the annual inflation, calculated on the basis of a weighted average of the Monthly Consumer Price Index, from Income to Capital at the end of each fiscal year.
20.2.4. All other contributions, donations, and bequeaths shall be directed to Capital.

21. Reimbursement of Expenditures to the University
Only expenditures approved by the Board shall be committed against the account(s) of GSEF. Unless otherwise stipulated through a written agreement with the University, the general accounts of the University shall be fully reimbursed from the particular accounts of GSEF, for all services provided to GSEF or expenditures made by the University in connection with the administration, management, or operation of GSEF.

22. Preservation of Autonomy and Funding for Graduate Studies
GSEF, in the exercise of its powers, shall in no way interfere or otherwise adversely affect the autonomy of the Graduate Studies Office in the exercise of its powers, authorities, duties, or regular conduct of its affairs. All funds raised for GSEF and the interest earned thereon shall not have an adverse effect on the funding provided by the University to the Graduate Studies Office, graduate students, and graduate research. All funds shall be held by the University in an account separate from all general funds of the University.

23. Board of Governors
23.1. The Board of Governors has the power to refuse recommendations from the Board for GSEF expenditures. In the event of refusal, the Board of Governors will provide the Board with a written explanation of the rationale behind its refusal within thirty (30) days.
23.2. Should the University’s Board of Governors propose to take any action which may adversely affect GSEF in any way, the Board of Governors shall give GSEF no less than sixty (60) days written notice beforehand.

24. Auditors
The GSEF accounts shall be audited by the Auditors of the University who are appointed by the University’s Board of Governors. In the event the Board requests any additional audits, any expenditures for fees or services for such audits shall be the responsibility of GSEF.

25. Establishing a Separate Endowment
A referendum may be held for the specific purpose of establishing another endowment with similar objectives but held separate from the University, hereinafter referred to as a New Endowment. A 2/3 majority of GSEF members voting in favour shall be required for the referendum to pass. In such a case this Constitution shall continue to apply to any of GSEF’s funds held by the University. The following stipulations apply:
25.1. If the Board of Governors, after consideration of the objectives and powers of the New Endowment, determines that it is in the best interests of the University to transfer the Funds, and Canada Revenue Agency, and the Public Guardian and Trustee for the Province of Ontario approve of such a transfer, then the University shall transfer GSEF’s funds to the New Endowment. If such a transfer is approved, then following the transfer of said funds, GSEF shall be dissolved.
25.2. In the event that such transfer is not approved by Canada Revenue Agency and/or the Public Guardian and Trustee for the Province of Ontario, and, at the time of the establishment of the New Endowment, GSEF’s funds are being held by the University, then the said funds may only be used by the University to further the objects as set out in this Constitution.
26. Dissolution of GSEF
If for any reason GSEF is to be dissolved and the existing funds are not to be transferred to a New Endowment, then the following restrictions to dissolution apply:
26.1. Voluntary dissolution shall take place only after a 2/3 majority vote to that effect in a referendum conducted for this express purpose; and
26.2. Upon dissolution, the Funds, after payment of all debts and liabilities, shall revert to the University and remain under the authority of the Board of Governors for the disposition of the funds for the purposes of benefiting graduate studies and graduate research.

27. Eligibility
27.1. Any Director or Reviewer who, as a graduate student of the University, ceases to be registered by the University, is deemed to have resigned.
27.2. Any Director or Reviewer who is found by a court to be of unsound mind is deemed to have resigned.
27.3. Any Director or Reviewer who declares personal bankruptcy is deemed to have resigned.

28. Online voting procedures
The following regulations apply to VSC level changes (Article 6), amendments (Article 16), dissolution (Articles 25-26), and any other decisions that require a vote of all graduate students.
28.1. Votes shall be implemented online, using University web services. The mechanism must ensure that only graduate students can vote and that nobody can vote twice.
28.2. The specific wording of all motions for voting must be announced by e-mail to all graduate students at least 7 calendar days in advance.
28.3. A second announcement shall be made to all graduate students when the polls open. The polls must remain open for a minimum of 72 hours from the time of this announcement. It is optional for one final reminder announcement to be made on the day that the polls close.
28.4. In counting votes, the total number of YES votes shall be compared to the total number of YES votes plus NO votes, in determining whether the required threshold has been reached. Declined votes and spoiled votes have no effect.
FOR INFORMATION

Introduction
Continuing a re-visioned approach to use the President’s Report as a platform to engage you in a conversation about the direction of our institution while keeping you up to date on recent events and activities, I present the following outline. During my presentation, I will invite discussion and comment at the close of each section of the report.

Institutional Scan
As the University of Waterloo continues to press into the 2012-13 academic year, I will provide a high-level review of core institutional metrics including student enrolment; new leadership team members; new academic, research and support facilities and construction; and new academic programs. Leaving more detailed comment of the above items to their respective leadership team members, I will scan these developments to provide governors with a sense for the university’s overall posture.

Global Scan
A number of core factors define the global post-secondary education (PSE) environment. These factors include global PSE supply, global PSE demand, and domestic fiscal consolidation.

I will review major trends in global PSE supply, which represents a global rebalancing of PSE expertise and competitiveness that tilts toward other parts of the world and to online education; I will review major trends in global PSE supply, which represents massive opportunities for internationalization and tapping new markets; and I will review the constraints inherent to the domestic fiscal and economic environment.

This triad represents the core challenge for PSE institutions looking to grow and thrive as world-class universities in the 21st century: how do we achieve a sustainable and viable financial/funding model at home, that enables us to compete and secure new market share abroad?

Rankings
I will discuss the several autumn rankings that have been published in recent weeks, several of which represent relative marginal slippage for the University of Waterloo. Essential questions include: “Why has the University of Waterloo slipped in some rankings?”; “Has our absolute performance declined or has our relative performance declined?”; “How does this institution secure strong international ranking positions in an environment of massive PSE supply growth around the world?”

Annual Performance Indicators
I will provide highlights from the university’s annual performance indicators document prepared by Institutional Analysis and Planning, as well as some additional indicators that measure progress against our foundational pillars.

Strategic Planning
Our Mid-cycle Review process continues to move forward. It will result in the University of Waterloo’s revised strategic plan, including the resultant action plans and measurables. Additionally, the University of Waterloo recently submitted our proposed Strategic Mandate Agreement to the Ontario Ministry of Training, Colleges and Universities. I will provide a high-level review of these items.

Feridun Hamdullahpur
President
Overview of International University Rankings

There are numerous international university rankings programs. Three are consistently most widely recognized and tracked by uWaterloo:

1. **Academic Ranking of World Universities (ARWU) Rankings / Shanghai, since 2003**
2. **Quacquarelli Symonds (QS) World University Rankings (WUR), since 2004**
3. **Times Higher Education (THE) World University Ranking, since 2010, previously part of QS; relaunched with new methodology in 2010**

- Each of the rankings systems uses a different methodology.
- Key components of the ranking methodologies include indicators, weighting and data source.
- Each of these programs use established criteria and methodology to generate a score and then "rank" a number of universities based on that score.
- Universities must meet specific criteria in order to be ranked.
- The programs typically provide an overall ranking, and then provide rankings by subject, field and / or geographical region.
- No matter what the indicators, data sources, and methodologies used, the same institutions tend to be ranked highest. Seven of the top 10 ranked universities were among the top ten in all three rankings programs.

Five Year Summary of uWaterloo Rankings

The figure below uses the results of the three identified rankings programs to illustrate uWaterloo's ranking over a five year period.

*Figure 1: uWaterloo ARWU, QS and THE Rankings Five Year Results Summary*
**Canadian Comparators and International Ranking**

The table below outlines uWaterloo’s comparative position within Canadian universities ranked by the international programs. It is important to note that among the Canadian institutions below, only uWaterloo does not have a medical school.

**Table 2 Canadian Institutions and Overall Ranking in 2012**

<table>
<thead>
<tr>
<th>Institution</th>
<th>ARWU / Shanghai</th>
<th>QS</th>
<th>THE</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Toronto</td>
<td>27</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>University of British Columbia</td>
<td>39</td>
<td>45</td>
<td>30</td>
</tr>
<tr>
<td>McMaster University</td>
<td>63</td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td>McGill University</td>
<td>92</td>
<td>175</td>
<td>88</td>
</tr>
<tr>
<td>University of Alberta</td>
<td>108</td>
<td>108</td>
<td>121</td>
</tr>
<tr>
<td>University of Montréal</td>
<td>131</td>
<td>114</td>
<td>84</td>
</tr>
<tr>
<td><strong>University of Waterloo</strong></td>
<td><strong>198</strong></td>
<td><strong>191</strong></td>
<td><strong>249</strong></td>
</tr>
<tr>
<td>University of Calgary</td>
<td>204</td>
<td>214</td>
<td>238</td>
</tr>
<tr>
<td>University of Western Ontario</td>
<td>208</td>
<td>173</td>
<td>244</td>
</tr>
<tr>
<td>Queens’ University</td>
<td>235</td>
<td>152</td>
<td>219</td>
</tr>
<tr>
<td>University of Ottawa</td>
<td>244</td>
<td>240</td>
<td>171</td>
</tr>
<tr>
<td>Dalhousie University</td>
<td>250</td>
<td>243</td>
<td>261</td>
</tr>
<tr>
<td>University of Saskatchewan</td>
<td>258</td>
<td>Not in top 300</td>
<td>Not in top 300</td>
</tr>
<tr>
<td>University of Laval</td>
<td>263</td>
<td>Not in top 300</td>
<td>237</td>
</tr>
<tr>
<td>University of Manitoba</td>
<td>282</td>
<td>Not in top 300</td>
<td>Not in top 300</td>
</tr>
</tbody>
</table>
SUMMARY
The Academic Ranking of World Universities was released on August 14, 2012. Over 1,000 universities are ranked overall, in 5 broad fields and in 5 specific subject fields. Six objective indicators are used to produce these rankings:

1) Number of alumni winning Nobel Prizes and Fields Medals (10%)
2) Number of staff winning Nobel Prizes and Fields Medals (10%)
3) Number of highly cited researchers (20%)
4) Number of articles published in journals of Nature and Science (20%)
5) Number of articles indexed in Science Citation Index (20%)
6) Per capita performance with respect to the size of an institution (10%)

Universities are ranked worldwide without respect to region or size. The top 100 universities are ranked, then the next 400 universities are separated into groups of 50. In the subject field rankings, the top 50 universities are ranked, then the next 50 are separated into groups of 25.

CANADIAN COMPARATORS
uWaterloo place 7th out of 22 Canadian institutions.

RESOURCES
ARWU website
http://www.arwu.org/

FOR MORE INFORMATION
Contact Blair Clare at
Institutional Analysis and Planning
Phone: (519)-888-4567, ext. 37155
Email: analysis@uwaterloo.ca
Web: www.analysis.uwaterloo.ca

ARWU (Shanghai) 2012
World University Rankings:
Summary of University of uWaterloo’s Results

<table>
<thead>
<tr>
<th>Category</th>
<th>2011</th>
<th>2012</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>151-200</td>
<td>151-200</td>
<td>No change</td>
</tr>
<tr>
<td>Broad Subject Fields</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering/Technology and Computer Science</td>
<td>52-75</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences and Mathematics</td>
<td>Unranked</td>
<td>151-200</td>
<td></td>
</tr>
<tr>
<td>Life and Agriculture Sciences</td>
<td>Unranked</td>
<td>Unranked</td>
<td>No change</td>
</tr>
<tr>
<td>Clinical Medicine and Pharmacy</td>
<td>Unranked</td>
<td>Unranked</td>
<td>No change</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>Unranked</td>
<td>Unranked</td>
<td>No change</td>
</tr>
</tbody>
</table>

Subject Fields

<table>
<thead>
<tr>
<th>Category</th>
<th>2011</th>
<th>2012</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>Unranked</td>
<td>101-150</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>Unranked</td>
<td>151-200</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>Unranked</td>
<td>76-100</td>
<td></td>
</tr>
<tr>
<td>Computer Science</td>
<td>76-100</td>
<td>76-100</td>
<td>No change</td>
</tr>
<tr>
<td>Economics/Business</td>
<td>Unranked</td>
<td>Unranked</td>
<td>No change</td>
</tr>
</tbody>
</table>

Canadian Institutions Results
(Includes top 10 out of 22 universities)

<table>
<thead>
<tr>
<th>University</th>
<th>2011</th>
<th>2012</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toronto</td>
<td>26</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>UBC</td>
<td>37</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>McGill</td>
<td>64</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>McMaster</td>
<td>89</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Alberta</td>
<td>101-150</td>
<td>101-150</td>
<td>No change</td>
</tr>
<tr>
<td>Montréal</td>
<td>101-150</td>
<td>101-150</td>
<td>No change</td>
</tr>
<tr>
<td>Waterloo</td>
<td>151-200</td>
<td>151-200</td>
<td></td>
</tr>
<tr>
<td>Calgary</td>
<td>151-200</td>
<td>201-300</td>
<td></td>
</tr>
<tr>
<td>Dalhousie</td>
<td>201-300</td>
<td>201-300</td>
<td>No change</td>
</tr>
<tr>
<td>Laval</td>
<td>201-300</td>
<td>201-300</td>
<td>No change</td>
</tr>
</tbody>
</table>
2012/13 QS World University Rankings:

Summary of University of Waterloo’s Results

<table>
<thead>
<tr>
<th>Rank by Category</th>
<th>2011</th>
<th>2012</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>180</td>
<td>191</td>
<td></td>
</tr>
<tr>
<td>*Faculty Areas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts &amp; Humanities</td>
<td>391</td>
<td>No Rank</td>
<td></td>
</tr>
<tr>
<td>Engineering and Technology</td>
<td>56</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Life Sciences &amp; Medicine</td>
<td>236</td>
<td>351</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>116</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Social Sciences &amp; Management</td>
<td>308</td>
<td>359</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank by Criteria</th>
<th>2011</th>
<th>2012</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score and Rank by Criteria</td>
<td>Weighting</td>
<td>Score</td>
<td>Rank</td>
</tr>
<tr>
<td>Academic Reputation</td>
<td>40%</td>
<td>62</td>
<td>145</td>
</tr>
<tr>
<td>Employer Reputation</td>
<td>10%</td>
<td>55.9</td>
<td>100</td>
</tr>
<tr>
<td>Citations per Faculty</td>
<td>20%</td>
<td>53.3</td>
<td>183</td>
</tr>
<tr>
<td>Faculty Student Ratio</td>
<td>20%</td>
<td>18.1</td>
<td>301+</td>
</tr>
<tr>
<td>International Faculty</td>
<td>5%</td>
<td>80</td>
<td>126</td>
</tr>
<tr>
<td>International Students</td>
<td>5%</td>
<td>45.8</td>
<td>263</td>
</tr>
</tbody>
</table>

Overall Canadian Results (Canadian Universities included in top 200)

<table>
<thead>
<tr>
<th>School</th>
<th>2012 Rank</th>
<th>2012 Score</th>
<th>2011 Rank</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>McGill</td>
<td>18</td>
<td>90.4</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Toronto</td>
<td>19</td>
<td>89.6</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>UBC</td>
<td>45</td>
<td>78.6</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Alberta</td>
<td>108</td>
<td>64.2</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Montréal</td>
<td>114</td>
<td>63.5</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td>Queen’s</td>
<td>152</td>
<td>56.1</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>Western</td>
<td>173</td>
<td>52.6</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>McMaster</td>
<td>175</td>
<td>52.1</td>
<td>159</td>
<td></td>
</tr>
<tr>
<td>Waterloo</td>
<td>191</td>
<td>50.2</td>
<td>160</td>
<td></td>
</tr>
</tbody>
</table>
SUMMARY
The 2012/13 edition of Times Higher Education’s World University Rankings includes three rankings: the top 400 universities overall, top 100 universities worldwide by reputation and the top 50 universities in 6 subject disciplines.

Each university provides data which is used to calculate parts of the teaching, research, industry income and international outlook areas; these account for ~33% of the total ranking score. Another ~33% is based on the research and teaching reputational surveys. The last ~33% comes from citation data, which is drawn by Thompson Reuters from their Web of Science database.

Indicator Areas and weightings:
1) Teaching (30%)*
2) Research (30%)*
3) Citations (30%)
4) Industry Income (2.5%)
5) International Outlook (7.5%)*
*Note: These indicator areas are comprised several indicators.

Comparator Group
The top 200 universities are ranked in the overall ranking, then the next 300 universities are separated into groups of 25 and 50. Further, results can be grouped by region with uWaterloo falling into the North American region.

Results Summary
Overall: 249
Reputation: Not Ranked in top 100
Canadian: 14/16 in top 300
North American Region: 99/131
Note: Among the Canadian Universities, only Montreal, Ottawa and Laval improved.

Resources
THE World Rankings Website

FOR MORE INFORMATION
Contact Blair Clarence at
Institutional Analysis and Planning
Phone: (519)-888-4567, ext. 37155
Email: analysis@uwaterloo.ca
Web: www.analysis.uwaterloo.ca

2012/13 Times Higher Ed. (THE) World University Rankings:

Summary of University of Waterloo’s Results

<table>
<thead>
<tr>
<th>Category</th>
<th>2012</th>
<th>2011</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>249</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>Reputation (Top 100 only)</td>
<td>Not Ranked</td>
<td>91-100</td>
<td></td>
</tr>
<tr>
<td>Subject Areas (Top 50 only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering and Technology</td>
<td>Not Ranked</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Arts &amp; Humanities</td>
<td>Not Ranked</td>
<td>Not Ranked</td>
<td>No change</td>
</tr>
<tr>
<td>Clinical, Pre-clinical and Health</td>
<td>Not Ranked</td>
<td>Not Ranked</td>
<td>No change</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>Not Ranked</td>
<td>Not Ranked</td>
<td>No change</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>Not Ranked</td>
<td>Not Ranked</td>
<td>No change</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>Not Ranked</td>
<td>Not Ranked</td>
<td>No change</td>
</tr>
</tbody>
</table>

Rank by Criteria

<table>
<thead>
<tr>
<th>Indicator Area</th>
<th>Weighting</th>
<th>2012 Score</th>
<th>2011 Score</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching</td>
<td>30%</td>
<td>34.7</td>
<td>35.8</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>30%</td>
<td>42.1</td>
<td>44.2</td>
<td></td>
</tr>
<tr>
<td>Citations</td>
<td>30%</td>
<td>41.8</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>Industry Income</td>
<td>2.5%</td>
<td>39.4</td>
<td>32.7</td>
<td></td>
</tr>
<tr>
<td>International Outlook</td>
<td>7.5%</td>
<td>58.3</td>
<td>62.1</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>100%</td>
<td>40.9</td>
<td>39.2</td>
<td></td>
</tr>
</tbody>
</table>

Overall Canadian Results (Canadian Universities included in top 300)

<table>
<thead>
<tr>
<th>School</th>
<th>2012 Rank</th>
<th>2012 Score</th>
<th>2011 Rank</th>
<th>2011 Score</th>
<th>CHANGE FROM PREVIOUS YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toronto</td>
<td>21</td>
<td>82.2</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UBC</td>
<td>30</td>
<td>77.3</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McGill</td>
<td>34</td>
<td>75.7</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montreal</td>
<td>84</td>
<td>59.8</td>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McMaster</td>
<td>88</td>
<td>59</td>
<td>65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alberta</td>
<td>121</td>
<td>54.7</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ottawa</td>
<td>171</td>
<td>49</td>
<td>185</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victoria</td>
<td>196</td>
<td>46.7</td>
<td>177</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen's</td>
<td>219</td>
<td>44.1</td>
<td>175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laval</td>
<td>237</td>
<td>41.9</td>
<td>Not Ranked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calgary</td>
<td>238</td>
<td>41.8</td>
<td>234</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western</td>
<td>244</td>
<td>41.4</td>
<td>215</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simon Fraser</td>
<td>245</td>
<td>41.3</td>
<td>241</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterloo</td>
<td>249</td>
<td>40.9</td>
<td>212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carleton</td>
<td>251</td>
<td>40.3</td>
<td>249</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalhousie</td>
<td>281</td>
<td>40.3</td>
<td>236</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Carleton didn’t provide industry income data. Our calculation without this data gives them a rank around 261 but THE has grouped them in the 226-250 range.
University of Waterloo
AUDIT COMMITTEE
Report to the Board of Governors
30 October 2012

This report is submitted following the committee's meeting of 30 July 2012. The chair may supplement
this report with oral comments following the committee's meeting on the morning of 30 October 2012.

FOR APPROVAL

_____________________________________________________
Appointment of External Auditors: Ernst & Young
With the endorsement of the vice-president, administration & finance, and subject to a satisfactory audit
plan and fee to be discussed at the meeting on 30 October 2012, the committee recommends the
reappointment of Ernst & Young as the university's external auditors for the fiscal year ending 30 April
2013.

FOR INFORMATION

_____________________________________________________
Financial Statements, 2011-2012 [Attachment 1]
The university's financial statements for the year ended 30 April 2012, which were approved by the
Board Executive Committee.

Risk and Risk Mitigation
The committee has received several audit reviews and audit follow-up reports. On the basis of reviews of
university management initiatives and approaches, the committee is satisfied that risk mitigation is being
addressed.

David McKay
Chair
# UNIVERSITY OF WATERLOO

## FINANCIAL STATEMENTS

APRIL 30, 2012

**INDEX**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement of Management Responsibility</td>
<td>1</td>
</tr>
<tr>
<td>Independent Auditors' Report</td>
<td>2</td>
</tr>
<tr>
<td>Financial Statements</td>
<td></td>
</tr>
<tr>
<td>Balance Sheet</td>
<td>3</td>
</tr>
<tr>
<td>Statement of Operations</td>
<td>4</td>
</tr>
<tr>
<td>Statement of Changes in Net Assets</td>
<td>5</td>
</tr>
<tr>
<td>Statement of Cash Flows</td>
<td>6</td>
</tr>
<tr>
<td>Notes to the Financial Statements</td>
<td>7 - 16</td>
</tr>
</tbody>
</table>
STATEMENT OF MANAGEMENT RESPONSIBILITY

Management of the University of Waterloo is responsible for the preparation of the financial statements, the notes thereto and all other financial information contained in this annual report.

The financial statements have been prepared by management in accordance with generally accepted accounting principles recommended by the Canadian Institute of Chartered Accountants. Management believes the financial statements present fairly the university's financial position as at April 30, 2012 and the results of its operations for the year then ended.

In fulfilling its responsibilities and recognizing the limits inherent in all systems, management has developed and maintains a system of internal control designed to provide reasonable assurance that university assets are safeguarded from loss and that the accounting records are a reliable basis for the preparation of financial statements.

The Board of Governors is responsible for ensuring that management fulfills its responsibilities for financial reporting and is ultimately responsible for reviewing and approving the financial statements. The Board carries out this responsibility principally through its Audit Committee.

The Audit Committee is appointed by the Board and its members are not officers or employees of the university. The Committee meets periodically with management, as well as the external auditors, to discuss internal controls over the financial reporting process, auditing matters and financial reporting issues to satisfy itself that each party is properly discharging its responsibilities and to review the annual report, the financial statements and the external auditors’ reports. The Committee reports its findings to the Board for consideration when approving the financial statements for issuance. The Committee also considers, for approval by the Board, the engagement or reappointment of the external auditors.

Financial statements for the year ended April 30, 2012 have been audited by Ernst & Young LLP. The independent auditors’ report outlines the scope of their audit and their opinion on the presentation of the information included in the financial statements.
INDEPENDENT AUDITORS' REPORT

To the Board of Governors of the University of Waterloo

We have audited the accompanying financial statements of the University of Waterloo, which comprise the balance sheet as at April 30, 2012 and the statements of operations, changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the University as at April 30, 2012 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Kitchener, Canada,
August ●, 2012.
UNIVERSITY OF WATERLOO
BALANCE SHEET
as at April 30, 2012
(with comparative figures as at April 30, 2011)
(thousands of dollars)

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>$273,904</td>
<td>$273,237</td>
</tr>
<tr>
<td>Short-term investments (note 3)</td>
<td>24,153</td>
<td>14,463</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>26,461</td>
<td>26,734</td>
</tr>
<tr>
<td>Inventories</td>
<td>3,871</td>
<td>3,977</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>4,673</td>
<td>3,920</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td>333,062</td>
<td>322,331</td>
</tr>
<tr>
<td>Long-term investments (note 3)</td>
<td>515,921</td>
<td>473,773</td>
</tr>
<tr>
<td>Capital assets, net (note 4)</td>
<td>683,126</td>
<td>645,030</td>
</tr>
<tr>
<td><strong>LIABILITIES AND NET ASSETS</strong></td>
<td>1,532,109</td>
<td>1,441,134</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable and accrued liabilities</td>
<td>74,795</td>
<td>75,894</td>
</tr>
<tr>
<td>Unearned income</td>
<td>59,159</td>
<td>52,691</td>
</tr>
<tr>
<td>Current portion of long-term debt (note 5)</td>
<td>1,538</td>
<td>1,447</td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td>135,492</td>
<td>130,032</td>
</tr>
<tr>
<td>Employee future benefits (note 12)</td>
<td>148,361</td>
<td>137,165</td>
</tr>
<tr>
<td>Long-term debt (note 5)</td>
<td>26,542</td>
<td>28,080</td>
</tr>
<tr>
<td>Deferred contributions (note 6)</td>
<td>233,737</td>
<td>243,681</td>
</tr>
<tr>
<td>Deferred capital contributions (note 7)</td>
<td>393,223</td>
<td>377,488</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>626,960</td>
<td>621,169</td>
</tr>
<tr>
<td><strong>NET ASSETS</strong></td>
<td>937,355</td>
<td>916,446</td>
</tr>
<tr>
<td>Deficit (note 8)</td>
<td>(141,749)</td>
<td>(134,335)</td>
</tr>
<tr>
<td>Internally restricted (note 9)</td>
<td>475,075</td>
<td>411,765</td>
</tr>
<tr>
<td>Restricted for endowment (note 10)</td>
<td>261,428</td>
<td>247,258</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>594,754</td>
<td>524,688</td>
</tr>
<tr>
<td><strong>Balance</strong></td>
<td>1,532,109</td>
<td>1,441,134</td>
</tr>
</tbody>
</table>

(See accompanying notes to the financial statements)

On behalf of the Board of Governors:

Kevin Lynch  
Chair

Feridun Hamdullahpur  
President
UNIVERSITY OF WATERLOO  
STATEMENT OF OPERATIONS  
for the year ended April 30, 2012  
(with comparative figures for the year ended April 30, 2011)  
(thousands of dollars)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INCOME</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic fees</td>
<td>$282,226</td>
<td>$252,022</td>
</tr>
<tr>
<td>Donations</td>
<td>10,394</td>
<td>9,019</td>
</tr>
<tr>
<td>Grants and contracts</td>
<td>375,716</td>
<td>367,707</td>
</tr>
<tr>
<td>Sales, services and other income</td>
<td>115,340</td>
<td>115,217</td>
</tr>
<tr>
<td>Income from investments (note 3)</td>
<td>19,436</td>
<td>17,730</td>
</tr>
<tr>
<td>Amortization of deferred capital contributions (note 7)</td>
<td>21,572</td>
<td>19,167</td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td>824,684</td>
<td>780,862</td>
</tr>
</tbody>
</table>

|                  |          |          |
| **EXPENSES**     |          |          |
| Salaries         | 361,175  | 345,220  |
| Employee benefits| 80,081   | 74,148   |
| Cost of goods sold | 19,350  | 20,857   |
| Supplies and other (note 5) | 96,695  | 88,867   |
| Travel           | 20,476   | 19,336   |
| Major repairs and renovations | 16,258  | 11,886   |
| Expendable equipment, maintenance and rentals | 19,994  | 16,397   |
| Scholarships and bursaries | 97,005  | 88,423   |
| Municipal taxes and utilities | 18,951  | 18,236   |
| Amortization of capital assets | 33,144  | 29,433   |
| **Total Expenses** | 763,129  | 712,803  |

|                  |          |          |
| Excess income over expenses for the year | $61,555 | $68,059 |

(See accompanying notes to the financial statements)
UNIVERSITY OF WATERLOO  
STATEMENT OF CHANGES IN NET ASSETS  
for the year ended April 30, 2012  
(with comparative figures for the year ended April 30, 2011)  
(thousands of dollars)

<table>
<thead>
<tr>
<th></th>
<th>Deficit</th>
<th>Internally Restricted</th>
<th>Restricted for Endowment</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net assets, beginning of year</td>
<td>$(134,335)</td>
<td>$411,765</td>
<td>$247,258</td>
<td>$524,688</td>
<td>$436,956</td>
</tr>
<tr>
<td>Excess income over expenses for the year</td>
<td>61,555</td>
<td>61,555</td>
<td>68,059</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in net assets internally restricted (note 9)</td>
<td>(63,310)</td>
<td>63,310</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in fair value of interest rate swap (note 3)</td>
<td>(1,515)</td>
<td>(1,515)</td>
<td>(340)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in unrealized loss on investments held for donor endowments (note 10)</td>
<td></td>
<td>2,842</td>
<td>2,842</td>
<td>10,293</td>
<td></td>
</tr>
<tr>
<td>Land purchased with restricted funds (note 7)</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internally endowed amounts (note 10)</td>
<td>(4,152)</td>
<td>4,152</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endowment contributions (note 10)</td>
<td></td>
<td>7,176</td>
<td>7,176</td>
<td>9,710</td>
<td></td>
</tr>
<tr>
<td><strong>Net assets, end of year</strong></td>
<td>$(141,749)</td>
<td>$475,075</td>
<td>$261,428</td>
<td>$594,754</td>
<td>$524,688</td>
</tr>
</tbody>
</table>

(See accompanying notes to the financial statements)
UNIVERSITY OF WATERLOO  
STATEMENT OF CASH FLOWS  
for the year ended April 30, 2012  
(with comparative figures for the year ended April 30, 2011)  
(thousands of dollars)

<table>
<thead>
<tr>
<th>OPERATING ACTIVITIES</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess income over expenses for the year</td>
<td>$61,555</td>
<td>$68,059</td>
</tr>
<tr>
<td>Add (deduct) non-cash items:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decrease in unrealized loss on internally endowed investments (note 10)</td>
<td>(722)</td>
<td>(3,059)</td>
</tr>
<tr>
<td>Increase in unrealized gain on unrestricted investments</td>
<td>(2,126)</td>
<td>(3,592)</td>
</tr>
<tr>
<td>Amortization of capital assets</td>
<td>33,144</td>
<td>29,433</td>
</tr>
<tr>
<td>Amortization of deferred capital contributions (note 7)</td>
<td>(21,572)</td>
<td>(19,167)</td>
</tr>
<tr>
<td>Net change in employee future benefits (note 12)</td>
<td>11,196</td>
<td>10,619</td>
</tr>
<tr>
<td>Net change in non-cash balances (note 13)</td>
<td>(2,930)</td>
<td>(28,894)</td>
</tr>
</tbody>
</table>

Cash provided by operating activities | 78,545 | 53,399 |

FINANCING ACTIVITIES

<table>
<thead>
<tr>
<th>FINANCING ACTIVITIES</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repayment of long-term debt (note 5)</td>
<td>(1,447)</td>
<td>(1,361)</td>
</tr>
<tr>
<td>Contributions spent on capital assets (note 7)</td>
<td>37,315</td>
<td>103,995</td>
</tr>
</tbody>
</table>

Cash provided by financing activities | 35,868 | 102,634 |

INVESTING ACTIVITIES

<table>
<thead>
<tr>
<th>INVESTING ACTIVITIES</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchases of capital assets</td>
<td>(71,240)</td>
<td>(133,811)</td>
</tr>
<tr>
<td>Net purchases of investments (note 3)</td>
<td>(49,682)</td>
<td>(27,124)</td>
</tr>
<tr>
<td>Endowment contributions (note 10)</td>
<td>7,176</td>
<td>9,710</td>
</tr>
</tbody>
</table>

Cash used in investing activities | (113,746) | (151,225) |

Net change in cash and cash equivalents during the year | 667 | 4,808 |

Cash and cash equivalents, beginning of year | 273,237 | 268,429 |

Cash and cash equivalents, end of year | $273,904 | $273,237 |

(See accompanying notes to the financial statements)
UNIVERSITY OF WATERTO
NOTES TO THE FINANCIAL STATEMENTS
April 30, 2012
(thousands of dollars)

1. Description

The University of Waterloo (the "university") was incorporated in 1959 under the terms and provisions of the University of Waterloo Act. A new University of Waterloo Act was passed in 1972 which provided that the university continue as the corporation which was established in 1959.

The objectives of the university are the pursuit of learning through scholarship, teaching and research. The university is a degree granting and research organization offering undergraduate and graduate programs. The university is also a registered charity under Section 149 of the Income Tax Act and is, therefore, exempt from income taxes.

These financial statements reflect the assets, liabilities, net assets, income and expenses of all the operations of the university. Included are the academic, administrative and other operating expenditures funded by academic fees, grants and other general income; restricted purpose funds including endowment funds; and the ancillary enterprises, including Residences, Food Services, Parking, Retail Services and WatCard.

2. Summary of Significant Accounting Policies

These financial statements have been prepared in accordance with Canadian generally accepted accounting principles applied within the framework of the significant accounting policies summarized below:

(a) Income recognition

The university follows the deferral method of accounting for contributions. Unrestricted contributions are recognized as income when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured. Restricted contributions are recognized as income in the year in which the related expenses are incurred. Endowment contributions and restricted contributions used to purchase land are recognized as direct increases in net assets in the period in which they are received/purchased.

Tuition and other academic fees are recorded as income on the accrual basis of accounting. All fees that relate to an academic term occurring within the fiscal year are included as income. Fees billed and collected that relate to academic terms commencing after the end of the fiscal year are included in "Unearned income".

Sales, services and other income is recognized at point of sale or when service has been provided.

(b) Cash and cash equivalents

Investments included in cash and cash equivalents consist of highly liquid investments that are readily convertible to known amounts of cash and that are subject to a insignificant risk of change in value. These instruments are carried at cost plus accrued interest, which approximates fair value.
(c) Inventories

Inventories are valued at the lower of cost and net realizable value. Cost of inventory is the weighted-average purchase cost and net realizable value is the estimated selling price in the ordinary course of business. Items that are written down to net realizable value are adjusted back up to cost if there is a subsequent increase in the net realizable value. There have been no write-downs of inventory or reversals of previous write-downs during the year.

(d) Investments and investment income (loss)

All investments have been classified as held for trading and are recorded at fair value. Publicly traded securities are valued based on the latest bid prices and pooled funds are valued based on reported unit values. Short-term investments (maturity is less than one year from balance sheet date) are valued at cost plus accrued interest, which approximates fair value. Transactions are recorded on a trade date basis and transaction costs are expensed as incurred. Investment income (loss), which consists of interest, dividends and realized and unrealized gains and losses, is recorded as “Income (loss) from investments” in the Statement of Operations, except for investment income (loss) deferred or recorded directly in endowment net assets.

(e) Capital assets

Purchased capital assets are recorded at cost. Contributed capital assets are recorded at fair value on the date of contribution. Capital assets are amortized on a straight-line basis over the assets’ estimated useful lives as follows:

- Buildings: 40 years
- Parking lots/roadways: 15 years
- Furniture and equipment: 3-10 years
- Library acquisitions: 5 years

Contributions received for capital assets are deferred in the accounts and amortized over the same term on the same basis as the related capital assets.

Works of art are recorded at cost and not amortized.

(f) Employee future benefits

The university has a defined benefit pension plan for its employees and provides other retirement and post employment benefits such as extended health care and life insurance coverage. The cost of employee future benefits is determined using the projected benefit method prorated on services. This method involves the use of the market interest rate at the measurement date on high-quality corporate debt instruments as the discount rate and management’s best estimates regarding assumptions about retirement age, termination rates, mortality rates and expected health care costs. The expected long-term return on pension benefit plan assets is calculated using market-related asset values. Past service costs associated with plan amendments are amortized on a straight-line basis over the average remaining service life of the active employees. The minimum amortization of a net actuarial gain or loss is determined using the corridor method, whereby the amount in excess of 10% of the greater of the fair value of plan assets and the accrued benefit obligation is amortized over the average remaining service life of employees. A valuation allowance is recorded against an accrued benefit asset for any excess over the expected future benefit to the university.
(g) **Accounting estimates**

The preparation of financial statements in conformity with Canadian generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. These amounts are based on management’s knowledge of current events and actions that the university may undertake in the future. Significant areas requiring the use of management estimates relate to the assumptions used in the valuation of pension and other post employment retirement benefit obligations. Actual results could differ from those estimates.

(h) **Derivative financial instruments**

The university is subject to interest rate cash flow risk with respect to its floating rate debt. The university has addressed this risk by entering into an interest rate swap agreement that fixes the interest rate over the term of the debt. The university follows hedge accounting for its interest rate swap which results in the interest expense related to certain long-term debt being recorded in the financial statements at the hedged rate rather than at the original contractual interest rate. In order for a derivative to qualify for hedge accounting, the hedge relationship must be identified, designated and formally documented at its inception. Changes in the cash flows on the interest rate swap must be highly effective in offsetting changes in the amount of cash flows on the hedged long-term debt.

The interest rate swap is measured at fair value at the year end date and included on the Balance Sheet. The fair value of derivative financial instruments reflects the daily quoted market amount of those instruments. Investment dealer quotes or quotes from a bank are available for the university’s derivative financial instruments. The gain or loss is recorded as a direct change in net assets.

(i) **Long-term debt**

Long-term debt is initially recorded at fair value and subsequently measured at amortized cost using the effective interest rate method.

(j) **Capital management**

In managing capital, the university focuses on liquid resources available for operations. The university’s objective is to have sufficient liquid resources to continue operating even if adverse financial events were to occur and to provide it with the flexibility to take advantage of opportunities that will advance its mission. The need for sufficient liquid resources is considered in the preparation of its annual operating and capital budgets and in the monitoring of cash flows and actual operating results compared to the budget. The university would enter into long-term debt to assist with the financing of capital assets when other sources are not available. As at April 30, 2012, the university has met its objective of having sufficient liquid resources to meet its current obligations.

(k) **Financial instruments**

The university has chosen to apply CICA 3861 - Financial Instruments - Disclosure and Presentation in place of CICA 3862 - Financial Instruments - Disclosures and CICA 3863 - Financial Instruments - Presentation.

(l) **Future accounting policy changes**

The Accounting Standards Board of the CICA issued Part III of the CICA Handbook that sets out the accounting standards for not-for-profit organizations that are effective for fiscal years beginning on or after January 1, 2012. The University will adopt the new standards in fiscal 2013 and is currently evaluating the impact of these standards.
3. Investments

The university is subject to market risk, foreign currency risk and interest rate price risk with respect to its investment portfolio. To manage these risks, the university has established a target mix of investment types designed to achieve the optimal return within reasonable risk tolerances.

(a) Total investments consist of the following components:

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fair Value</td>
<td>Cost</td>
</tr>
<tr>
<td>Short-term bonds and guaranteed investment certificates</td>
<td>$ 24,153</td>
<td>$ 23,452</td>
</tr>
<tr>
<td>Long-term investments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deposits, guaranteed investment certificates and treasury bills</td>
<td>59,651</td>
<td>58,845</td>
</tr>
<tr>
<td>Bonds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>72,715</td>
<td>64,651</td>
</tr>
<tr>
<td>Corporate</td>
<td>119,564</td>
<td>116,547</td>
</tr>
<tr>
<td>Pooled</td>
<td>138,196</td>
<td>129,933</td>
</tr>
<tr>
<td></td>
<td>330,475</td>
<td>311,131</td>
</tr>
<tr>
<td>Equity investments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canadian</td>
<td>69,220</td>
<td>69,374</td>
</tr>
<tr>
<td>US</td>
<td>27,406</td>
<td>29,610</td>
</tr>
<tr>
<td>Other international</td>
<td>34,980</td>
<td>54,201</td>
</tr>
<tr>
<td></td>
<td>131,606</td>
<td>153,185</td>
</tr>
<tr>
<td>Interest rate swap (note 8)</td>
<td>(5,811)</td>
<td>-</td>
</tr>
<tr>
<td>Total long-term investments</td>
<td>515,921</td>
<td>523,161</td>
</tr>
<tr>
<td>Total investments</td>
<td>$540,074</td>
<td>$546,613</td>
</tr>
</tbody>
</table>

All corporate bonds are rated A or better (2011 - A or better) by recognized rating services.

The university has entered into an interest rate swap contract to manage the cash flow risk associated with a long-term debt obligation (note 5). The contract has the effect of converting the floating rate of interest to a fixed rate of 6.045% (2011 - 6.045%) on $21,198 (2011 - $22,003) of debt obligation. The notional amount of the derivative financial instrument does not represent amounts exchanged between parties and is not a measure of the university's exposure resulting from the use of a financial instrument contract. The amounts exchanged are based on the applicable rates applied to the notional amount.

The university is exposed to credit-related losses in the event of non-performance by counterparties to the interest rate swap, but it does not expect any counterparties to fail to meet their obligations. The university limits its credit risk by only dealing with Canadian chartered banks that are rated AA or better.
(b) Investment income recorded in the Statement of Operations is calculated as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest, dividend income and realized gains (losses)</td>
<td>$11,322</td>
<td>$8,581</td>
</tr>
<tr>
<td>earned from unrestricted and internally endowed resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in unrealized losses from unrestricted and internally endowed resources</td>
<td>2,848</td>
<td>6,651</td>
</tr>
<tr>
<td>Restricted investment income (note 6)</td>
<td>5,266</td>
<td>2,498</td>
</tr>
<tr>
<td>Total investment income recognized in the year</td>
<td>$19,436</td>
<td>$17,730</td>
</tr>
</tbody>
</table>

4. Capital Assets

Capital assets consist of the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>2012 Cost</th>
<th>2012 Accumulated Amortization</th>
<th>2011 Cost</th>
<th>2011 Accumulated Amortization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$8,707</td>
<td>$-</td>
<td>$7,798</td>
<td>$-</td>
</tr>
<tr>
<td>Buildings (note 5)</td>
<td>773,279</td>
<td>190,352</td>
<td>719,725</td>
<td>177,653</td>
</tr>
<tr>
<td>Parking lots/roadways</td>
<td>6,358</td>
<td>2,769</td>
<td>6,108</td>
<td>2,583</td>
</tr>
<tr>
<td>Furniture and equipment</td>
<td>237,363</td>
<td>158,618</td>
<td>223,632</td>
<td>141,597</td>
</tr>
<tr>
<td>Library acquisitions</td>
<td>45,023</td>
<td>38,988</td>
<td>43,248</td>
<td>36,688</td>
</tr>
<tr>
<td>Works of art</td>
<td>3,123</td>
<td></td>
<td>3,040</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,073,853</td>
<td>$390,727</td>
<td>1,003,551</td>
<td>$358,521</td>
</tr>
<tr>
<td>Less accumulated amortization</td>
<td>(390,727)</td>
<td></td>
<td>(358,521)</td>
<td></td>
</tr>
<tr>
<td>Net book value</td>
<td>$683,126</td>
<td></td>
<td>$645,030</td>
<td></td>
</tr>
</tbody>
</table>

Included in the cost of buildings is $268,448 (2011 - $284,479) of construction in progress that is currently not being amortized. Included in the cost of parking lots/roadways is $2,781 (2011 - $2,530) of construction in progress that is currently not being amortized.

5. Long-Term Debt

(a) Long-term debt obligations are summarized as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>2012 Book Value</th>
<th>2012 Fair Value</th>
<th>2011 Book Value</th>
<th>2011 Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario Housing Corporation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lease agreements payable with interest rates ranging from 6.875% to 7.125% and maturities between December 1, 2020 and June 1, 2021</td>
<td>$ 5,358</td>
<td>$ 6,667</td>
<td>$ 5,756</td>
<td>$ 6,889</td>
</tr>
<tr>
<td>Canada Mortgage and Housing Corporation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortgages payable with interest rates ranging from 5.375% to 6.25% and maturities between July 1, 2016 and February 1, 2019</td>
<td>1,524</td>
<td>1,702</td>
<td>1,768</td>
<td>1,920</td>
</tr>
</tbody>
</table>
Canadian Imperial Bank of Commerce:
Term instalment loan, non-revolving and committed to October 1, 2013 with a floating interest rate which is fixed at 6.045% through an interest rate swap with a term expiring on October 1, 2013 (note 3) 21,198 21,139 22,003 22,589

28,080 $29,508 29,527 $31,398

Less current portion (1,538) (1,447)

Long-term debt $26,542 $28,080

Future scheduled annual debt principal repayments are as follows:

2013 1,538
2014 1,635
2015 1,739
2016 1,848
2017 1,909
2018 and beyond 19,411
$28,080

The total interest expense on long-term debt recognized in “Supplies and other” and the amount paid for the year ended April 30, 2012 was $1,823 and $1,797 respectively (2011 - $1,956 and $1,883).

Various residence buildings included in capital assets are pledged as collateral for debt (note 4).

(b) Fair value

The fair values of debt instruments are estimated using a discounted cash flow calculation that uses approximate market interest rates at April 30, 2012 for debt instruments with similar characteristics.

6. Deferred Contributions

Deferred contributions represent unspent externally restricted grants, donations and investment income for research and other specific purposes. Changes in the deferred contributions are as follows:

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance, beginning of year</td>
<td>$243,681</td>
<td>$275,557</td>
</tr>
<tr>
<td>Contributions received during the year</td>
<td>166,837</td>
<td>214,168</td>
</tr>
<tr>
<td>Contributions recognized as income during the year</td>
<td>(140,928)</td>
<td>(135,173)</td>
</tr>
<tr>
<td>Transfer of prior year contributions to other institutions</td>
<td>-</td>
<td>(8,271)</td>
</tr>
<tr>
<td>Investment income made available for spending (note 10)</td>
<td>6,728</td>
<td>3,893</td>
</tr>
<tr>
<td>Investment income spent during the year (note 3)</td>
<td>(5,266)</td>
<td>(2,498)</td>
</tr>
<tr>
<td>Contributions spent on capital assets during the year (note 7)</td>
<td>(37,315)</td>
<td>(103,995)</td>
</tr>
<tr>
<td>Balance, end of year</td>
<td>$233,737</td>
<td>$243,681</td>
</tr>
</tbody>
</table>
7. **Deferred Capital Contributions**

Deferred capital contributions represent the unamortized amount of grants, donations and investment income received and used for the purchase of capital assets. The amortization of deferred capital contributions is recorded as income in the Statement of Operations. Changes in the deferred capital contributions are as follows:

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance, beginning of year</td>
<td>$377,488</td>
<td>$292,670</td>
</tr>
<tr>
<td>Amortization of deferred capital contributions</td>
<td>(21,572)</td>
<td>(19,167)</td>
</tr>
<tr>
<td>Contributions spent on capital assets during the year (note 6)</td>
<td>37,315</td>
<td>103,995</td>
</tr>
<tr>
<td>Land purchased with restricted funds</td>
<td>(8)</td>
<td>(10)</td>
</tr>
<tr>
<td><strong>Balance, end of year</strong></td>
<td><strong>$393,223</strong></td>
<td><strong>$377,488</strong></td>
</tr>
</tbody>
</table>

8. **Deficit**

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational surplus</td>
<td>$13,647</td>
<td>$10,118</td>
</tr>
<tr>
<td>Unrealized gain on unrestricted investments</td>
<td>8,165</td>
<td>6,039</td>
</tr>
<tr>
<td>Fair value of interest rate swap (note 3)</td>
<td>(5,811)</td>
<td>(4,296)</td>
</tr>
<tr>
<td>Land purchased with restricted funds</td>
<td>725</td>
<td>717</td>
</tr>
<tr>
<td>Provision for vacation pay</td>
<td>(10,114)</td>
<td>(9,748)</td>
</tr>
<tr>
<td>Employee future benefits (note 12)</td>
<td>(148,361)</td>
<td>(137,165)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$(141,749)</strong></td>
<td><strong>$(134,335)</strong></td>
</tr>
</tbody>
</table>

9. **Net Assets Internally Restricted**

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic and academic support department carryforwards and operational commitments</td>
<td>$244,037</td>
<td>$197,423</td>
</tr>
<tr>
<td>Ancillary enterprises</td>
<td>25,877</td>
<td>21,378</td>
</tr>
<tr>
<td>Unspent realized income on internally endowed investments</td>
<td>1,501</td>
<td>944</td>
</tr>
<tr>
<td>Unrealized loss on internally endowed investments (note 10)</td>
<td>(1,689)</td>
<td>(2,411)</td>
</tr>
<tr>
<td>Bridge financing for housing and other construction projects</td>
<td>(63,479)</td>
<td>(50,890)</td>
</tr>
<tr>
<td>Net assets invested in capital assets</td>
<td>$268,828</td>
<td>$245,321</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$475,075</strong></td>
<td><strong>$411,765</strong></td>
</tr>
</tbody>
</table>

The university appropriates funds at year end to cover outstanding operational commitments.

10. **Net Assets Restricted for Endowment**

Contributions restricted for endowment consist of restricted donations received by the university and donations internally designated by the Board of Governors. The investment income generated from endowments must be used for the purposes designated by the donors or Board of Governors. The university ensures that all funds received for restricted purposes are expended for those purposes for which they were provided.

Investment income on endowments is recorded in the Statement of Operations if it is available for spending at the discretion of the university or if the conditions of any restrictions have been met. Fundamental to the university's philosophy on endowments is the general principle of maintaining the purchasing power of all endowment funds by limiting the amount made available for spending and reinvesting any income not made available for spending in a particular year.
Net assets restricted for endowment consist of the following:

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donor endowed (cost)</td>
<td>$207,857</td>
<td>$200,681</td>
</tr>
<tr>
<td>Internally endowed (cost)</td>
<td>59,475</td>
<td>55,323</td>
</tr>
<tr>
<td>Unrealized loss on investments held for donor endowments</td>
<td>(5,904)</td>
<td>(8,746)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$261,428</strong></td>
<td><strong>$247,258</strong></td>
</tr>
</tbody>
</table>

The decrease in the unrealized loss on investments held for donor endowments of $2,842 (2011 - $10,293) increased net assets restricted for endowment. Of the $6,728 (2011 - $3,893) of realized income, $5,266 (2011 - $2,498) was spent and recognized as investment income and $1,462 (2011 - $1,395) was unspent and deferred (note 6). The change in the unrealized loss on investments held for internal endowments of $722 (2011 - $3,059) was recognized as investment income and increased internally restricted net assets. Realized income of $1,914 (2011 - $1,143) was recognized as investment income.

11. Commitments and Contingent Liabilities

(a) **Canadian University Reciprocal Insurance Exchange**

The university is a member of a self-insurance co-operative, named CURIE, in association with other Canadian universities. Under this arrangement, a contractual agreement exists to share the property and liability insurance risks of member universities. The projected cost of claims is funded through members’ premiums based on actuarial projections. As at December 31, 2011, CURIE had a surplus of $48,586 (2010 - $43,288), of which the university’s pro rata share is approximately 3.7% (2010 - 3.7%) on an ongoing basis.

(b) **Contractual obligations**

The university has entered into a long-term land lease and operating agreement with Ivest Properties Limited and London Property Corp. for the construction and rental of student housing. The university has a commitment to rent units in the townhouse complex with an option to terminate. The university is committed until at least September 1, 2014. Based on the number of units available for rent as at April 30, the following are the annual lease payments committed:

- 2013 - $2,466
- 2014 - $2,522
- 2015 - $847

(c) The nature of the university’s activities is such that there are usually claims or potential claims in prospect at any one time. At April 30, 2012, the university believes it has valid defenses and appropriate insurance coverage in place on certain claims which are not expected to have a material impact on the university’s financial position. There also exist other claims or potential claims where the ultimate outcome cannot be determined at this time. Any additional losses related to claims would be recorded in the year during which the amount of the liability is able to be estimated or adjustments to the amount recorded are determined to be required.

12. **Employee Future Benefits**

The university has a defined benefit pension plan that provides pension benefits to eligible employees. This registered pension plan is based on years of credited service, highest average earnings in 36 consecutive months in the 10 years immediately preceding retirement, and the CPP average. Pension benefits will increase annually by the ratio between the average of each of the two previous years’ indices of the Consumer Price Index, normally to a maximum of 5%.
The university also has a benefit plan that provides other retirement benefits, including extended health care and life insurance and one that provides for long-term disability income benefits after employment, but before retirement.

The latest actuarial valuation for the registered pension plan was performed as at January 1, 2011. The next required actuarial valuation for the registered pension plan is January 1, 2014. The university performs annual actuarial valuations for accounting purposes for the registered pension plan and other benefit plans. The university measures its accrued benefit obligation and the fair value of plan assets for accounting purposes as at April 30 of each year.

The employee benefits expense for the year includes pension expense of $32,684 (2011 - $29,376) and other benefit plan expenses of $13,413 (2011 - $12,760).

Information about the university's benefit plans as at April 30 is as follows:

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pension</td>
<td>Other</td>
</tr>
<tr>
<td>Fair value of plan assets</td>
<td>$1,038,710</td>
<td>$ -</td>
</tr>
<tr>
<td>Accrued benefit obligation</td>
<td>1,306,356</td>
<td>208,101</td>
</tr>
<tr>
<td>Plan deficit</td>
<td>(267,646)</td>
<td>(208,101)</td>
</tr>
<tr>
<td>Unamortized past service cost</td>
<td>-</td>
<td>(4,521)</td>
</tr>
<tr>
<td>Unamortized net actuarial loss</td>
<td>264,502</td>
<td>67,405</td>
</tr>
<tr>
<td>Accrued liability</td>
<td>$(3,144)</td>
<td>$(145,217)</td>
</tr>
</tbody>
</table>

The significant actuarial assumptions adopted in measuring the university's accrued benefit obligation and benefit cost are as follows:

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pension</td>
<td>Other</td>
</tr>
<tr>
<td>Accrued benefit obligation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discount rate</td>
<td>4.80%</td>
<td>3.60%-4.85%</td>
</tr>
<tr>
<td>Rate of compensation increase</td>
<td>4.10%</td>
<td>4.10%</td>
</tr>
<tr>
<td>Rate of inflation</td>
<td>2.10%</td>
<td>2.10%</td>
</tr>
</tbody>
</table>
2012 | Pension Benefit | Other Benefit | 2011 | Pension Benefit | Other Benefit
--- | --- | --- | --- | --- | ---
Plan | Plans | Plan | Plans
Discount rate | 5.50% | 4.40-5.80% | 5.80% | 4.75-6.00%
Expected long-term rate of return on fair value of plan assets | 6.50% | - | 6.50% | -
Rate of compensation increase | 4.25% | 4.25% | 4.10% | 4.10%
Rate of inflation | 2.25% | 2.25% | 2.10% | 2.10%

For measurement purposes, a 7.5% annual rate of increase in the per capita cost of covered health care benefits was assumed for 2012. The rate of increase was assumed to decrease gradually to 5.0% in 2016 and remain at that level thereafter.

The pension plan assets consist of:

| 2012 | 2011 |
--- | ---
Equity securities | 35.1% | 40.9%
Debt securities | 56.9% | 58.2%
Cash and short-term investments | 8.0% | 0.9%

100.0% | 100.0%

The table below outlines the funding provided by the university and its employees and the benefits paid under the university’s benefit plans:

| 2012 | Pension Benefit Plan | Other Benefit Plans | 2011 | Pension Benefit Plan | Other Benefit Plans
--- | --- | --- | --- | --- | ---
Employer contributions | $30,915 | $3,915 | $28,008 | $3,407
Employee contributions | 19,952 | - | 19,307 | -
Benefits paid | 39,426 | 3,915 | 36,486 | 3,407

13. Net Change in Non-Cash Balances

| 2012 | 2011 |
--- | ---
Accounts receivable | $273 | $(1,421)
Inventories | 106 | (940)
Prepaid expenses | (753) | (139)
Accounts payable and accrued liabilities | (1,099) | (1,899)
Unearned income | 6,468 | 8,621
Deferred cash contributions | (7,925) | (33,116)

$(2,930) | $(28,894)
University of Waterloo
BUILDING & PROPERTIES COMMITTEE
Report to the Board of Governors
30 October 2012

FOR APPROVAL

1. Proposed Day Care Facility

Motion: That the Board of Governors approve a revised day care building project budget of $5.2 million.

Background: The university currently has three independent day cares operating on campus. Paintin’ Place is located at UW Place, and both Hildegard Marsden and Klemmer Day Cares are located north of the Columbia Icefields.

The new consolidated day care is expected to accommodate more than 150 children in a single storey building located in the area just north-east of the Optometry building on the north campus. The project is estimated to be approximately 18,000 gross square feet [approximately $290 per square foot]. Due to current market conditions, the project architects (Walter Fedy) have provided two detailed cost estimates, one using the current favourable market conditions and one using traditional cost estimates resulting in a difference of $750,000; this amount is carried as an additional contingency. [If the additional contingency is not required, the project cost would be $245 per square foot.]

Since the initial budget was approved, costs have increased due to the passage of time and the incorporation of design details related to the requirements of the Day Nurseries Act (Ontario). The university has committed $1.9 million in funding, the Faculty and Staff Associations have committed a combined $0.8 million, a $0.1 million government grant is available, the university will lease the building to the newly consolidated day care to fund $1.4 million, and the balance will be funded from a combination of sources.

Budget (including net HST):

<table>
<thead>
<tr>
<th></th>
<th>B&amp;P Approved May 2011</th>
<th>Revised Budget September 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>$2,800,000</td>
<td>$3,600,000</td>
</tr>
<tr>
<td>Professional Fees &amp; Disbursements</td>
<td>400,000</td>
<td>450,000</td>
</tr>
<tr>
<td>Contingency (based on current market)</td>
<td>200,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Building Permit &amp; Development Charges</td>
<td>200,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>$3,600,000</td>
<td>$4,450,000</td>
</tr>
<tr>
<td>Contingency to reflect traditional estimating</td>
<td></td>
<td>750,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$5,200,000</td>
</tr>
</tbody>
</table>

2. Addition to Needles Hall

Motion: That the Board of Governors approve a revised project budget of $17.81 million for the planned addition to the north façade of Needles Hall.

Background: The university has grown significantly in the past 10 years without any additional space for administrative activities. This capital project contemplates the construction of 38,000 gross sq. ft. of office/meeting space, a mechanical penthouse plus a 10,000 sq. ft. below grade parking area for 20 visitors [total building area of 48,000 sq. ft. @ $370/sq. ft.]. The third floor of the addition would accommodate a new Board and Senate meeting room plus related amenity spaces (i.e. break-out meeting room, kitchenette, washrooms). The two lower floors would, likely, be assigned to
administrative activities including the Office for Persons with Disabilities, Counselling Services, and the Registrar's Office.

In June 2011, the Board of Governors approved a smaller project of 34,000 sq. ft. budgeted at $11.6 million. Since then, as the university decided which units will be housed in Needles Hall (including the addition) and the expected growth of those units over time, it was determined that a larger facility was required.

The project budget (including net HST):

<table>
<thead>
<tr>
<th></th>
<th>Board Approved June 2011</th>
<th>Revised September 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>$9,100,000</td>
<td>$14,400,000</td>
</tr>
<tr>
<td>Professional Fees &amp; Disbursements</td>
<td>950,000</td>
<td>1,400,000</td>
</tr>
<tr>
<td>Contingency</td>
<td>500,000</td>
<td>720,000</td>
</tr>
<tr>
<td>Furnishings</td>
<td>500,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Network Connectivity</td>
<td>200,000</td>
<td>250,000</td>
</tr>
<tr>
<td>Building Permits &amp; Development Charges</td>
<td>350,000</td>
<td>540,000</td>
</tr>
<tr>
<td>Capital Total</td>
<td>$11,600,000</td>
<td>$17,810,000</td>
</tr>
</tbody>
</table>

The university has set aside $6 million of the required capital funding; the balance of funding will come from a combination of fundraising and operating funds.

FOR INFORMATION

3. **Northwest Campus Development Guidelines** [Attachment 1]

   The committee reviewed and approved the attached development guidelines for the Northwest Campus.

4. **General Oversight**

   The committee reviewed and accepted for information:
   - the capital financing commitments associated with the capital projects and advises that these commitments fall within the university’s board-approved debt policy.

________________________
Catherine Booth
Chair
University of Waterloo
Northwest Campus
Development Design Guidelines
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1.0 Introduction

1.1 Background

The University of Waterloo (UW) has prepared these Development Design Guidelines to guide the long-term design and development of the University of Waterloo Northwest Campus. The Northwest Campus is an approximately 73.5 hectares (181.5 acres) area of land bounded by Columbia Street West to the south, Fischer-Hallman Road and Bearinger Road to the west/north, and Westmount Road to the east. The Northwest Campus is intended to develop into a multi-use employment node within the City of Waterloo that houses a broad range of uses and activities, which could include space for institutes or academic programs, university-related housing, park and open space, and university or private sector research facilities similar to the David Johnston Research and Technology Park (R&T Park) to the east.

These Development Design Guidelines build on previous planning and design work undertaken for the Northwest Campus. The UW Campus Master Plan was updated in 2009 to include a planning framework for the Northwest Campus. Subsequently, the City adopted the Northwest Campus District Plan in 2009 to provide further specific direction, beyond that provided by the Official Plan, for the development of the Northwest Campus. A Draft Plan of Subdivision for the Northwest Campus was approved in 2010 by the Region and divided the area into development blocks. The Guidelines are intended to provide a finer level of development design direction from the higher level direction of the above noted policy plans.

1.2 Development Context

The Northwest Campus is approximately 73.5 hectares (181.5 acres) in size and has a rolling topography, generally sloping towards the east and south. The former homestead was situated near the intersection of Westmount Road and the future principal east-west route through the NW Campus (“Street B” to be named at a later date), with existing trees as the only remaining visible elements. Other than two existing hedgerows and some individual Butternut trees, there are few natural features within the Northwest Campus that must be considered in its development.
The Northwest Campus is situated in an established portion of Waterloo, surrounded by existing residential uses to west and the south, by the UW North Campus to the east (including the UW Environmental Reserve and the David Johnston R&T Park), and the Laurel Creek Conservation Area to the north. The hydro corridor running between Fischer-Hallman Road and Westmount Road through the area divides the Northwest Campus into two areas. The southern area contains the existing Columbia Lake Village residences and community amenities, while the northern area is undeveloped, with the exception of the existing Stork Family YMCA/John Harper Library situated at the southeast corner of Fischer-Hallman Road and Street B. Only the area north of the hydro corridor is the subject of these Development Design Guidelines.

The Northwest Campus is designated "Major Institutional" in the current City of Waterloo Official Plan. This designation is intended to accommodate "public buildings, universities and colleges, social and cultural facilities, hospitals, and other institutional uses of a major nature". Complementary accessory uses to the principal institutional use, such as convenience commercial uses, residences, and park and recreational facilities, are also permitted. Furthermore, manufacturing related to a research and development facility associated with the University of Waterloo is specifically permitted within the Northwest Campus.

The Northwest Campus is designated "Employment" in the new Waterloo Official Plan (Council-adopted April 2012) under an "Academic" sub-category. The "Academic" sub-category recognizes the main campuses of post-secondary institutions as well as other areas such as the R&T Park and the Northwest Campus. The designation principally permits academic and administrative facilities for the institution; research facilities operated by the institution; research institutes; residences associated with the institution; and other uses consistent with the designation's intent. For the Northwest Campus, offices; research and development facilities associated with UW; and manufacturing related to such facilities facility are additional permitted uses. The new Official Plan permits heights up to 81 metres (generally 24 storeys) on the Northwest Campus north of the hydro corridor.

The Northwest Campus will be an urban neighbourhood of academic, institutional and private sector research-oriented activity, connected to the University campus and the city. In addition to the existing YMCA/library, this will include University buildings and technology intensive companies undertaking applied research and innovative product development in cooperation with the University. The streets will connect into the broader city grid and Street B, the main street, will provide connections to the Laurelwood neighbourhood to the west, and in the long term transit and
pedestrian connection to the R&T Park. Attractively designed buildings will frame the streets as well as internal courtyards for use by employees and students. These courtyards will be part of the open space system of public parks along Street B, stormwater management ponds and trails.

1.3 Purpose and Application

The purpose of the Guidelines is to provide specific guidance to developments within the Northwest Campus through the planning approval process. They are intended to provide guidance to developers and builders within the Northwest Campus when designing, developing and constructing sites within the area to ensure that they satisfy the overall objectives of the University of Waterloo. Additionally, they are to be used in conjunction with City of Waterloo design guidelines and standards, as relevant and appropriate, by the City through its review and evaluation of planning applications, including site plans and zoning applications.

The Development Design Guidelines are meant to be flexible in nature. They are intended to be applied and interpreted on a case-by-case basis, provided development proposals are in keeping with the spirit of overall design guidance of the document. They are meant to complement other design guidance provided by other documents, including the University of Waterloo Campus Master Plan as well as the Official Plan, Zoning By-law, Site Plan Guidelines, Sign By-law and Entrance Feature Policy, accessibility guidelines, and CPTED guidelines, among other documents.

1.4 Outline

The Development Design Guidelines for the Northwest Campus are comprised of five principal components. Section 2.0 summarizes the design principles that form the foundation for the preparation of the Guidelines, which are taken from the UW Campus Master Plan (2009). Section 3.0 identifies the structuring elements that organize the future development of the Northwest Campus, as established by the Campus Master Plan, District Plan, and Draft Plan of Subdivision. Section 4.0 outlines the design guidelines that provide the guidance to future development within the Northwest Campus, comprised of elements such as streets and movement, open space, site design, parking, building design, landscaping, and sustainability. Section 5.0 illustrates a conceptual demonstration plan of the development of the Northwest Campus at full build-out, providing an illustration of what the Northwest Campus could look like and how it could function based on an application of the Guidelines. Section 6.0 outlines the strategy for moving forward with the implementation of the overall vision for the Northwest Campus, including the planning approval process, including zoning, draft plan of subdivision, block plan, and site plan considerations.
2.0 Design Principles

Seven development principles were identified early in the 2009 Campus Master Plan Update to guide the creation of development options for the Northwest Campus. Forming the foundation of the Development Design Guidelines, these principles seek to:

1. **Work with existing topography**
   Site grading should be minimized on the Northwest Campus to preserve the rolling hills that provide character to future development and create views to and from the site.

2. **Preserve existing vegetation of significant character**
   Existing hedgerows on the site should be protected from future development in the Northwest Campus to provide future landscaping and open space opportunities.

3. **Establish linkages to existing and proposed assets**
   The Northwest Campus should enhance the linkages between surrounding uses, both natural and built.

4. **Plan for flexibility in use**
   A variety of uses should be accommodated in the Northwest Campus while ensuring appropriate infrastructure, movement patterns and open space.

5. **Design parking to be shared and screened from the Street**
   Parking should be optimized in the Northwest Campus through appropriate parking demands, opportunities for shared or structured parking, and design that minimize the visual impact of large parking lots.

6. **Encourage various modes of movement**
   Movement within the Northwest Campus should provide for alternatives to auto travel through measures such as extensions to surrounding trail networks and maximizing transit capabilities, particularly supporting connectivity to Central Transit Corridor and to the North and South Campuses.

7. **Design for sustainability**
   Development within the Northwest Campus should implement principles of sustainability to ensure its long-term success and feasibility.
3.0 Campus Structure Plan

3.1 Background

The UW Campus Master Plan Update and the Northwest Campus District Plan established the high level structure of the Northwest Campus. Building on the direction of these documents, the Draft Plan of Subdivision approved by the Region of Waterloo in 2010 refined this structure for the Northwest Campus by specifically detailing the principal streets, development blocks, and public spaces that provide the "skeleton" to which future development plans will build from. These three key structuring elements (streets, blocks and spaces) of the Northwest Campus are described below.

Structure Plan Concept of Northwest Campus

Legend

- Streets
- Blocks
- Spaces
3.2 Streets

A central east-west public street (Street B) extending from the Laurelwood Drive and Fischer-Hallman Road intersection will function as the “main street” of the campus. It is oriented to efficiently move people to and through the Northwest Campus, linking the adjacent neighbourhoods with the University campuses. It will have a median and its design will be similar to that of Hagey Boulevard in the R&T Park. Multi-use trails will be provided along both sides to accommodate pedestrians and cyclists, and it is anticipated that this street will be a transit route.

Two secondary “university” streets (Streets A and C) provide north-south connectivity through the Northwest Campus. These streets will be designed and constructed in a similar fashion to the east-west public street, although without the central median. Roundabouts at the intersection of principal streets will be utilized throughout the Northwest Campus as the preferred means of intersection traffic control.

Internal access streets will provide access to buildings and parking areas on the Northwest Campus, accessed from the public street and “university” streets. Although constructed and operated as private streets, they will be designed to public street standards (a similar approach taken in the R&T Park).

3.3 Blocks

The network of principal streets divides the Northwest Campus into six sub-areas that allow for an efficient pattern of development phasing and further subdivision of the Northwest Campus. These blocks are organized to enable buildings within the Northwest Campus to be oriented to the street to frame the street edges and to create an attractive public realm. Parking will be located behind the buildings and be centralized within each block.

These larger development blocks provide flexibility for the University in the future, particularly given the Northwest Campus is expected to build out over a 40 year timeframe and specific uses or individual development parcels are not known at this time. Depending on the needs of particular users and as specific building projects are developed, blocks may be further subdivided or they may remain as larger blocks. This allows for the accommodation of a range of different development options based on land use, building size, and parcel size considerations.
3.4 Spaces

The street and block pattern is organized to capitalize on a series of open spaces within the Northwest Campus. There are two types of “spaces” that comprise this open space network.

The first are those spaces that are situated around existing features within the Northwest Campus. A central common developed along two blocks of land along Street B in the vicinity of the former farmstead will incorporate the existing hedgerow and Butternut trees in the area. Additionally, it can accommodate sitting areas, walking trails and a transit stop and will provide a commanding view of the Laurel Creek corridor and the R&T Park to the east. Also, the existing hedgerow located along Street A will be maintained and incorporated as part of an expanded Right-of-Way for Street A to provide a strong green edge to the street.

The second are those spaces that are “constructed” on the Northwest Campus. The stormwater management pond locations provide opportunities for additional natural landscaping along bounding street edges of the Northwest Campus. The existing Union Gas easement along Fischer-Hallman Road and Bearinger Road will incorporate a pedestrian-oriented Greenway and will be naturalized to provide a functional green edge to the Northwest Campus. Additionally, courtyards internal to the blocks throughout the Northwest Campus incorporate individual stands of quality trees and provide further casual recreation opportunities.
4.0 Development Guidelines

4.1 Streets and Movement

The design for new developments should consider the following guidelines in respect to streets and movement (driving, cycling, and walking):

a) Street B

i) Street B will be a public street with a right-of-way width of 33.0 metres.

ii) The approved Street B right-of-way standard includes:
   - A landscaped central median;
   - Two travel lanes in both directions;
   - Dedicated bicycle lanes in both directions;
   - Landscaped curb-side boulevards on both sides; and
   - A wide multi-use trail on both sides.

iii) Situate vehicular accesses to buildings along Street B from secondary streets (Streets A and C and internal streets), rather than direct access from the Street B frontage, where possible.

iv) Incorporate a transit stop in concert with Grand River Transit on both sides of the Street B, preferably mid-block situated between Street A and Street C.
b) Streets A and C

i) Streets A and C are to be private streets with right-of-way widths of 18.0 metres.

ii) Within the Street A and C right-of-ways, incorporate:
   - One travel lane in both directions;
   - On-street parking lanes on both sides of the street;
   - Landscaped curb-side boulevards on both sides of the street that are (at least 2.0 metres in width to accommodate street trees and street furnishings); and
   - Sidewalks on both sides of the street (at least 1.5 metres in width).

v) Situate vehicular accesses to buildings along Street B from secondary streets (Streets A and C as well as internal access streets), rather than direct access from the Street B frontage.

vi) Refer to the streetscape cross-section below for the composition of the streetscape elements referenced above. Final streetscape design is to be undertaken in keeping with City of Waterloo standards (as applicable).
c) **Pedestrian Connector Streets**

i) Incorporate pedestrian connector streets, or "Alles" as additional principal pedestrian routes through the Northwest Campus, over and above that provided by Streets A, B and C.

ii) Situate pedestrian connector streets in locations that provide mid-block connection between Streets A, B and C and follow desire lines from the abutting arterial roads and the centre of the Northwest Campus.

iii) Design pedestrian connector streets with right-of-way widths generally around 20.0 metres.

iv) Within the right-of-way for pedestrian connector streets, incorporate:

   - One travel lane in both directions (minimized to 3.5 metres as much as possible);
   - Landscaped curb-side boulevards on both sides of the street (at least 3.5 metres in width to accommodate street trees and street furnishings); and
   - Multi-use trails on both sides of the street (at least 2.7 metres in width).

iv) Refer to the streetscape cross-section below for the composition of the streetscape elements referenced above. Final streetscape design is to be undertaken in keeping with City of Waterloo standards (as applicable).
d) Internal Streets

i) All others streets within the Northwest Campus are to be private streets with right-of-way widths that may vary between 15.0 and 18.0 metres.

ii) Within an internal street right-of-way, incorporate:

- One travel lane in both directions (minimized to 3.5 metres where possible);
- Landscaped curb-side boulevards on both sides of the street (at least 2.0 metres in width to accommodate street trees and street furnishings); and
- Sidewalks on both sides of the street (at least 1.5 metres in width).

vii) Situate vehicular accesses to buildings along Street B from secondary streets (Streets A and C as well as internal access streets), rather than direct access from the Street B frontage.

viii) Refer to the streetscape cross-section below for the composition of the streetscape elements referenced above. Final streetscape design is to be undertaken in keeping with City of Waterloo standards (as applicable).
e) Walkways

i) Incorporate a well-defined and continuous pedestrian system on the site with connections between streets, building entrances, parking areas, and outdoor amenity areas.

ii) Incorporate off-street walkways throughout the open spaces to provide additional pedestrian connectivity over and above that provided by the principal streets.

iii) Design walkways so that they are at least 3.0 metres (and up to 6.0 metres depending on the context) to ensure a comfortable flow of movement.

iv) Use durable and easily maintainable choices for walkway surface material that are universally accessible while reflecting the context of the walkway.

v) Provide accessible seating opportunities at regular intervals for pedestrians, including pedestrian amenities and furnishings in a coordinated manner that does not obstruct pedestrian travel.

vi) Provide curb cuts where walkways cross driveways and streets or where emergency terminals are placed within raised parking islands for accessibility.

vii) Include wayfinding signage along walkways that are legible on approach to orient visitors, including both drivers and pedestrians.

viii) Locate landscaping along trails and walkways that provide shade to delineate boundaries, while maintaining unobstructed sight lines and avoiding potential hiding spots.

ix) Identify crosswalks through a change in material or other pavement markings for pedestrians at key crossing locations.
4.2 Buildings

The design for new developments should consider the following guidelines in respect to the design of buildings within the Northwest Campus:

a) Style
   i) Utilize a contemporary, rather than traditional architectural style, reflecting contemporary technology and forward-looking research orientation of the campus and its activities.
   ii) Utilize high quality exterior building materials, such as steel, glass, metal paneling and masonry, to reflect the contemporary style desired for the campus.
   iii) Use a complementary palette of materials throughout the buildings on the campus.

b) Articulation
   i) Design all building elevations facing streets, open spaces and pedestrian connector streets as principal building elevations with the highest degree of attention in terms of articulation detail and transparency.
   ii) Design all building elevations facing other private streets and parking structures as secondary building elevations with a lesser, but complementary, degree of articulation and transparency to that of the primary building elevation.
   iii) Emphasize entry areas through the use of architectural features, including canopies, awnings and other architectural elements as warranted.
   iv) Incorporate horizontal divisions (architectural, material, colour) that create a defined base, middle and top to the building.
   v) Use architectural detailing (use of windows, projections, recessions, colour, material) that creates balance and rhythm on the elevation, particularly for longer wall elevations.
   vi) Integrate rooftop mechanical equipment into the overall building design and screened from views from streets and spaces.
   vii) Use window placement and wall elevation design to maximize informal surveillance from buildings to streets, parking areas and open spaces.
c) Massing and Orientation

i) Orient buildings towards street frontages to create an enclosure of the public realm and strong street edges.

ii) Establish a general building front and exterior side yard setback throughout the campus between 5.0 to 10.0 metres, depending on the particular situation of the site and proposed building.

iii) Ensure that setback space between a building and the street edge is appropriately landscaped to provide an attractive edge to the street. Consider such elements as foundation plantings, tree plantings, berms, low level walls, and sitting areas, as appropriate, in these spaces.

iv) Design buildings at opposite sides of key focal points within the campus (such as at campus gateways) with similar massing so as to create built form portals into and through the campus.

v) Incorporate multiple entrances on the building to address the abutting street (or streets) and parking areas.

vi) Locate loading bays and other service areas so that they are oriented away from street views and, as necessary, screened from the street by building mass or landscape features. Wherever possible, locate waste storage areas inside buildings.

d) Height

i) Ensure buildings are generally at least 3 storeys in height to provide a balance between intensive development and a pedestrian scale environment throughout the campus.

ii) Emphasize “priority” buildings with additional building height (4 to 8 storeys is reasonable, although taller buildings are permitted by policy and zoning). Priority locations may include those areas along bounding arterial streets, at campus gateway locations, near major intersections, surrounding key open spaces, and with prominent views.

iii) Design taller buildings (over 8 storeys) with defined base, middle and top sections. Orient and design the base sections to the pedestrian scale in terms of height and transparency and viewlines between the interior and exterior of the building. Include features and elements on the top section that create an interesting skyline and that minimize wind and shadowing impacts.
e) **Entrances and Access**

i) Incorporate primary building entrances that are visibly defined on the building elevation through architectural emphasis and detailing in order for easy access for visitors.

ii) Ensure all entrances and access points are designed to be universally accessible.

iii) Provide pedestrian amenities and furnishings at principal building entrances, including waste receptacles, bench seating, bicycle racks, lighting and signage to highlight entryways, in a coordinated manner that does not obstruct pedestrian travel and emergency access to and from the buildings.

iv) Provide shelter (standalone or incorporated into the building design) near building entrances where there are nearby transit stops along the streets.

v) Locate garbage areas internal to the building.

vi) Locate services areas for buildings so that they are screened from Streets A, B and C, either through building orientation or through landscaping.

f) **Signage**

i) Incorporate clearly defined building identification signage (building name and/or municipal address) that complements the building's style.

ii) Incorporate building identification signage into the principal building façade, ensuring it is compatible with the building's style, scale, colour and materials.

iii) Use directional signage, as necessary, to assist in the orientation of pedestrians and traffic to the street, parking, service and open space systems.

iv) Locate ground signs so that they do not obstruct sight lines, driveways and intersections, or interfere with pedestrian or motorist safety. Select landscaping around the base of the sign that considers the continued visibility of signage in the future as the landscaping matures.

v) Refer to the City of Waterloo Sign By-law to ensure conformity.
4.3 Parking

The design for new developments should consider the following guidelines for parking accommodations within the Northwest Campus:

a) Surface Parking

i) Encourage shared parking arrangements between buildings and users as much as possible.

ii) Locate surface parking areas to the rear or side of each building with minimal exposure to abutting streets as much as possible.

iii) Locate and design surface parking areas and structures to maximize natural surveillance from buildings, streets and walkways.

iv) Screen the perimeter of surface parking areas to screen parking spaces, with a combination of berming, landscaping and fencing as appropriate, from abutting streets and pedestrian routes, while still maintaining appropriate sightlines for safety purposes.

v) Incorporate landscaped parking islands within surface parking areas to physically and visually break up the surface area.

vi) Provide shared access points and internal connections within surface parking areas to minimize impact on the streetscape.

vii) Ensure pedestrian access to buildings from or across surface parking areas that is safe, well-lit, convenient, and well-defined.

viii) Align rows of parking with surface parking areas perpendicular to the building to minimize the number of crossings of drive aisles for pedestrians.

ix) Incorporate defined parking areas for bicycles, including short term and long term, either within the surface parking area or with direct connections to bicycle storage areas (and end-of-trip facilities) internal to buildings.
b) Structured Parking

i) Encourage shared parking arrangements between buildings and users as much as possible.

ii) Encourage structured parking for parking areas to provide an efficient and intensive development form.

iii) Design parking structures to provide for ease of circulation and wayfinding on site in a secure fashion.

iv) Design and site parking structures to integrate with the buildings in terms of a complementary scale and style to the associated building(s). This should include complementary treatment of massing, style, materials, colours, and articulation, among others considerations, along with appropriate landscaping.

v) Incorporate stairwells within parking structures with glass or transparent openings for visibility purposes.

vi) Screen the base portion of parking structure with a combination of berming, landscaping and fencing as appropriate, and incorporate landscaped islands or planters on the rooftop decks.

vii) Align rows of parking perpendicular to the building to minimize the number of crossings of drive aisles for pedestrians.

viii) Incorporate defined parking areas for bicycles, including short term and long term, either within the parking structure or with direct connections to bicycle storage areas (and end-of-trip facilities) internal to buildings.

ix) Should a more limited number of larger parking structures be utilized to service the overall campus, situate such structures in central locations within the Northwest Campus that are safely and conveniently connected to buildings they are intended to serve.
4.4 Open Spaces

The design for new developments should consider the following guidelines in respect to open space design within the Northwest Campus:

a) Central Common
   i) Incorporate the hedgerow along Street B into a Central Common that provides a resting and gathering area for surrounding buildings.
   ii) Undertake an inventory and management plan for the existing hedgerow to document and identify species groupings, tree conditions, and any necessary improvements.
   iii) Remove any trees that have been significantly damaged, replace with new trees, and plant any “sparse” areas that are with successional trees planted to fill in open areas.
   iv) Ensure work on or around the hedgerow is limited to areas where the overall condition is determined as ‘fair’ or ‘poor’ to avoid removal of trees in ‘good’ or ‘excellent’ condition.
   v) Consider a variety of different areas to accommodate a range of functions, including both hard and soft surfaces.
   vi) Consider incorporating large canopy trees, shade structures, seating, bike racks, waste and recycling receptacles, public art and other related site furnishings.
   vii) Incorporate walkways through the space lined with trees and mass planting beds to frame the open space and connect with adjacent building entrances.
   viii) Provide clear distinctions between public and private open space through the use of defined access points and edges, circulation systems, grade changes and the use of plant material, architectural elements and fencing.

b) Greenway
   i) Incorporate the existing gas easement along Fischer-Hallman Road and Bearinger Road as a Greenway space.
   ii) Consider opportunities within the Greenway of providing a multi-use trail, tree and ground level plantings, and user amenities, subject to Union Gas policies and requirements.
   i) Prepare a comprehensive plan for the Greenway as part of the Block Plan process, in consultation with and requiring approval from Union Gas, along its entire length through the Northwest
Campus to ensure that it develops in a coordinated and consistent pattern as development proceeds.

c) **Courtyards**

i) Provide an interconnected system of internal courtyards and amenities spaces that are developed in conjunction with individual or groups of buildings.

ii) Provide clear distinctions between public and private open space through the use of defined access points and edges, circulation systems, grade changes, plant materials, architectural elements, and fencing.

iii) Ensure courtyards are situated to maximize natural surveillance from buildings, streets and walkways, preferably shared by adjacent buildings to maximize use and exposure.

iv) Incorporate clearly defined walkways through the space that are lined with trees and mass planting beds to frame the open space and connect with building entrances.

v) Incorporate areas with large canopy trees as well as a shade structures for user comfort.

d) **Street A Hedgerow**

i) Undertake an inventory and management plan for the existing hedgerow to identify species groupings, tree conditions, and any necessary improvements.

ii) Remove any trees that have been significantly damaged, replace with new trees, and plant any "sparse" areas that are with successional trees planted to fill in open areas.

iii) Ensure work on or around the hedgerow is limited to areas where the overall condition is determined as ‘fair’ or ‘poor’ to avoid removal of trees in ‘good’ or ‘excellent’ condition.

iv) Incorporate pedestrian connections or driveways through hedgerows that are routed to avoid removal of quality trees.

v) Provide sitting areas (through either natural seating elements or formal seating as benches) near light standards to allow for individual or small group seating.

vi) Incorporate interpretive panels as an educational opportunity for those passing through the space.
4.5 Landscaping

The design for new developments should consider the following guidelines in respect to landscape design within the Northwest Campus:

a) Street Trees

i) Tree should be accommodated within the boulevard space (or additionally within curb extensions) and should be sited as much as possible to provide a canopy that frames the views along the street and contributes to the area's character and identity.

ii) Select species based on appropriate characteristics with a tolerance for urban conditions, heat, drought and salt; their suitability for use within the public realm; and consideration of the species hardiness.

iii) Use native species with high branching canopies to reduce maintenance, promote long-term success, and to keep sight lines across the laneway open for pedestrians.

iv) Locate large canopy street trees within the boulevard between the curb and sidewalk, consistently spaced in regular intervals (generally 8.0 metres apart although depending on species selection) where space permits and considering utility requirements and clearances.

v) Trees should be planted with continuous trenches containing an appropriate growing medium, such as structural soil mixtures that provide opportunity for root growth and development.

vi) Use trees of sufficient caliper (at least 75 millimetres) and height to create a reasonable impact on the streetscape when they are planted.

vii) Consider planting multiple species for street trees throughout the campus to provide visual interest (leaf colour, bloom period, and leaf drop), whether distributed throughout the campus or to define particular streets.
b) **Ground Plantings**

i) Select ground plantings based on appropriate characteristics with a tolerance for urban conditions, heat, drought and salt; their suitability for use within the public realm; the ability to naturalize over time; and consideration of the species hardiness.

ii) Use low-growing salt tolerant shrubs and ornamental grasses to frame intersections and entrances, but not impede sight lines across the laneway.

iii) Include a diversity of plant material that provides visual interest throughout the year, including deciduous and coniferous species.

iv) Utilize a combination of shrubs, ornamental grasses and perennials as part of the planting program, using different forms and textures that create a strong impression.

v) Ensure ground plantings are no more than 1.0 metres in height along the street edge and 0.45 metres in height at street corners or drive aisles to avoid creating entrapment and to preserve sight line triangles.

vi) When used, ensure raised planters for ground use high quality materials and are at least 0.4 metres in height to promote informal seating areas along the street frontage while avoiding the creation of a tripping hazard.

vii) Incorporate opportunities to provide visual interest through hanging baskets, or banners on light standards to promote special events at the University and at the Northwest campus.
c) **Stormwater Management Areas**

i) Ensure that all stormwater management areas are designed as green "amenities" within the campus, and not solely "utilities".

ii) Connect stormwater management ponds wherever functionally possible to the overall greenspace network through pedestrian and cyclist linkages.

iii) Use naturalized edges of native or adapted species to the water body portion of the stormwater management area to deter public access to the water.

iv) Where fencing is required for safety reasons, use decorative fencing that complements the intended natural character of the stormwater management area.

v) Incorporate amenities such as benches, garbage receptacles, information boards, and lookout areas into the design of the stormwater management area to enhance the passive recreation use.

d) **Furnishings & Amenities**

i) Incorporate a suite of furnishings and amenities that include light standards, waste receptacles, benches, bike racks, and pedestrian lighting, among others amenities.

ii) Ensure that furnishings and amenities within street right-of-ways or open spaces are located in a manner that does not obstruct pedestrian circulation or sight lines.

iii) Ensure street furnishings within the boulevard of streets are in line with street trees and other plantings so as to maintain an unobstructed pedestrian route on the sidewalk.

iv) Space street furnishings in a consistent pattern along the streetscape, although they may be focused in particular clusters in higher activity areas.

v) Ensure street furnishings are selected from a single style for the Northwest Campus that complements the overall desired contemporary design character envisioned.

vi) Ensure the style of street furnishings is consistent between Street B (public) and Street A, B and internal streets (private). Preferably this would include the same style, but at a minimum all streets should follow a complementary contemporary style.

vii) Ensure street furnishings are high quality and comprised of durable materials and finishes.
e) Campus Entrances

i) Emphasize the Street B entrances to the campus as primary campus gateways and the Street A and C entrances as secondary campus gateways.

ii) Accentuate gateways with a combination of built form, landscape treatment and campus signage elements. Provide a greater degree of accentuation in terms of intensity and scale to the primary campus gateways as compared to the secondary.

iii) Situate campus entrance signage either along roadway edges, within central medians, or spanning the roadway.

iv) Design campus entrance signage in a consistent style and form for all gateway locations, with high quality and durable materials that reflect the contemporary character of the campus, and with simple and universally readable lettering.

v) Incorporate planting material and lighting as appropriate surrounding campus entrance signage.

vi) Ensure any treatment at campus gateways allows unobstructed sight lines, the preservation of corner sight triangles and conformance with the City of Waterloo Entrance Feature Policy.

f) Lighting

i) Design streetscape and site lighting as an integrated system that considers the needs of drivers and pedestrians.

ii) Ensure unobstructed sight lines across the site and pedestrian scale light standards are provided for night time safety.

iii) Carefully consider the areas to be lit, with only those areas which need to be illuminated being lit in order to avoid a false sense of security or lead people to isolated, unlit areas.

iv) Ensure that lighting is “night sky compliant”, as per appropriate and relevant standards, and does not unnecessarily intrude into surrounding areas.

v) Focus lighting on pedestrian areas, parking areas, walkways and building entrances.

vi) Incorporate lighting fixtures and poles integrated with the overall architecture and landscape design of the project and compatible with streetscape elements.

vii) Utilize lighting to accent and highlight building entrances, signage and landscape features.
4.6 Sustainability

The certification of new buildings on the Northwest Campus under the LEED\textsuperscript{®} rating system, or equivalent program, is encouraged. A Silver Certification under a LEED rating system, or the achievement of an equivalent under another recognized program, is an appropriate target for individual buildings within the Northwest Campus. Should such a certification or rating not be pursued, the following stand-alone initiatives and measures should be encouraged (at a minimum, together with consideration for the numerous others that are possible) as part of the design, approvals and development process:

a) Water Performance

i) Incorporate a stormwater management system on the site or through the campus that reduces stormwater runoff entering storm sewers through the use of such techniques as infiltration galleries, bio-swales or underground cisterns.

ii) Incorporate techniques on site that reduce the need for potable water used for irrigation purposes, including rainwater use or native, drought tolerant, and low-irrigation plantings.

iii) Incorporate infrastructure that utilizes non-potable water for sanitary purposes, which may include cisterns and non-potable water for flushing toilets.

iv) Use permeable materials for paved areas that achieve increases in permeability compared to conventional methods.

v) Use landscaping materials with minimal maintenance requirements and reduce the dependence on water for irrigation and chemicals.

b) Energy Performance

i) Maximize the number of buildings that are aligned within 15 degrees of the geographic east-west orientation in order to capitalize on passive solar opportunities.

ii) Orient a majority of buildings (by gross floor area) with their largest facades facing north/south.

iii) Use a combination of high-albedo surface materials, open grid pavement, or shading for a majority of the surface area of the site's hardscaped spaces.

iv) Use a combination of exterior shading strategies on the majority of south facing facades, such as a combination of landscape...
measures (i.e. tree plantings) or building measures (i.e. overhangs, porches, window glazing).

ev) Design buildings with a narrow footprint depth to optimize natural light penetration and access to outdoor views.

vi) Incorporate roof-top solar infrastructure to meet electrical needs of the building, or design the building as solar-ready with infrastructure to accommodate solar infrastructure in the future.

vii) Design exterior lighting to be night-sky friendly, limiting horizontal and vertical light spillover beyond the property’s boundary.

viii) Utilize LED lighting wherever possible and practical.

c) Materials and Resources

i) Achieve a significant diversion rate in construction waste during the construction process.

ii) Include a central and easily accessible space in the building for source separation and for collection of waste materials.

iii) Use contractors that are certified under the Region of Waterloo’s ‘Smart About Salt’ program for winter site maintenance.

d) Transportation Demand Management

i) Establish a transportation demand management plan for the campus or sub-areas of the campus at the appropriate time of planning approvals (such as part of the Block Plan process) that is to be implemented as development occurs.

ii) Investigate programs to reduce single occupant vehicle automobile trips to the campus by employees at the appropriate time of planning approvals (such as part of the Block Plan process). Parking requirements will be monitored and reviewed with each building phase.

iii) Provide dedicated parking spaces for car-share vehicles. Preferably, each car-share space would have an electric vehicle charging station or the rough-in infrastructure to accommodate a space in the future.
4.7 Special Provisions

Given the size of the Northwest Campus and intended long term buildout, there will be unique considerations that exist or may arise which require individual design direction. This section provides that direction.

a) Research Institute for Aging
The parcel at the northeast corner of the Fischer-Hallman Road and Street B is currently in the site plan approval stage for an innovative and integrated seniors housing and research facility. The housing portion will be a continuum of care centre that will contain long term care, retirement home, and apartment components, as well as associated ancillary uses for the residents. The research facility will be the Research for Aging Institute (a collaboration of the Province of Ontario, the University of Waterloo, Conestoga College, and Schlegel-University of Waterloo Research Institute for Aging) which will contain space for classrooms, offices and labs.

The nature and function of this unique housing-research venture will generate a different layout, function, form, and style than what is envisioned by the Development Design Guidelines. Specifically, the building will have a more traditional architectural style, partly as a transition to the surrounding residential neighbourhood, than the contemporary style envisioned for the Northwest Campus. Site design elements may vary from the Guidelines given the use-specific nature of this unique project, including elements such as building massing and site access. This should not be read as a precedent for the conventional employment facilities that are expected, but rather as a response for this unique residential and institutional project.

b) University Residential
The Waterloo Official Plan policies (both current and new Council-adopted) permits residences associated with the University within the Northwest Campus. These Guidelines are generally oriented to providing design guidance to employment-based and institutional developments, rather than residential projects. Proposals for University-related residential developments within the Northwest Campus are to be in keeping with the overall character envisioned by these Development Design Guidelines. There are a number of the Development Design Guidelines that may apply to residential development proposals, including considerations for streetscape design, parking, site landscaping, among others; these should be read in conjunction with City's general urban design guidelines for residential development matters that are not covered by these Development Design Guidelines.
5.0 Demonstration Concept

The design principles from the UW Campus Master Plan and the Northwest Campus District Plan formed the basis for the preparation of a Draft Plan of Subdivision and the preparation of these Development Design Guidelines. Building from the general direction of the design principles, the Development Design Guidelines provide specific direction for proponents of developments within the Northwest Campus, including guidance on the built form, streets, and open spaces. The direction offered by the Development Design Guidelines will be further refined as part of the Site Plan Approval process.

To assist this transition, the demonstration concept illustrates the potential layout and form of development on the Northwest Campus at ultimate build-out. It is meant to be a general translation of the Development Design Guidelines to the Northwest Campus. It has no status or standing as part of the planning approval process, but rather is meant to be a guide to proponents for developments within the campus. It illustrates one potential option for the build-out of the Northwest Campus, recognizing the long-term nature and possible changing demands and needs for development over time. There are a number of variables (such as taller building heights or taller parking structures) that may, over time, alter the form illustrated in the Demonstration Concept.
Demonstration Concept of Northwest Campus Connectivity

Legend
- Site Boundary
- Principal
- Secondary
- Pedestrian Spine
- Transit Stop

Laurel Creek Conservation Area
Laurelwood Neighbourhood
Fredrickson Rd

Bearinger Rd

Future Sportsfields

Future Connection to R+T Park

to Lakeshore Neighbourhood

to Westmount

Columbia Lake Village Student Residences
Central Common (looking from north side of Street B)

Central Common (looking from Westmount Road)
Pedestrian Connector Street (looking from Bearinger Road)

Central Roundabout along Street B (looking from the west)
6.0 Implementation

6.1 District Plan

The Northwest Campus District Plan provides specific policies on how development on the campus should occur. The Northwest Campus is designated “Major Institutional” in the 1990 City of Waterloo Official Plan, which is intended to accommodate “public buildings, universities and colleges, social and cultural facilities, hospitals, and other institutional uses of a major nature”. Complementary accessory uses to the principal institutional use, such as convenience commercial uses, residences, and park and recreational facilities, are also permitted. Furthermore, manufacturing related to a research and development facility associated with the University of Waterloo is specifically permitted within the Northwest Campus.

The Northwest Campus is designated “Employment” in the new 2012 Waterloo Official Plan (Council-adopted April 2012) under an “Academic” sub-category. The “Academic” sub-category recognizes the main campuses of post-secondary institutions as well as other areas such as the R&T Park and the Northwest Campus. The designation principally permits academic and administrative facilities for the institution; research facilities operated by the institution; research institutes; residences associated with the institution; and other uses consistent with the designation’s intent. For the Northwest Campus, offices; research and development facilities associated with UW; and manufacturing related to such facilities facility are additional permitted uses.

6.2 Zoning

The Northwest Campus Site is currently zoned “BI-25” in the City of Waterloo Zoning By-law, which principally permits university and university-related uses, including research-oriented offices and ancillary manufacturing, as well as supportive commercial uses. The Northwest Campus Site also has a Special Use Provision to permit a “Commercial Recreation facility with ancillary uses such as a restaurant and offices for sports medicine” to permit the proposed library and YMCA development on the Northwest Campus Site. Zoning Amendments may be required over time to accommodate particular development projects requiring specific or site-specific built form or site provisions.
6.3 Block Plans

For the purposes of implementing the Development Design Guidelines the Northwest Campus has been divided into six large development blocks (see following page), which are generally bounded by the area’s principal streets. The first development proposal within each respective block, either for an individual building or a cluster of buildings, will be required to prepare a “block master plan” for the entire block prior to Site Plan Approval being given (not including the project identified in Section 4.7a) of these guidelines.

The purpose of a block master plan will be to provide a more detailed assessment and illustration of how the Development Design Guidelines are applied to the particular block. It will ensure that the development of single building or cluster of buildings will not jeopardize the efficient and effective layout or design of the remainder of the block in keeping with the Development Design Guidelines. As per the Northwest Campus District Plan, master block plans are required to “address servicing, building layout, parking, landscaping, lighting, common areas and connectivity between existing and proposed buildings and connectivity to adjacent blocks”.

6.4 Plan of Subdivision

The Draft Plan of Subdivision received approval from the Region of Waterloo in September 2010. The Draft Plan of Subdivision provides the street, lot and public space framework for the Northwest Campus to develop for academic and research-oriented office uses over the next forty years. Extensive engineering work and grading has been taking place in 2011 and 2012, and registration of Stage 1 (south portion) is anticipated in 2012. Further subdivision of the Northwest Campus blocks may occur over time as developments are proposed.

6.5 Site Plan Approval

Site plans will be required for all developments throughout the Northwest Campus. Specific requirements for Site Plan Approval by the City of Waterloo for the Northwest Campus are contained in the City’s urban design guidelines. These Development Design Guidelines will be utilized by City and the University to review site plans, together with the City’s general urban design guidelines.
6.6 Roles and Responsibilities

The Northwest Campus will be designed and constructed over time through various public and private initiatives, partnerships and approvals. Below are the principal participants and their key roles.

i. University

The University of Waterloo will play a leading role in the implementation of the Development Design Guidelines throughout Northwest Campus’ development. The Board of Governors will be the ultimate authority for development decisions affecting the Northwest Campus, including design, development and contract decisions. Much of the Northwest Campus is expected to be designed and constructed by the University and private sector partners, including Streets A and C, internal streets, buildings, open spaces, and parking areas. The University will be responsible for undertaking agreements (design, financial, timing, servicing, among others) with individual developers to ensure the developments implement these Development Design Guidelines. Over time as the Northwest Campus develops, the University may need to make updates or modifications (in consultation with the City) to the Development Design Guidelines as future conditions warrant.

ii. City

The City of Waterloo will play two principal roles in the development of the Northwest Campus. First, it will provide some of the larger order infrastructure to service the Northwest Campus. This includes designing and constructing Street B as well as the initial municipal infrastructure to service development in Stage 1. Second, it will be an approval authority for the Planning Act applications (site plans, rezoning/variance applications) to facilitate development within the Northwest Campus. This will include a design review of proposed developments considering the City’s design guidelines as well as consistency with these Development Design Guidelines.

iii. Developers

Developers and builders of individual land parcels within the Northwest Campus, working collaboratively with the University, will be principally responsible for realizing the overall vision of the Development Design Guidelines through the development of the Northwest Campus. Individual developers will be responsible for the preparation of all drawings and materials necessary for site plan and building approvals, as well as building and construction.
This report is submitted following the committee’s meeting of 11 October 2012.

FOR INFORMATION

Investment Fund Performance

At the 11 October 2012 meeting of the Finance & Investment Committee the committee reviewed the performance of the registered pension fund, endowment fund, IQC trust fund, and payroll pension plan portfolios. The committee notes that, as of 30 June 2012, the registered pension fund was lagging its five-year performance target; the endowment fund’s performance exceeded the policy benchmark for the four-year period; IQC trust fund’s four-year performance was ahead of the policy benchmark but behind the minimum risk portfolio; and the payroll pension plan’s four-year performance was slightly behind the benchmark.

Prem Watsa
Chair
FOR APPROVAL

1. Amendments to the Pension Plan

Motion: That the Board of Governors approve the attached resolutions requiring amendments to the university’s registered pension plan and payroll pension plan (collectively, the “Plan”) in response to legislative changes (Attachment #1, Sections 1-8) and in order to address the going concern deficit and long-term health of the Plan (Attachment #1, Sections 9-12 and Attachment #2). See Attachments #1 and #2.

Background: Amendments numbered 1 through 8 in Attachment #1 are in response to legislative changes made effective 1 July 2012. Amendments in Attachment #2 and Attachment #1, Sections 9 through 12 are changes to address the going concern deficit and maintain the long-term health of the Plan. With respect to amendments in Attachment #2 and Attachment #1, Sections 9 through 12, the Pension & Benefits Committee (the “Committee”) spent many months considering options and potential impacts of the proposed changes on Plan members and the health of the Plan. The Committee invited association executives from the three employee groups to its April meeting, and at the request of executives from the faculty association and staff association, held separate information sessions for those executives. The Committee held five public information sessions on two different days over two weeks and posted the slides, a video of the presentation, a frequently asked questions document and additional examples developed in response to feedback for review by members. The Committee has invited feedback throughout the process and has attempted to address many of the concerns expressed by members, without compromising the overall objective of reducing the going concern deficit and maintaining the long-term health of the Plan.

Based on its research and consultations, the Committee is recommending the following changes to the Plan:

- Effective 1 January 2013, employee contribution rates increase to 6.25% on earnings up to the year’s maximum pensionable earnings (YMPE), 8.95% on earnings between the YMPE and 2X the YMPE, 9.95% on earnings in excess of 2X the YMPE up to the earning at which the maximum contribution under the Income Tax Act is reached;
- Guaranteed indexing for the pension benefit accrued as of 31 December 2013 will remain at 100% of the increase in the consumer price index (“CPI”) (to a maximum increase in CPI of 5%); for the balance of the pension benefit (that is the pension benefit earned for all pensionable service less the pension benefit accrued as of 31 December 2013), the guaranteed indexing will be calculated as 75% of the increase in CPI (to a maximum increase in CPI of 5%). The Committee has committed to develop a protocol setting out the parameters under which the Committee would be permitted to increase the indexation for pensioners in a given year in the future. Once adopted, decision-making in accordance with the protocol would become part of the annual work plan for the Committee;
- Effective 1 January 2014, the current averaging period of 36 consecutive months for determining final average earnings will increase by one month at the end of each calendar month until it reaches an averaging period of 60 consecutive months as of 31 December 2015. However, for any member who has entered into an arrangement for a 2% salary increase in lieu of vacation entitlement, along with an irrevocable retirement date, the final average earning calculation at his/her declared retirement date will remain at 36 consecutive months even if retirement is after 1 January 2014, provided that the election is made and all approvals have been received prior to 21 December 2012 (the last business day of the year at the University); and
- The cap on pension payable per year of service will increase from $3,200 to $3,300 as of 1 January 2014 and from $3,300 to $3,400 as of 1 January 2015 within the payroll pension plan.
2. Amendment to the Benefit Plans

Motion: That the Board of Governors approve Internal Coordination of Benefits (as defined below) under the University of Waterloo extended health and dental plans (the “Benefit Plans”) for University Couples (as defined below) effective as of 1 November 2012.

Background: One of the features of the Benefit Plans that has long been an issue for the university community and the Committee is the lack of coordination of benefits for couples where both individuals are employees or retirees of the university (“University Couples”). There are currently 230 University Couples. Under existing arrangements, only one member of a University Couple is enrolled in the Benefit Plans and his/her spouse is named as a dependent. Because of this, University Couples are not able to coordinate claims under the Benefit Plans (referred to as “Internal Coordination of Benefits”). For example, if the Benefit Plans cover one member of a University Couple for 80% of a health claim, that member cannot submit a claim under his/her spouse’s insurance for the remaining 20%. This is not the case for couples where one spouse works at the university and the other works at another employer which permits the coordination of benefits.

The Committee’s research suggests that the lack of Internal Coordination of Benefits is anomalous and that this feature of our Benefit Plans is a concern for recruitment and retention. When the issue arose this spring, the provost expressed strong support for changing this feature of the Benefit Plans as soon as possible, and has confirmed financial support (estimated to be $300,000 per year) through the operating budget if the change is approved by the Board of Governors.

FOR INFORMATION

3. General Information re: the Plan

For governors’ information, please see Attachment #3, which is a brief summary of the provisions of the Plan.

4. Registered Pension Plan Investments Subcommittee

The following recommendations of the Registered Pension Plan Investments Subcommittee (“RPPI”) were endorsed by the Committee at its 5 October 2012 meeting and the Finance & Investment (“F+I”) Committee at its 11 October 2012 meeting.

Investment in Sionna Investment Managers

Recommendation: RPPI recommended that university make a further investment of $20 million in Sionna Investment Managers (Canadian equity) on behalf of the Plan, such investment to be made in two $10 million tranches over a period of two quarters, subject to acceleration or deceleration depending on market conditions.

Background: As of the end of 2011, the university terminated its relationship with both Canadian equity managers appointed to manage assets for the Plan. After a search conducted in late 2011/early 2012, the Board of Governors pre-approved a list of two Canadian equity managers – Sionna Investment Managers (“Sionna”) and Burgundy Asset Management – for future investments. In May 2012, RPPI recommended and the Committee and F+I approved a $20 million investment in Sionna. RPPI recommended a second laddered investment into Sionna of $20 million to be made in two tranches, based on the following:

- Sionna’s positive performance since the initial investment in May – returned 5.7% as of 31 August 2012 relative to the objective of 4.9%;
- Sionna’s historical positive performance for the university’s endowment fund;
- The concern re: the low proportion of assets invested in Canadian equities (currently 1.8% of total assets; the additional $20 million will take this number up to 3.8% of total assets), in absolute terms and relative to other Canadian pension funds; and
- The concern re: the large proportion of the assets of the Plan currently being held in cash. As reported previously, the Plan has a significant cash position and exceeds the cash limits in the Statement of Investment Policies & Procedures (the “SIPP”).

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Investment in iShares S&P/TSX Capped REIT Index Fund

Recommendation: RPPI recommended that the university make an investment of $40 million in iShares XRE S&P/TSX Capped REIT Index Fund (the “Fund”) on behalf of the Plan, such investment to be made in four $10 million tranches over a period of four quarters, subject to acceleration or deceleration depending on market conditions.

Background: The SIPP permits the Plan to hold up to 10% of its assets in alternative investments. The Plan now holds $42 million in Brookfield Infrastructure Partners (“BIP”), which has proved to be a very positive investment in terms of both income and capital appreciation to date. The investment in BIP represents 4% of the total assets, leaving 6% of available room in the alternative investment category. RPPI has been investigating a variety of real estate investment strategies with the assistance of Aon Hewitt since early 2011. Based on that research, RPPI recommended investment in the Fund, based on the following:

- It is a diversified fund, which includes the top performing Canadian real estate investment trusts (“REITS”);
- The yield was 4.3% as of 4 October 2012, with the potential for capital appreciation;
- Although correlated with equities in the short term, REITS have less volatility over time; and
- The concern re: the large proportion of the assets of the Plan currently being held in cash. As reported previously, the Plan has a significant cash position and exceeds the cash limits in the SIPP.

Dennis Huber, on behalf of
Pension & Benefits Committee
UNIVERSITY OF WATERLOO
PENSION PLAN FOR FACULTY AND STAFF

Amendment No. 1

The Board of Governors of the University of Waterloo resolves that the University of Waterloo Pension Plan for Faculty and Staff (amended and restated effective January 1, 2011), Registration Number 0310565 (the "Plan"), is amended as follows:

1. Effective July 1, 2012, Section 6.05 (Pension From Additional Voluntary Contributions) shall be deleted in its entirety and replaced with the following:

"6.05 Pension From Additional Voluntary Contributions

A Member who has made additional voluntary contributions to this or any predecessor plan shall be entitled to receive, at the Member’s option:

(a) a refund of the accumulated additional voluntary contributions with Credited Interest, payable in a lump sum cash settlement or as a transfer to a registered retirement savings plan or a registered retirement income fund, as designated by the Member and in accordance with the Pension Benefits Act;

(b) an indexed pension which can be provided at actual retirement date by the accumulated additional voluntary contributions with Credited Interest."

2. Effective July 1, 2012, paragraphs (d) and (e) of Section 6.06 (Maximum Member Cost) shall be renumbered as paragraphs (e) and (f) respectively, and a new paragraph (d) shall be added as follows:

"(d) transferred to a registered retirement savings plan or a registered retirement income fund designated by the Member and in accordance with the Pension Benefits Act;"

3. Effective July 1, 2012, Section 10.03 (Optional Annuity Payment) shall be deleted in its entirety and replaced with the following:

"10.03 Optional Form of Payment

In lieu of any lump-sum amount payable to a Member’s Spouse under Sections 10.01 and 10.02 above, the Spouse may elect:

(a) within 90 days of being advised of the entitlement under this Section, that payment be made to the Spouse in the form of an immediate or deferred life annuity commencing no later than the first day of the month coincident with or next following the Spouse’s attaining age 65. Any life annuity elected shall not have a guaranteed period in excess of fifteen (15) years. If the Spouse fails to elect within 90 days of being advised of the entitlement under this Section, the Spouse will be deemed to have elected an immediate annuity without a guaranteed period. The post-retirement cost of living adjustment under Article 7 shall apply to any pension payable under this Section 10.03.

(b) within 90 days of being advised of the entitlement under this Section, that payment be made to the Spouse in the form of an immediate transfer to a registered retirement savings plan or a registered retirement income fund."

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4. Effective July 1, 2012, Section 11.01 (Termination Prior To Statutory Vesting) shall be deleted in its entirety and all section references in the Plan shall be renumbered and adjusted accordingly.

5. Effective July 1, 2012, Section 11.02 (Termination Following Statutory Vesting), now numbered Section 11.01 in accordance with paragraph 4 herein, shall be deleted in its entirety and replaced with the following:

"11.01 Termination of Employment

On termination of employment other than Retirement or death, a Member shall be entitled to receive a deferred life annuity commencing at Normal Retirement Date calculated in accordance with Section 6.01 or earlier, subject to Section 6.02 and Section 11.03. Such deferred life annuity shall be paid in the form of pension described in Section 8.01, 8.02 or 8.03, as applicable. Any Excess Contributions shall be dealt with as provided in Section 11.04."

6. Effective July 1, 2012, Section 11.04 (Early Commencement of Deferred Pension), now numbered Section 11.03 in accordance with paragraph 4 herein, shall be amended by adding the following new paragraph (c):

"(c) Notwithstanding any other provision in the Plan, including this Section 11.03, a Member whose employment is terminated involuntarily (as defined by the Pension Benefits Act) on or after July 1, 2012 and whose age plus Continuous Service equal at least fifty-five (55), may be entitled to additional early retirement enhancements pursuant to Section 74 of the Pension Benefits Act, and such Member’s benefits shall be adjusted accordingly."

7. Effective July 1, 2012, Section 11.06 (Treatment of Excess Contributions and Additional Voluntary Contributions Made To The Plan Prior To January 1, 1999), now numbered Section 11.05 in accordance with paragraph 4 herein, shall be amended by adding a new paragraph (e) as follows:

"(e) transferred to a registered retirement savings plan or a registered retirement income fund designated by the Member and in accordance with the Pension Benefits Act."
8. Effective July 1, 2012, Section 13.04 (Continuation of Small Benefit) shall be deleted in its entirety and replaced with the following:

"13.04 Commutation Of Small Payment

In the event that the pension payable at Normal Retirement Date is no more than four (4) percent of the Year's Maximum Pensionable Earnings, or the commuted value of such pension is less than 20% of the Year's Maximum Pensionable Earnings, in the year of the Member's Retirement or termination, the Pension Committee may direct that in lieu of the periodic payments, the Commuted Value thereof be paid to the Member in a lump sum.

In the event that a pension payable to a Member's Spouse on the death of the Member meets the small payment threshold above, the Commuted Value thereof may be paid to the Spouse in a lump sum, at the Spouse's option. The Pension Committee may direct such payment to be made as a lump sum to the Spouse if the Member's Pension Commencement Date was on or after July 1, 2012.

Notwithstanding the above, the Member or Spouse, as the case may be, has the option of transferring any lump sum payable under this Section 13.04 to a registered retirement savings plan or a registered retirement income fund in accordance with the Pensions Benefits Act."

9. Effective January 1, 2013, paragraphs (a) (General) and (b) (Part-time) of Section 4.01 (Required Member Contributions) shall be deleted and replaced with the following:

"(a) General
Subject to Section 4.01(b), (c), (d) and (e), each Member is required to contribute to the Plan by payroll deduction for each year (including a partial year) of participation an amount equal to 6.25% of that portion of his or her Earnings which does not exceed the Year's Maximum Pensionable Earnings for that year, plus 8.95% of that portion of his or her Earnings which exceeds the Year's Maximum Pensionable Earnings but does not exceed two times the Year's Maximum Pensionable Earnings for that year, plus 9.95% of that portion of his or her Earnings which exceeds two (2) times the Year's Maximum Pensionable Earnings for that year, provided, however, that a Member shall not be required to contribute for any period while he or she is Totally Disabled.

(b) Part-time
A Member who is part-time shall contribute for each year (including a partial year) of participation an amount equal to 6.25% of that portion of his or her Reduced Earnings which does not exceed the Year’s Maximum Pensionable Earnings for that year, plus 8.95% of that portion of his or her Reduced Earnings which exceeds the Year’s Maximum Pensionable Earnings but does not exceed two (2) times the Year's Maximum Pensionable Earnings for that year, plus 9.95% of that portion of his or her Reduced Earnings which exceeds two times the Year's Maximum Pensionable Earnings for that year."
10. Effective January 1, 2013, a new row shall be added at the top of the chart in Section A.1.01 (Past Member Contribution Rates) of Appendix – Historical Provisions as follows:

<table>
<thead>
<tr>
<th>Applicable Dates of Service</th>
<th>Contribution Rates</th>
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</thead>
<tbody>
<tr>
<td>May 1, 2009 to December 31, 2012</td>
<td>5.80%</td>
</tr>
</tbody>
</table>

11. Effective January 1, 2014, Section 2.17 (Final Average Earnings) shall be deleted in its entirety and replaced with the following:

"2.17  "Final Average Earnings" shall be determined as follows:

(a) the average of the Member's Earnings during the 36 consecutive months of highest Earnings ("averaging period") during 120 months of his or her Continuous Employment immediately preceding the earliest of the Employee's date of termination of employment, Retirement or death; however, at the end of each month in calendar years 2014 and 2015, the 36 consecutive month averaging period shall be increased by one month such that effective December 31, 2015 and thereafter, the averaging period shall be determined over 60 consecutive months during 120 months of his or her Continuous Employment preceding the earliest of the Employee's date of termination of employment, Retirement or death.

(b) for a Member who is laid-off or on a leave of absence including a sabbatical leave, and provided he or she returns to the University after the period of absence, the averaging period referred to in (a) may include all or part of the period of absence, as necessary, and Earnings during the leave of absence shall be deemed as though the Member was employed by the University during the period of absence;

(c) for a Member who has fewer months of Continuous Employment than the averaging period referred to in (a) at the date of determination, Final Average Earnings means the average of the Member's earnings during the total period of the Member's Continuous Employment; and

(d) notwithstanding (a) above, for a Member who, effective December 31, 2012 or earlier and pursuant to University compensation arrangements, has opted to convert one week of annual vacation entitlement in each year preceding retirement (to a maximum of three) into a 2.0% salary increase, the averaging period referred to in (a) shall remain at 36 consecutive months after January 1, 2014."
12. Effective January 1, 2014, Section 7.01 (Post-Retirement Cost of Living Factor) shall be deleted in its entirety and replaced with the following:

"7.01 Post-Retirement Cost Of Living Factor

Pension benefits earned under the Plan shall be increased in accordance with the Post-Retirement Cost of Living Factors described in this Section 7.01:

(a) **Pension Benefits Accrued Prior to January 1, 2014**

For any pension benefits accrued prior to January 1, 2014 (based on the Member’s Credited Service and Final Average Earnings as at December 31, 2013, and in accordance with the average Year's Maximum Pensionable Earnings, the Defined Benefit Limit and any other limits imposed by the Income Tax Act as at December 31, 2013), the Post-Retirement Cost of Living Factor shall mean the factor obtained by dividing the Consumer Price Index for the preceding calendar year by the Consumer Price Index for the next preceding calendar year.

In any year in which the Post-Retirement Cost of Living Factor is less than or equal to 1.05, it shall be applied in accordance with Section 7.02 and in any year in which the Post-Retirement Cost of Living Factor is in excess of 1.05, the Post-Retirement Cost of Living Factor may be reduced as described in the following paragraph, but not to a factor that is less than 1.05.

If in any one year, the Post-Retirement Cost of Living Factor is in excess of 1.05, it may be reduced to the extent deemed necessary by the Pension Committee on the advice of the Actuary.

(b) **Pension Benefits Accrued on and After January 1, 2014**

For any pension benefits accrued on and after January 1, 2014, the Post-Retirement Cost of Living Factor shall mean the factor obtained as follows:

(the Consumer Price Index for the preceding calendar year divided by the Consumer Price Index for the next preceding calendar year, minus 1),

multiplied by 0.75,

plus 1.

In any year in which the Post-Retirement Cost of Living Factor is less than or equal to 1.0375, it shall be applied in accordance with Section 7.02 and in any year in which the Post-Retirement Cost of Living Factor is in excess of 1.0375, the Post-Retirement Cost of Living Factor may be reduced as described in the following paragraph, but not to a factor that is less than 1.0375.

If in any one year, the Post-Retirement Cost of Living Factor is in excess of 1.0375, it may be reduced to the extent deemed necessary by the Pension Committee on the advice of the Actuary.
(c) If the post-retirement cost of living increase given in a year has been less than the Post-Retirement Cost of Living Factor as measured by the Plan, a catch-up will be given, on a cumulative and compounded basis, in the following year or as soon as Plan resources permit and as may be permitted by the Income Tax Act. There will be no retroactivity in any catch-up increase.*

CERTIFICATION

I __________________________, Secretary to the Board of Governors of the University of Waterloo, do hereby certify under the seal of the University that the foregoing resolution was duly approved by the Board of Governors at a meeting held on the 30th day of October, 2012.

____________________________
Signature

____________________________
Date
CERTIFICATE OF AMENDMENT
OF
UNIVERSITY OF WATERLOO
PAYROLL PENSION PLAN

Amendment No. 2

The Board of Governors of the University of Waterloo resolves that the University of Waterloo Payroll Pension Plan (amended and restated effective May 1, 2000) (the “Plan”) is amended as follows:

1. Effective January 1, 2014, Section 2.11 is amended by replacing the last two paragraphs with the following:

“The Target DB Pension shall be subject to a maximum equal to the dollar amount for the year of determination as shown in the table below, but in no event exceeding $3,300.00, multiplied by the Participant’s Credited PPP Service, provided that such maximum shall be subject to an actuarial increase in the event of a postponed retirement pursuant to Section 6.03(b) and (c) of the Registered Plan ("Maximum Target DB Pension").

<table>
<thead>
<tr>
<th>Year of Determination</th>
<th>Dollar Amount</th>
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<tbody>
<tr>
<td>2007 and Earlier</td>
<td>$2,650.00</td>
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<tr>
<td>2008</td>
<td>$2,725.00</td>
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<tr>
<td>2009</td>
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<td>2010</td>
<td>$2,857.00</td>
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<tr>
<td>2011</td>
<td>$2,923.00</td>
</tr>
<tr>
<td>2012</td>
<td>$3,031.00</td>
</tr>
<tr>
<td>After 2012</td>
<td>$3,031.00 indexed¹</td>
</tr>
</tbody>
</table>

¹ by the quotient obtained when the average wage for the year of determination is divided by the average wage for 2012 as such calculation is prescribed by the Income Tax Act in respect of adjustments to the defined benefit limit applicable to registered pension plans after 2012. The terms “average wage” and “defined benefit limit” are as defined under that statute.

The Maximum Target DB Pension is applied:

- after increases in the Target DB Pension for increases in accordance with Section 7.03 of the Registered Plan, if applicable,
- prior to reductions for early retirement or early commencement of a deferred pension, if applicable, and
- prior to conversion to any optional form of pension, if applicable.”
2. Effective January 1, 2015, Section 2.11 is amended by deleting the limit of "$3,300" in the explanation for the Maximum Target DB Pension and replacing it with "$3,400".

CERTIFICATION

I ____________________________, Secretary to the Board of Governors of the University of Waterloo, do hereby certify under the seal of the University that the foregoing resolution was duly approved by the Board of Governors at a meeting held on the _____________
day of _________________, 2012.

______________________________
Signature

______________________________
Date
University of Waterloo  
Pension Plan Summary  
October 2012

General  
- Registered and supplementary pension plans are administered under the guidance of the Board’s Pension & Benefits Committee which meets monthly  
- The Plans are supported by a Consulting Actuary from Aon Hewitt (Allan Shapira)

Plan Characteristics:  
- Defined benefit plan where pension is based on an individual’s years of service in the plan and their salary near retirement  
- After retirement, the pension benefit is adjusted annually for inflation  
- Assumed rate of return is 6.1% (3.85% plus 2.25% inflation)

Funding Status as of January 1 ($ millions; no asset smoothing)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012*</th>
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</thead>
<tbody>
<tr>
<td>Value of Assets</td>
<td>890</td>
<td>917</td>
<td>755</td>
<td>855</td>
<td>929</td>
<td>967</td>
</tr>
<tr>
<td>Past Service Liabilities</td>
<td>846</td>
<td>901</td>
<td>948</td>
<td>1,000</td>
<td>1,042</td>
<td>1,137</td>
</tr>
<tr>
<td>Funding Excess/(Shortfall)</td>
<td>44</td>
<td>16</td>
<td>(193)</td>
<td>(145)</td>
<td>(113)</td>
<td>(170)</td>
</tr>
</tbody>
</table>

*= as of 01/01/12, liabilities increased due to implementation of generational mortality tables

- Most public pension plans are facing significant funding shortfalls and are increasing contributions and modifying benefits

Annual Cost of Benefits Earned in 2012

<table>
<thead>
<tr>
<th></th>
<th>$ millions</th>
<th>% of pensionable earnings ($309m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members' Contributions</td>
<td>21.0</td>
<td>6.80%</td>
</tr>
<tr>
<td>University Current Service Costs</td>
<td>26.7</td>
<td>8.65%</td>
</tr>
<tr>
<td>Total Current Service Cost</td>
<td>47.7</td>
<td>15.45%</td>
</tr>
</tbody>
</table>

- Member contribution rates increased on July 1, 2007, July 1, 2008 and May 1, 2009  
- Non-core benefits previously adjusted (indexation on deferred members, commuted value option, interest credited on contributions, etc.)

2012 Recommended Changes

- Higher university contributions were already approved in the 2012/13 Operating Budget  
- Higher member contributions (average 0.5% of pensionable earnings)  
- Benefit changes: extend average earnings calculation from 3 years to 5 years; lower indexation provision; increase plan cap  
- Reduces funding shortfall by $24m and lowers estimated pay off period to 14 years
FOR APPROVAL

Office for Persons with Disabilities Name Change

Motion: To approve the following name change: “Office for Persons with Disabilities” to “AccessAbility Services.”

Rationale: The mission of the Office for Persons with Disabilities (OPD) was revised in 2009 to reflect its primary purpose to support the potential and academic “Ability” of students with disabilities. Since 2010, OPD has sought feedback from students, staff and faculty with the intention to change the name of the department to reflect the new mission with the planned launch of the department’s new website in Fall 2012. The draft website reads:

To support the academic potential, ability and success of students with disabilities, AccessAbility Services will promote accessibility, work to remove barriers and lead campus initiatives to ensure equitable access to programs, services and facilities for students, faculty, staff and campus visitors with disabilities. We will provide academic accommodations and support services in collaboration with all academic units and student service departments in partnership with Counselling Services, Health Services and the Student Success Office.

As part of a larger university plan to encourage students to access services and resources available to them to support their academic goals, the shift from “OPD” to “AccessAbility Services” reinforces this value to students. The new name incorporates the principles of inclusivity, aligns with feedback from student ambassadors and will help to remove the stigma that may accompany registration with the department for students.

The motion reflects the University of Waterloo’s direction to promote and support student success initiatives and is supported by the recommendations of the university’s Mental Health Review.

Rose Padacz
Director
Office for Persons with Disabilities

Chris Read
Associate Provost, Students