No. 132

ANNUAL REPORT

of the

ASSOCIATION OF ONTARIO LAND SURVEYORS

Organized 1886

Incorporated 1892

PROCEEDINGS OF THE ONE-HUNDRED AND TWENTY-FIFTH

MEETING SINCE INCORPORATION

HELD AT THE SHAW CENTRE,
OTTAWA, ON, CANADA

FEBRUARY 28, 2017 – MARCH 3, 2017

Reprinted with Executive Director's 2016 Report Included

Preface

To the members of the Association of Ontario Land Surveyors:

The Minutes of the Association at its One-Hundred and Twenty-Fifth Annual Meeting are herewith presented.

Blain W. Martin
Executive Director
July 2017

Association of Ontario Land Surveyors
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Copies of the Annual Report for some of the past years can be obtained by applying to the Association Offices.

Views and opinions in Addresses, Presentations and Reports are not official expressions of the Association's policies unless so stated.

RECIPIENTS OF AOLS AWARDS

PROFESSIONAL RECOGNITION AWARD

JOHN EDWIN JACKSON	1968
WILLIAM FREDERICK WEAVER	1971
EDWIN PERCY ARGALL PHILLIPS	1972
FREDERICK JOHN SIDNEY PEARCE	1973
JOHN GOURLAY PIERCE	1976
HERBERT HARVEY TODGHAM	1980
JOHN DONALD BARBER	1984
HAROLD STEWART HOWDEN	1991
NANCY LORRAINE PETZOLD	1992
MOIR NEIL SIMPSON	2000
JACK KEITH YOUNG	2004
WAYNE BRUBACHER	2005
DAVID WHITFIELD LAMBDEN	2006
MICHAEL J. O'SULLIVAN	2007
BRIAN MALONEY	2011
PAUL CHURCH	2015
IZAAK DE RIJCKE	2016

FELLOWSHIP AWARD

HARRY DOUGLAS GIBSON CURRIE	1979
MAURICE HEWITT	1979
JOHN DUNCAN BARNES	1982
RALPH ANGUS SMITH	1992
ANDREW GIBSON	1993
DARSHAN CHANDER KAPOOR	1993
ROBERT ALFRED FOWLER	1999
BOB HALLIDAY	2014
CRYSTAL CRANCH	2014
MICHAEL MARLATT	2017

CENTENARY AWARD

DANIEL ALPHONSE CYBULSKI	1992
BRYAN THOMAS DAVIES	1992
RONALD JAMES EMO	1992
SYDNEY GRENVILLE HANCOCK	1992
DAVID WHITFIELD LAMBDEN	1992
KENNETH HARVEY McCONNELL	1992
THOMAS EDWARD MERRIMAN	1992
WILLIAM CHARLES YATES	1992
JAMES NEIL GARDINER	1993
JAMES L. HILL	2009
JOHN GOLTZ	2010
ROBERT GUNN	2010
RON BERG	2011
JAMES FERGUSON	2013

PRESIDENT'S AWARD

BOB AARON	2014
CHARLES WILKINS	2017

ASSOCIATION OF ONTARIO LAND SURVEYORS

Organized February 23, 1886 Incorporated 1892

PAST PRESIDENTS

1886	G.B. Kirkpatrick	1930	R.M. Lee	1974	J.D. Dearden
1887	G.B. Kirkpatrick	1931	J. van Nostrand	1975	G.T. Rogers
1888	A. Niven	1932	J.W. Pierce	1976	J.D. Barber
1889	A. Niven	1933	J.M. Empey	1977	M.J.M. Maughan
1890	V. Sankey	1934	R.M. Anderson	1978	D.W. Endleman
1891	V. Sankey	1935	E.G. MacKay	1979	T.E. Lyons
1892	E. Stewart	1936	H.M. Anderson	1980	G.J. Zubek
1893	E. Stewart	1937	E. Cavell	1981	D.F. Yates
1894	M.J. Butler	1938	R.S. Kirkup	1982	H.M. Graham
1895	M. Gaviller	1939	F.W. Beatty	1983	B.T. Davies
1896	W. Chipman	1940	G.L. Berkeley	1984	W.D. Brubacher
1897	T.H. Jones	1941	N.A. Burwash	1985	R.J. Meisner
1898	P.S. Gibson	1942	E.L. Moore	1986	H.R. Whale
1899	H.J. Bowman	1943	N.D. Wilson	1987	L.U. Maughan
1900	G. Ross	1944	W.J. Fulton	1988	J.K. Young
1901	J. Dickson	1945	C.H. Fullerton	1989	M.J. O'Sullivan
1902	W.R. Aylsworth	1946	E.W. Neelands	1990	T.E. Rody
1903	W.R. Aylsworth	1947	J.K. Benner	1991	J.W. Nicholson
1904	C.A. Jones	1948	H.G. Rose	1992	S.J. Statham
1905	J.W. Tyrrell	1949	W.F. Weaver	1993	P.C. Wyman
1906	O.J. Klotz	1950	S.W. Archibald	1994	D.A. Simmonds
1907	T. Fawcett	1951	C.G.R. Armstrong	1995	J.D. Annable
1908	A.J. van Nostrand	1952	A.L.S. Nash	1996	B. Maloney
1909	L. Bolton	1953	A. Gillies	1997	P.J. Stringer
1910	H.W. Selby	1954	W.G. Ure	1998	J.H. O'Donnell
1911	J.F. Whitson	1955	J.E. Jackson	1999	D.S. Urso
1912	T.B. Speight	1956	W.J. Baird	2000	C.M. Fraser
1913	J.S. Dobie	1957	W.H. Williams	2001	M.P. Allen
1914	J.W. Fitzgerald	1958	R.B. Erwin	2002	R.C. Dixon
1915	E.T. Wilkie	1959	R.F. Mucklestone	2003	D.D. Blais
1916	C.J. Murphy	1960	H.D.G. Currie	2004	T.A. Bunker
1917	J.J. MacKay	1961	M. Hewett	2005	P.L. Church
1918	H.J. Beatty	1962	J.G. Pierce	2006	D.E. Culham
1919	C.F. Aylsworth	1963	E.C. Brisco	2007	J.G. Boyd
1920	T.D. leMay	1964	M.J. McAlpine	2008	K.H. Campbell
1921	G.A. McCubbin	1965	R.W. Brotherhood	2009	A.J. Worobec
1922	G. Hogarth	1966	W.J.G. Wadsworth	2010	W. Kowalenko
1923	H.T. Routly	1967	R.R. Smith	2011	D.M. Brubacher
1924	W.G. McGeorge	1968	F.J.S. Pearce	2012	P.J. Benedict
1925	L.V. Rorke	1969	M.N. Simpson	2013	E.L. Ansell
1926	N.B. MacRostie	1970	D.T. Humphries	2014	D. Page
1927	H.W. Sutcliffe	1971	J.C. Kirkup	2015	T. Hartwick
1928	J.J. Newman	1972	S.G. Hancock	2016	T. M. Purcell
1929	A.T. Ward	1973	E.W. Petzold		

ASSOCIATION OF ONTARIO LAND SURVEYORS

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PAST SECRETARY-TREASURERS

Col. Arthur J. Van Nostrand	1891 – 1900
Villiers Sankey	1900 – 1902
Capt. Killaly Gamble	1902 – 1912
Louis Valentine Rorke	1912 – 1923
Tracy Deavin leMay	1924 – 1936
Louis Valentine Rorke	1936 – 1943
Ralph Mackenzie Anderson	1943 – 1947
Charles Herbert Fullerton	1948 – 1954
Albert Victor Chase	1954 – 1955
Vernon Russell Davies	1955– 1956
Russell Reeves Grant	1956 – 1957
Herbert McEwen Anderson	1957 – 1958
Wilmot Johnston Baird	1958 – 1963
Dr. Alexander Campbell McEwen	1963 – 1965
John Norris Emberson Bradbury	1965 – 1969
Albert Francis Allman	1969 - 1972

PAST SECRETARIES

A. Francis Allman	1972 – 1976
N. Lorraine Setterington	1976 – 1981

PAST EXECUTIVE DIRECTOR - TREASURER

N. Lorraine Setterington	1981 – 1982
N. Lorraine Petzold	1982 – 1988

PAST SECRETARY - REGISTRAR

John Boyd	1987 – 1988

PAST EXECUTIVE DIRECTOR – TREASURER – SECRETARY

N. Lorraine Petzold	1988 – 1989

PAST EXECUTIVE DIRECTOR – TREASURER

N. L. Petzold	1989 – 1992
E. Peter Jacobs	1992 – 1993
Carl J. Rooth	1993 – Apr. 2000
Murray J. Legris	Apr. 2000 - 2006
S. James Statham	2006 – 2009
Blain W. Martin	2009 – 2017

Officers of the Association: 2016-2017

HONORARY MEMBERS

John D. BOGART, Q.C.	Toronto
Dr. Gordon GRACIE	Mississauga
N. Lorraine PETZOLD	Toronto
George WORTMAN	Richmond Hill
Eric J. BUNDGARD	Toronto

PRESIDENT AND CHAIRMAN OF COUNCIL

T. Murray PURCELL	Newmarket

VICE-PRESIDENT

Russell J. HOGAN	St. Catharines

EXECUTIVE DIRECTOR / TREASURER

Blain W. MARTIN	Stouffville

REGISTRAR

William D. BUCK	Markham

DEPUTY REGISTRAR

Maureen V. MOUNTJOY	Brampton

MEMBERS OF COUNCIL

Travis HARTWICK Past President	Pakenham
	Term Ending
W. A. BHATTI	2017
J. J. FEE	2017
A. JERAJ	2018
D. DZALDOV	2018
A. MANTHA	2019
P. LAMB	2019
S. F. MACGREGOR, Surveyor General	Peterborough
P. MEEHAN, Lay Councilor	Sudbury
M. SPRAGGETT, Lay Councilor	Toronto
K. A. GOWANLOCK, Lay Councilor	Ottawa
P. MEERVELD, Lay Councilor	Guelph
M. PAQUETTE, Lay Councilor	Ottawa

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George WORTMAN	Richmond Hill
Eric J. BUNDGARD	Toronto

PRESIDENT AND CHAIRMAN OF COUNCIL

Russell J. Hogan	Burlington

VICE-PRESIDENT

Dan Dzaldov	Vaughan

EXECUTIVE DIRECTOR / TREASURER

Blain W. MARTIN	Stouffville

REGISTRAR

William D. BUCK	Markham

DEPUTY REGISTRAR

Maureen V. MOUNTJOY	Brampton

MEMBERS OF COUNCIL

T. Murray PURCELL Past President	Newmarket
	Term Ending
A. JERAJ	2019
A. MANTHA	2019
P. LAMB	2019
E. ANSELL	2019
G. LAWRENCE	2019
T. MCNEIL	2019
S. F. MACGREGOR, Surveyor General	Peterborough
P. MEEHAN, Lay Councilor	Sudbury
M. SPRAGGETT, Lay Councilor	Toronto
K. A. GOWANLOCK, Lay Councilor	Ottawa
P. MEERVELD, Lay Councilor	Guelph
M. PAQUETTE, Lay Councilor	Ottawa
G. WORTMAN, Lay Councilor	Stouffville

ACADEMIC AND EXPERIENCE REQUIREMENTS COMMITTEE
2017 - 2018
Mark Tulloch, Presiding Officer

	Term Ending
A. V. SHELP	2017
R. G. BENNETT	2016
A. BUCKLE	2017
J. WILBAND	2018
K. SMITH	2018
B. CAMPBELL	2019
A. JEFFRAY	2020
D. DZALDOV	*Council, Vice President*
K. GOWANLOCK	*Lay Councilor*
M. A. CHAPMAN	*Ryerson Liaison*
C. ARMENAKIS	*York Liaison*
M. V. MOUNTJOY	*Deputy Registrar*
W. D. BUCK	*Registrar*

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R. E. BERG, St. Catharines
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G. W. BOWDEN, Georgetown
P. W. CHITTY, Gananoque
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D. J. CORMIER, Kingston
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D. A. LAMONT, Dundas
G. E. LAWRENCE, Newmarket
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R. J. MANN, Thunder Bay
A. S. MANTHA, Windsor
P. A. MILLER, Belleville
R. NICULAE, Thornhill
S. M. PERKINS, Ottawa
G. W. PHILLIPS, Toronto
P. T. RAIKES, Shanty Bay
R. J. REID, Stirling
A. P. SANI, Scarborough
A. D. SANKEY, Mississauga
R. A. SIMONE, Windsor
S. SINNIS, Newmarket
I. D. SMITH, Fonthill
D. B. STRINGER, St. Catharines
H. J. VERHOEF, Fort Frances

REGIONAL GROUP CHAIRS
2017-2018

SOUTH WESTERN
Jeremy Matthews

EASTERN
Paul A. Miller

GEORGIAN BAY
Marc Fournier

HAMILTON & DISTRICT
Brent R. Larocque

KAWARTHA-HALIBURTON
Morgan Goadsy

NORTH EASTERN
Dave Urso

NORTH WESTERN
Tudor Nisioiu

SOUTH CENTRAL
Ron Querubin

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ACLS Yukon Regional Group and ACLS North of 60 Regional Group
Roselle and Murray Purcell

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Multiview Locates Inc.
T2 Utility Engineers Inc.
Carlson Software
GeoShack
Geo-Plus
Tulloch Mapping Solutions Inc.
Logan Wealth Management
Northway / Photomap /Remote Sensing Ltd.
Canon Canada Inc.
Horizon Measurement Solutions
Esri Canada
Natural Resources Canada, Surveyor General Branch
Blue Marble Geographics
Phoenix Measurement Solutions Inc.
Gap Wireless inc. Terra Discovery
Drafting Clinic Canada
UKKO, A division of Ag Business & Crop Inc.
J.P. Morasse Inc.
Teranet Enterprises Inc.
Leica Geosystems Ltd
MicroSurvey Software Inc.
Spectral Aviation Inc. And Hovercam UAV
High Eye Aerial Imaging Inc.
Canal Geomatics Inc.
SOKKIA Corporation
CANSEL

Exhibitor Tables:
Arthur J. Gallagher Ltd
AOLS Public Awareness Committee
URISA Ontario Association
York University, Department of Earth and Space Science Engineering

PROGRAMME: 2017 ANNUAL MEETING

TUESDAY, FEBRUARY 28th, 2017
ACLS Business Meeting
Council Roast Dinner
Meet and Greet for all Members

WEDNESDAY, MARCH 1st, 2017
Exhibits Open
Opening Ceremonies
Our Reason for Being
Contribution of Surveyors to the Development of Canada
Lunch with Exhibitors
Hydrography, Underwater Archeology and Collaboration = Success
Revolutionizing Women in Technology with Natalie Panek
Veterans' Reception
Veterans' Dinner
Welcoming Party

THURSDAY, MARCH 2nd, 2017
Women Surveyors' Breakfast
Overcoming Tragedy: a Surveyor's Response to Fort McMurray and Lac Megantic
The United Nations Convention on the Law of the Sea and Canada's Submission
Break with Exhibitors
The French Surveyor's Portal Geofoncier
Is security of tenure a universal right?
Hockey Night in Ottawa
Presidents' Reception
Presidents' Gala and Dinner and Show featuring "REPLAY" a 60's Invasion show

FRIDAY, MARCH 3rd, 2017

ACLS Technical Session:
Indigenous People Advancing through
Collaboration and Capacity Building

OAGQ: Speed Networking Session

AOLS Business Meeting:
President's Report – Murray Purcell
Financial Update – Dan Dzaldov
Surveyor General's Report – Susan MacGregor
Executive Director's Report – Blain Martin
Registrar's Report – Bill Buck
Constitutional Challenge Report - Eric Ansell
Ontario Digital Cadastre Corporation Update – Brian Maloney
New Videos This Year – Chris Fox and Chris Oyler
Professional Surveyors Canada Update – Wilson Phillips
AGM 2017 Report – Ed Herweyer
AGM 2018 Welcome – Al Heywood
Open Forum

Contents of Annual Report Book Directory

Contents of AOLS Business Meeting

President Murray and Roselle Purcell

Following proceedings, transcribed by ASAP Reporting Services, have been edited for publication

(A full transcript of the proceedings of the Annual Meeting can be obtained through the AOLS Office)

Wednesday, March 1st, 2017 – Ottawa, Ontario

OPENING REMARKS:

Ottawa, ONTARIO
--- Upon commencing on Wednesday, March 1, 2017 at 9:00 a.m.
--- le mercredi 1er mars 2017. Au début à 9:00 a.m.
--- The Proceedings Opened with a Video Presentation, with Narrative as follows /Les Actes s'ouvrent avec une Présentation Vidéo, dont le Narratif suit:

SPEAKERS/HOSTS/CONFÉRENCIERS/HÔTES:
Tania Bigstone, President, Association of Canadian Lands Surveyors
Sophie Morin, La présidente de l'Ordre des Arpenteurs-Géomètres du Québec
Murray Purcell, President, Association of Ontario Land Surveyors

OPENING CEREMONIES:

MR. PURCELL: Welcome, Surveyors! And congratulations on being part of a grand and historic occasion!

MADAME MORIN: Bienvenue, arpenteurs-géomètres! Et félicitations d'être partie prenante de ce grand événement historique!

MR. PURCELL: Our presence together today, and throughout our Conference, marks the first time since Canadian Confederation, 150 years ago, that the Land Surveyors of Ontario and Québec, along with Canada Lands Surveyors from across the country, have come together to celebrate the history and accomplishments of our Profession.

MADAME MORIN: Notre présence ensemble aujourd'hui, et tout au long de cette conférence, marque la première fois depuis la Confédération canadienne, il y a 150 ans - et la première fois depuis la création de nos Associations - que les arpenteurs-géomètres de l'Ontario et du Québec et les arpenteurs des terres du Canada, se réunissent pour célébrer l'histoire et les réalisations de notre profession.

MS. BIGSTONE: Ours is a history that moves from the primeval forests of the 1700s to the mega-cities and technological miracles of today, a tale of turbulence and vision; of railways, roads and power dams; of farms and cities, of every form of communication and travel that connects Canadians to one another and to the world.

MR. PURCELL: Above all, it is a story of people: ambitious survivalists, technicolour dreamers, artful innovators; of adventurers, activists and feminists -- a story on whose pages the wilderness traditions of the past meet the impassioned young Surveyors of the 21st Century.

MS. BIGSTONE: For 200 years, Canadian Surveyors have helped shape the foundations of every significant social and economic development in the country. Madame Morin: Faire une balade sur le boulevard Saint-Laurent à Montréal ou le long d'un sentier dans le parc de la Gatineau; conduire sur la rive nord du lac Supérieur; Monter la tour du CN; prendre place dans le Centennial Concert Hall à Winnipeg; prendre le train à Edmonton; Faire un tour de Funiculaire au Château Frontenac ou à l'aéroport de Thunder Bay; frapper une rondelle dans le Centre Meridian à St. Catharines.

(Translation: Walk up St. Laurent Boulevard in Montreal or along a trail in Gatineau Park; drive the north shore of Lake Superior; climb the CN Tower; sit in the Centennial Concert Hall in Winnipeg; board the train in Edmonton; ride an escalator at the Chateau Frontenac or at Thunder Bay Airport; shoot a puck in the Meridien Centre in St. Catharines.)

MS. BIGSTONE: If you have done any of these things, you know what is possible! At some point in the past, a Surveyor has made a precise assessment of his or her surroundings and has determined that this is where the highway might best run; where the power dam or hydro towers should be constructed; or where the piers must be located to properly support the bridge. Or that this is how to transform raw land into an active community.

MR. PURCELL: Beyond GPS and LiDAR, Surveyors embody growing social and ethical responsibilities. Daily, we participate in crucial environmental decisions that will affect the health and future of the planet, decisions that influence the living standards and safety of Canadians.

The Surveyor General of Ontario noted recently that without the contribution of Surveyors, our social institutions, even our banking system, would be compromised.

Together, the Surveyor and the Lawyer create certainty and security for land ownership, enabling stable communities, as well as social and economic investment.

MS. BIGSTONE: For Canadian Surveyors, much has changed in 150 years.

MR. PURCELL: And much has not changed...

MADAME MORIN: D’hier à aujourd’hui, les arpenteurs-géomètres nourrissent une passion et une curiosité pour notre planète. Nous sommes des gens de lieux - de

rives et de forêts... de gratte-ciel, d'autoroutes et de ponts.

(Translation: Then as now, surveyors harbour a passion for, and curiosity about, the planet. We are people of place – of riverbanks and forests... skyscrapers, highways and bridges.)

MR. PURCELL: Likewise, we are students of the mathematics of place: the curvature of the earth, the shifting poles, the azimuth of the star, our physical world's geographic information.

MADAME MORIN: On pourrait dire que l'ère de l'arpentage moderne a commencé après la Deuxième Guerre mondiale, lorsque les nouveaux arrivants se sont établis dans les villes canadiennes. Là, comme le reste des habitants fatigués de la guerre, ils avaient besoin d'un monde nouveau en pleine expansion où vivre, travailler, étudier, voyager, consommer.

(Translation: The age of modern surveying might be said to have begun in the aftermath of World War II, when newcomers flocked to Canadian cities. There, like the rest of the country's war-weary inhabitants, they needed an expansive new world in which to live, to work, to study, to travel, to consume.

MS. BIGSTONE: From the Maritimes to Manitoba, to British Columbia, an energetic new body of Surveyors made maps, plotted highways and mining claims, planned subways, skyscrapers, airports, pipelines, suburbs; plotted vast hydro and nuclear projects and the St. Lawrence Seaway.

MADAME MORIN: Dans l'ensemble, ces développements sont venus incarner à la fois le sens et le caractère indispensable de travaux d'arpentage de qualité.

(Translation: In all, these developments came to embody both the meaning and indispensability of good surveying.)

MR. PURCELL: During the 1960s and seventies, education and standards improved rapidly. Ms. Bigstone: Technology advanced as never before.

MADAME MORIN: Des programmes de pointe en sciences géomatiques ont vu le jour à l'Université du Nouveau-Brunswick, à l'Université Laval, à l'Université Ryerson, à l'Université de Toronto et à l'Université de Calgary.

(Translation: State-of-the-art surveying programs came into being at the University of New Brunswick, at Laval, at Ryerson, at the University of Toronto and the University of Calgary.)

MR. PURCELL: In the words of Gordon Gracie, who directed the Survey Science program at Erindale College: "There was a feeling that these were privileged years – a grand opportunity. We had a genuine sense that we were building the

profession, raising its arc – it was no longer going to be any sort of old boys' club or mere avocation."

MADAME MORIN: À l'insu de la plupart des arpenteurs-géomètres, à la fin des années 1960 et au début des années 70, le changement d'un autre type a pris forme tranquillement dans la partie sud-ouest de l'Ontario.

(Translation: Unbeknown to most surveyors during the late 1960s and early seventies, change of another sort was quietly taking shape in the southwestern corner of Ontario.)

MR. PURCELL: At the time, one hundred percent of the Surveyors in Canada were men. However, in April 1969, the percentage fell to 99.99, when an assertive and intelligent young woman from Leamington, Ontario, Lorraine Setterington, became the first woman in Canada to gain a Surveyor's accreditation.

MS. BIGSTONE: The larger story of women in surveying in Ontario is still being told. In 2009, Susan McGregor became the first female Surveyor General of Ontario, and in 2014, Dasha Page became the first female President of the AOLS.

MADAME MORIN: En 2000, Chantal Arguin fut la première présidente de l'Ordre des Arpenteurs-Géomètres du Québec; et en 2007, Marie Robidoux est devenue la première femme présidente de l'Association des Arpenteurs des Terres du Canada, et Tania Bigstone est actuellement la première présidente autochtone de l'Association des Arpenteurs des Terres du Canada.

(Translation: The year 2000 saw Chantal Arguin installed as the first female president of the OAGQ; and in 2007 Marie Robidoux became the first female president of the ACLS. Tania Bigstone is currently the first Indigenous president of the ACLS.)

MS. BIGSTONE: For Canadian Surveyors, the latter years of the 20th century were an era of adventure, and in some cases idealism. Many travelled, not just to the corners of the country, but to the farthest reaches of the planet to work on projects that rivalled the great infrastructure projects that were being developed in Canada.

MR. PURCELL: The 21st century brought a new order of change, with GPS units, satellites, robots, self-seeking UAVs, self-actuating total stations, mobile LiDAR devices, underwater mapping units -- all of which are functionally inseparable from the advanced computerization on which the industry is now dependent.

MS. BIGSTONE: As Land Surveyors, we are a forward-looking Profession, increasingly mindful of our obligations to the natural environment, of the shadows as well as the glories of the past.

Part of our progress today is our awareness of the more contentious aspects of

Canada's history and the role our surveying forebears played in that history, an awareness of our obligations to our Indigenous Communities.

MADAME MORIN: En tant que professionnels, nous sommes dans une position idéale pour aider les Canadiens à envisager, voire à reconsidérer, les racines de leur pays... pour aider à guérir les vieilles blessures

(Translation: As land professionals we are in a perfect position to help Canadians consider, even reconsider, their country's roots... to help heal old wounds.)

MR. PURCELL: By shining a light on the past, we shine an even brighter light into the future.

MADAME MORIN: Today, as we recall and honour our past, let us celebrate heartily the young men and women who will lead surveying into the decades ahead, perhaps into the next dimension.

MADAME MORIN: Ils sont un groupe qui, comme leurs ancêtres, vivront leurs propres histoires fascinantes, inventeront leurs traditions et idéaux; ils le feront avec du LiDAR, des GPS et des véhicules aériens sans pilote; Avec des montagnes de données et des rubans de codage - avec des images inspirées du laser si détaillées et séduisantes qu'elles re-constituent les objets réalistement.

(Translation: They are a group that, like their forebears, will live out their own compelling stories, invent their own rich lore and ideals; will do it with LiDAR and GPS and Unmanned Aerial Vehicles; with castles of data and ribbons of coding – with laser-inspired images so detailed and alluring as to constitute castles unto themselves.)

MS. BIGSTONE: It is no secret that some of the brightest and most enthusiastic of our young Surveyors are talented young men and women whose first language is not necessarily English or French and whose birthplace is not necessarily Canada.

MR. PURCELL: A veteran Ottawa Surveyor said recently that more than anything right now, the Profession "needs the genius and ideas of newcomers to the country". "Let me broaden that," he added. "We need imaginative young surveyors, PERIOD, no matter what their background."

MADAME MORIN: *"Compte tenu de la rapidité avec laquelle l'avenir s'élance vers nous, ceux que nous appelons «les arpenteurs-géomètres de demain» sont bien sûr inséparables des jeunes arpenteurs-géomètres engagés d'aujourd'hui..."*

(Translation: Given the speed at which the future is rocketing toward us, those we are calling 'the surveyors of tomorrow' are of course inseparable from the committed young surveyors of today...)
MS. BIGSTONE: They are a group that (if the futurologists are correct) will work

beneath oceans, and quite possibly in outer space; will work from vehicles and conveyances that technology suggests will drive and fly themselves, and perhaps even without the roads, rails and airports that the Surveyors of the twentieth century spent their lives developing and maintaining.

MADAME MORIN: Peut-être le plus important, nos jeunes arpenteurs-géomètres, comme les meilleurs de leur clan à n'importe quelle époque, travailleront avec leur imagination et leur ingéniosité. Avant de prendre leur retraite de leur carrière (dont certaines parties semblent vouées à s'exercer dans des conditions climatiques difficiles, à de rares latitudes, peut-être même avec de grands délais ou en mode urgence), ils verront des changements non seulement dans la technologie et l'orientation de la profession, mais dans la planète même - des changements qui, en tant qu'arpenteurs-géomètres, ils devront mesurer, surveiller et présenter au monde.

(Translation: Perhaps most importantly, our young surveyors will, like the best of their clan in any era, work with their imaginations and ingenuity. Before retiring from their careers (parts of which seem destined to play out in altered climates, at rare latitudes, perhaps even in extended or compressed time), they will see changes not just in the technology and focus of the profession, but in the planet itself – changes that, as surveyors, they will be required to measure, monitor, and present to the world.)

MR. PURCELL: Villiers Sankey, one of the originators of the AOLS, said 125 years ago at the Association's founding: "We as surveyors are connected in our interests and standards and in our sense of mutual support. And in that we are a kind of family... We have worked hard and will continue to work hard. We have been responsible to ourselves and thereby to our province and our country."

And with that he called for a toast. Today we call for another symbolic toast: to our Profession, to one another, to our Country on its 150th birthday, and to Canada's Surveyors, the cornerstone of a country.

MADAME Morin: Ainsi nous portons un toast symbolique... à notre profession, à chacun de nous... et au pays pour ce 150e anniversaire! Et aux arpenteurs du Canada, la pierre angulaire de notre pays.

MS. BIGSTONE: Welcome, Canada Lands Surveyors! And Congratulations on being part of this grand and historic occasion!

MADAME MORIN: Bienvenue, arpenteurs-géomètres du Québec! Et félicitations pour avoir participé à ce grand événement historique!

MR. PURCELL: Welcome, Ontario Land Surveyors! And congratulations on being part of this grand and historic occasion!
(End of video)

Land Surveyors' Day in Ottawa:
Proclamation of Jim Watson, Mayor of the City of Ottawa

MR. J.C. TÉTRAULT: Good morning; bonjour. I have the honour of reading a Letter; j'ai l'honneur de lire cette lettre:

"WHEREAS Land Surveying has been in existence since the beginning of civilization and is the World's oldest legal Profession" ---

"AND WHEREAS Land Surveyors have played a key role in the creation of the land parcels, the exploration and settlement of Canada and ongoing maintenance of the Boundaries between Canada and the United States";

and

"attendu que les arpenteurs crééent le cadre voulu pour établir, documenter, enregistrer et protéger les intérêts frontiers, ce qui assure la croissance économique, la préservation culturelle et sociale de la protection de l'environnement et attendu que les arpenteurs du Canada méritent d'être honorés pour leur contribution exceptionnelle à la Société";

"WHEREAS Land Surveyors from across Canada are meeting in Ottawa from February 28 to March 3, 2017",

"Therefore, I, Jim Watson, Mayor of the City of Ottawa, do hereby proclaim March 1, 2017 Land Surveyors' Day in Ottawa".

OPENING CEREMONIES / CÉRÉMONIES D'OUVETURE

Call to order – Three Presidents

MS. BIGSTONE: Ladies and gentlemen, please stand and join in the singing of our National Anthem, led by Kimberley Dunn.

MADAME MORIN: Mesdames et messieurs s'il vous plaît veuillez vous lever pour notre hymne national "O Canada".

--- (Singing of the National Anthem followed/Chant de l'hymne national suivi:)

MS. BIGSTONE: Thank you, Kimberley. Good Morning fellow Land Surveyors from across this great country. My name is Tania Bigstone, and I am the President of the Association of Canada Lands Surveyors.
Welcome to the 2017 National Surveyors Conference.

MADAME MORIN: Bonjour, collègues arpenteurs-géomètres de tout le pays. Je m'appelle Sophie Morin et je suis la présidente de l'Ordre des arpenteurs-géomètres du Québec. Bienvenue à la Conférence nationale des arpenteurs-géomètres de 2017.

MR. PURCELL: Welcome fellow Land Surveyors and guests. I am Murray Purcell, President of the Association of Ontario Land Surveyors, and I will be Co-Chairing this year's Annual General Meeting with Tania and Sophie.

Call to Order: Will the 125th Annual General Meeting of the Association of Ontario Land Surveyors please come to order.

Speakers and fellow participants, we ask that cell phones and other electronic devices be silenced.

If such a device should happen to ring during the Meeting, our Sergeants-at-Arms, David and Charlotte Thompson, will be very pleased to collect your generous donation of $100 (and $200 should you dare to answer that call)!

The donation will be provided to the appropriate Association's Educational Foundation.

Welcome and Introductory Remarks:

Welcome all to the Shaw Centre in Ottawa.

As a matter of safety, emergency exits are located at the sides and the rear of this very large room. And as a matter of urgency, washrooms are located just outside the rear doors.

To our out-of-province guests, I extend a special welcome to Ontario. I hope you enjoy your stay in Ontario, wherever it may take you. I also hope you have a chance to enjoy the amenities and hospitality that the City of Ottawa has to offer.

I am wearing the Presidential "Chain of Office", which is the official symbol of authority of the President of the Association of Ontario Land Surveyors. This new Chain was donated by the AOLS Senate and is being worn for the first time at this historic meeting. It replaces the older Chains, which are kept in the Archives of our Association.

Mine is the first name on this new Presidential Chain of Office. We have retrieved historic AOLS Chains of Office from our Archives and will have them on display at our Archival Booth in the Exhibit Hall over the next few days.
The first Chain of Office was presented on February 14, 1967 by Bill Pocklington to the Association of Ontario Land Surveyors, to be worn by the Presidents. In the

memory of his father, Bill assembled every piece of this Chain, and it includes his father's compass, magnifying glass and plumb bob.

I also want to draw your attention to the second historic Chain that is being replaced at this Meeting. This Chain was donated by the Senate of my Association and was first worn by Past President Harry Whale, in 1986. The final name on this historic Chain of Office is our immediate Past President, Travis Hartwick.

Symbolic of our Annual General Meetings is the original solid brass Standard Measure used to control the accuracy of surveys in Upper Canada. This Standard Measure was deposited in 1851 with the Board of Examiners, in Toronto.

Engraved on the plaque on which the Standard Measure is kept is the following creed:

"May the presence of this ancient Standard be a continuous measure of our deliberations and achievements, a perpetual symbol of truth, honesty and accuracy."

It is a treasured artifact of our Association and traditionally signals the commencement of our General Meetings. The Standard Measure will be set out at the Call to Order of each Session of our Meeting.

MS. BIGSTONE: Our Sergeants-at-Arms for this Meeting are David and Charlotte Thompson. Among other responsibilities, they are expected to provide firm guidance for the schedule of our Meeting and to maintain decorum. They have the authority to use whatever means necessary to achieve these goals! David and Charlotte have a duty to present and guard The Standard Measure. Sergeants-at-Arms, do you have the Standard Measure to present to this Meeting?

MR. THOMPSON: WE DO MADAME PRESIDENT.

MS. BIGSTONE: Ladies and gentlemen, please stand while the Sergeants-at-Arms present the Standard Measure.

--- Whereupon the Standard Measure was brought forward and placed at the front of the assembly.

MS. BIGSTONE: Thank you. Ladies and gentlemen, you may be seated.

MR. PURCELL: At this historic Meeting, one of Canada's pre-eminent explorers and mapmakers, David Thompson, and his wife Charlotte have agreed to provide some direction to our Meeting, while bearing the responsibility of our Sergeants-at-Arms.

David Thompson is a pre-eminent explorer and mapmaker, without question. Charlotte, although not as well known to many of us, is recognized for her

significant contribution to Canadian culture and history, symbolizing the vital role women played in the fur trade.

She traveled extensively with her husband from 1799 onwards, covering about a quarter of the 90,000 kilometres that David travelled, from 1784 into the 1830s. David and Charlotte are visiting us from their year 1812. This is when they retired from the fur trade and moved to Montreal.

David might be best known for the river bearing his family name, although now he has also become somewhat of a movie star celebrity, with the new Hudson's Bay television advertisement.

MS. BIGSTONE: Charlotte, David's wife, has kindly agreed to accompany him to our Meeting, to also provide insight and commentary on the Canadian "condition" two hundred years ago. She also has extensive experience that helps her explorer/surveyor husband during his adventures.

An incredibly short biography of Charlotte would describe this amazing Cree woman as a "spectacular traveller/co-explorer, who had a key role in the interactions with the indigenous Peoples of Canada", which proved to be critical to her and David's exploration and mapmaking.

--- (Presentation/Introduction of David and Charlotte Thompson/Présentation/Introduction de David et Charlotte Thompson)

MR. ED H. HERWEYER, Chair, Surveyors Conference 2017: Good morning. We are fortunate to be joined at our Conference by two special guests, who have travelled through time and space to be with us.

And when I say "space", I refer to the vast breadth of our country, Canada. When I refer to "time", our guests have jumped from Napoleonic times to the present, in the blink of an eye. Their departure year is 1812, bringing them close-by what is a few days ride from Montreal to Ottawa, present-day Ottawa.

Suspend disbelief from time to time. "Dr. Emmett Brown" is among us!
--- (Video Presentation followed)
--- (The Standard Measure is presented.)

MR. THOMPSON: BONJOUR, A TOUT, A TOUS!

MR. HERWEYER: David! David! Time out! Speak into the mic -- PLEASE!

MR. THOMPSON: Speak into this!?

MR. HERWEYER: And for a change, you don't really need to shout!

MR. THOMPSON: WILL YOU HEAR ME AT THE BACK?

MR. HERWEYER: Probably so, I'm guessing!

MRS. THOMPSON: David, just listen to the man!

MR. THOMPSON: HELLO...! CAN YOU HEAR ME AT THE BACK?

--- Audience Response: WE CAN HEAR YOU!

MR. THOMPSON: What a wonderful amplification device! And how we could have used this on our expeditions!
--- (Whereupon Mr. Thompson broke into song/Sur quoi M. Thompson se mit à chanter:
Ah! Si mon moine voulait danser!
Ah! Si mon moine voulait!
Charlotte, try it!

MRS. THOMPSON: Good morning. I am Charlotte Thompson, and this is my husband David. We do not want to interrupt your Gathering...

(To Mr. Herweyer): Indeed, sir, have we erred and entered upon a private Congress? Such an Assembly! We must be in a Church!

MR. HERWEYER: Not at all. You are in the Shaw Centre, in the National Capital of our well-loved country, Canada.

MR. THOMPSON: I am a little confused... You are dressed differently.
Are you from the Gaspésie?

MRS. THOMPSON: No. We have not yet explored any of that area.
Is it to the east? We have travelled many, many miles, from Lower Canada to the Pacific Ocean, and back.

MR. THOMPSON: We have plans to explore the Region known as the Eastern Townships, depending upon our success in being proficient.

MR. HERWEYER: Well, we are glad that you are among us. You came here to share stories and to participate in our Meeting. In some ways, we have been waiting for you for two-hundred years.

MRS. THOMPSON: That long!? I hope we don't disappoint you!
David, speak with them...

MR. THOMPSON: Okay. I am David Thompson, Practical Astronomer for the Northwest Company of late. My wife Charlotte is with me today as she accompanied me on most of my expeditions. You are all Practical Astronomers, Surveyors!?

And look, Charlotte: so many women!--And good-looking women! I knew that you would be an influence!

MRS. THOMPSON: David is correct. When we married at île-à-la Crosse, I had no idea that we would explore and map thousands of miles: by foot, canoe, and horseback.

As Cree, I was a translator. But more importantly, I helped keep David's notes, observations, measurements and maps in order, assisting him in mapping all along the Western Frontier. So I, too, am very glad to see so many women Surveyors!

MR. HERWEYER: Thank you, Charlotte. Charlotte and David will be staying with us for the next three days of the Conference, and I invite you to extend to them the hospitality for which we are so well-known. David, do you have anything else to say right now?

MR. THOMPSON: So many Surveyors! When I first came to Rupert's Land with the Hudson's Bay Company, at the age of fourteen, I did not plan to be a Practical Astronomer. I was apprenticed as a Store Clerk. But in 1788, I fractured my leg while transporting fur pelts on a large wooden sled. I recuperated at Cumberland House and had the opportunity to study under Philip Turnor, who was at the time the only Surveyor for the Company, and he taught me many lessons on how to use the sextant and compass and to consult Charts so that my Readings would be accurate. So you see, by breaking my leg, I entered the Profession "quite by accident"!

This is a tough crowd!

MR. HERWEYER: A tough crowd, indeed!

MR. THOMPSON: Many people have asked me: David, why did you become a Surveyor? And I have asked myself that question many times, while shooting rapids, trudging through muskeg and snow storms, enduring the hostile weather of the time. I certainly did not do it for money!

I feel that I am among friends, colleagues, who have shared the feeling of discovery, of seeing something for the first time, or seeing something old but in a new light and willing to share those experiences, as I did with Charlotte and my fellows on my expeditions. As Surveyors, we are entrusted with a bond, a Pact between ourselves and nature, with all its mystery, challenges and wonder.
For me, it has never been a "job"; it is a vocation, a life, a love. Charlotte and I are experiencing new machinery and instruments of communication every time we turn around. So please be patient with us, if at first we do not understand the workings

of these magnificent pieces of technology.

But we are learning through “Gobble” --- “Gobble...?”
Google! --- the mysteries that surround us in this day and age.

In truth, Ed gave me an “Apple”. But in my day, an apple was an apple!
Please come to speak with us. We would love to share our stories and listen to yours. Thank you.

MRS. THOMPSON: We have travelled so far and seen so many things. We have arrived in a place of many comforts and hospitality. I will do my best to keep David on a “true bearing”! We certainly do not want to be lost in place or time. I also embrace our conversations in the days to come.

MR. HERWEYER: Mr. and Mrs. Thompson, please stay a while. Your fellowship with our Conference is embraced by all. We are happy to have such esteemed members of our Profession among us!

You are now officially put to work, as willing volunteers for our National Surveyors Conference. Thank you. Merci.

MR. THOMPSON: Merci.

MRS. THOMPSON: Thank you.
--- (Video funded by the Hudson’s Bay Company followed, with link to same below)

https://www.youtube.com/watch?v=m_vzybpOiIM
--- (Narration accompanying above-referenced Video follows):

VIDEO NARRATOR: In 1788, David Thompson was working for Hudson’s Bay Company when he suffered an accident, breaking his leg so badly that he almost died. But he didn’t die. It took him an entire year to learn to walk again and in that year, he spent his time studying astronomy, navigation and map-making. He looked at the maps at Hudson’s Bay Company, where he worked, and he dreamed about what lay beyond their unfinished borders. He decided that he wanted to finish those maps, and he did. David Thompson became the greatest map-maker/adventurer...

MADAME MORIN: Charlotte et David Thompson sont des acteurs locaux en costume d’époque pour la conférence. Ils ajouteront une présence et de la couleur à notre réunion. Ils auront également du plaisir à illustrer l'écart de deux cents ans qui séparent leurs aventures et notre Conférence nationale des arpenteurs-géomètres 2017.
La Conférence nationale des arpenteurs-géomètres de 2017 présente une saveur différente à celle de nos assemblées annuelles traditionnelles. Bien que des questions d'affaires typiques soient nécessaires et exigées par nos propres lois et

règlements, cet événement spécial a véritablement porté sur la célébration d'anniversaires. Le Haut-Canada, le Bas-Canada et le Canada en célèbrent d'importants.

Nous avons donc réservé vendredi matin pour maintenir nos horaires individuels. Aujourd'hui et demain ... nous faisons la fête!

MR. PURCELL: First, Mr. Thompson, I want to say that T.V. does in fact put on ten pounds!

At this time we would like to review some of the guidelines for the Conference.

Our meeting is being recorded and in order that the Minutes and Proceedings of this meeting can be properly transcribed, I ask that anyone wishing to speak during the course of this meeting approach a floor microphone and wait to be recognized by the Chair.

MADAME MORIN: Plusieurs de nos conférenciers ont prévu du temps pour répondre à vos questions. Veuillez indiquer votre nom et votre ville natale ou votre affiliation avant de poser votre question. Le modérateur peut juger nécessaire de limiter le nombre d'intervention à une seule sur n'importe quel sujet.

(Translation: Many of our presenters will leave time for questions. We would ask that after being recognized please state your name, hometown and Association affiliation. After being recognized, please state your name and hometown or affiliation before speaking. The chair may find it necessary to restrict speakers to one appearance on any subject.)

Recognition of Hosting Councils/Reconnaissance des Conseils d'accueil:

MS. BIGSTONE: Each of the hosting Associations would like to recognize their Councils.

MADAME MORIN: Est-ce que les membres du Conseil d'administration de l'Ordre peuvent se lever afin d'être présenté...
--- (À ce mement-là, l'AOGQ en présence s'est présentée à la conference)

MADAME MORIN: Merci.

MR. PURCELL: Would the AOLS Council stand and be recognized...
--- (Whereupon the AOLS Council Members in attendance presented themselves to the Conference)

MR. PURCELL: Thank you.

MS. BIGSTONE: Would the ACLS Council please stand and be recognized...
--- (Whereupon the ACLS Council Members in attendance presented themselves to

the Conference)

MS. BIGSTONE: Thank you! Please be seated.

Recognition/Acknowledgement of Conference Sponsors-
Regognition/reconnaissance des commanditaires de la conference:

MR. PURCELL: We have again this year a number of Sponsors who have contributed greatly to help offset the cost of running our meeting. We want to thank these sponsors for their tremendous support. Recognition of their contribution will be prominent throughout the Meeting.

MADAME MORIN: Au total, les commanditaires ont contribué à plus de 100,000$ pour le succès de cet événement. Les trois associations hôtes tiennent donc à les remercier pour leur générosité.

Recognition of Presidential Guests/Reconnaissance des hôtes presidentiels:

MS. BIGSTONE: Also joining us over the course of our Meeting are a number of Presidential guests, representing their Professional Associations.
At this time I would ask those guests to stand.

--- (Whereupon the Prsidential Guests Stood and were recognized by the Conference)

MS. BIGSTONE: Thank you.

Recognition of Student Guests/Reconnaissance des étudiants:

MS. BIGSTONE: We also have a number of student guests in the crowd.
Please stand and be recognized.

MS. BIGSTONE: Thank you.

In Memoriam/En Mémoire:

MR. PURCELL: Sadly, each of our Associations have lost dear friends and personalities since our previous Meeting.

Please stand and remain standing as we pay tribute to the following Surveyors with a moment of silence.

Alex Wilson, OLS# 1331
Guido Papa, OLS# 1345
Herman Aron, OLS# 772
Jim Nicholson, OLS# 1094

Douglas McMaster, OLS# 1170
Jack Milne, OLS# 888
Bill Bolan, OLS# 1051
Ed Tacium, OLS# 1032
Tim Young, OLS# 1505
Robert Waterman, OLS# 1204
Tom Lyons, OLS# 989
David Woodland, OLS# 1475
Kenneth Williams, OLS# 827
James Sneath, OLS# 927
George Yates, OLS# 778
Yvon Sanfaçon, CLS# 1243
Garnet Ross Douglas, CLS# 1056
Kalman Leslie Czotter, CLS# 1449
Daniel Babiuk Senior, CLS# 1234
Jean-Marc Drapeau, QLS# 1164
André Vanier, QLS# 1308
Roger Chartrand, QLS# 992
J.-André Laferrière, QLS# 958

MR. PURCELL: A moment of silence please.

--- (Moment of silence observed/Moment de silence observé)

MR. PURCELL: Thank you. Please be seated.

Ladies and gentlemen, I would like to bring your attention to a very proud moment in our AOLS history. This week, we launch our new book, "Great Lengths – A Celebration of the Surveyors of Ontario".

This book is an amazing non-fiction "Read", telling the tales of many of our surveying experiences: funny experiences, sad experiences, and death defying experiences.
The book is on sale at the Archival Booth, and we are offering a show special!

Included while supplies last is a celebratory shot glass, with the National Conference's Insignia.

I would like to point out that we raised over $208,000 in funding from our Sponsors to create this marvelous history. Thank you all so much for that sponsorship.

We have the good fortune of having our Author, Charlie Wilkins, in attendance and willing to increase the value of your copy with his signature. Also joining us this week is our Publisher, Dan Diamond.

Together, these two men have made this "book project" a tremendous success. Charlie will be available at the Archival Booth to sign your book at various times today and tomorrow.

I don't know about the rest of you but I could sure use a coffee right about now! Coffee is in the Exhibitors Hall.

Our first Keynote Presentation will start at 10:30. So please be in your seats and settled before that time. This coffee break is brought to you by McElhanney. See you back here at 10:30.

--- (Morning Break)

--- Upon Resuming

MS. BIGSTONE: Welcome back everyone.

Just a quick reminder to please turn your cell phones off -- unless you want to make a very generous donation to us. We are happy to take your money!

The Presentation we will start off with today is titled: "Contribution of Surveyors to the Development of Canada".

Dr. Brian Ballantyne is a surveyor/lawyer who focuses on land tenure reform and boundaries. He works with the Surveyor General Branch of Natural Resources Canada. He has worked with Challenger Geomatics, City of Calgary, University of Calgary, University of Otago, Grand River Conservation Authority, and the City of Burlington. He has advised on litigation/mediation issues and has worked in New Zealand, Brazil and Russia; and he publishes and presents widely.

Please welcome Dr. Ballantyne.

DR. BALLANTYNE: Thank you.
Actually, the formal title of this Talk has two Parts, the first of which is: "Land surveying: An institution that has shaped Canada", starting with Nina Simone and ending with Timbuk3, with some Frank Zappa in the middle.

Under a Spell:
As Nina Simone suggested, I am going to try to put a spell on you today by describing how land surveying has shaped Canada. The spell focuses on surveying as an institution, using a cunning mélange of infrastructure, innovation, ideas, ideals, individuals, imagination and Indigenous lands: 1 to the 6th!--'cause here's the thing: Surveying defines Canada.

The spell largely ignores Champlain, Radisson, Groseilliers, Holland, David and Charlotte Thompson, Fidler, Pond, Hearne, Mackenzie, Palliser, Rae, Dennis,

Moberly, Weaver, Deville, and their ilk, for a bunch of reasons.

First, many of them were fur traders, explorers and mappers and not, strictly speaking, land surveyors.

Second, as we saw from that brilliant presentation just prior to mine, many have been celebrated elsewhere: on screen; at the microphone; and through local presentations.

And -- and this is the most important point, I think -- focusing solely on individuals, sort of the "Great Man" or "Great Woman" theory of history, runs the risk of discounting surveying as an institution. The spell also largely ignores survey systems, because, they, too, have been described elsewhere.

So let's structure this Talk in three parts: Part 1, "Embedding surveying as part of Canada's psyche"; Part 2, "Regaling with 10 colourful vignettes"; and Part 3, the Conclusion, "Speculating about future contributions".

A couple of definitions first. From here on, the term "surveyors" means both "land surveyors" and "arpenteurs-géomètres". Similarly, "surveying" means the parcel and boundary work that has been done by surveyors over these many years, and that continues to be done. The goal is to get "all up in your grill", as it were; to show that, as each parcel of land was demarcated, surveying became part of the fabric, the very warp and weft, of Canada.

Part 1 - "Surveying as part of Canada's psyche", A higher standard of intelligence. Let's start with a few general observations about Canadian surveyors: MacGregor, who, as you all know, wrote "Vision of an Ordered Land", called you, and I quote: "highly intelligent men [and women] who are gifted astronomically, mathematically, and logarithmically."

In 1928, Surveyor Hossie noted that: "As professionals you are expected to exhibit a higher standard of intelligence than the person on the street."

And I will just pause for a moment here.

If some of you don't think you can meet those two criteria, I notice that the doors are still open!

This latter observation came from the BCLS AGM in 1928, and the sentiment echoed across Alberta in the 1950s, within the Federal Government in the 1960s, and more recently, since 2000, through the Courts.

Courts in Québec, in Prince Edward Island and in British Columbia have recognized that various things.

The Courts out of Québec, in 2000, said this:

"The surveyor has been assigned a particular role by legislation [with] but one mandate: Enlightening the court … bound by the fundamental rules of natural justice."

Even more recently, the Fall of 2016, the Courts in Prince Edward Island said this:

"A surveyor acts in a quasi-judicial capacity … is treated as an expert and accorded deference … A land surveyor is acting in the capacity of an officer of the state."

And at about the same time, the Court of Appeal in British Columbia -- this is late 2016 -- said this:

"Surveyors adjudicate … Surveyors must approach their work with a judicial mind … Their primary duty of impartiality [is] owed to society at large."

These are not merely platitudes, props or "big-ups". Rather, they characterize surveying as an institution.

Doin' alright - Institutions matter: Institutions matter, and Canadian faith in institutions is high.

As early as 1867 –- when the provinces of Nova Scotia, New Brunswick, Québec and Ontario came together to form Canada -- institutions were the subject of debate in the House of Commons.

The Honorable Mr. Langevin observed that: "French Canadians always fought for their institutions, their rights, their language … we must respect everybody's rights as we have done in the past."

This trend -- and it is a trend, as we noted, that started at least as early as 1867. This trend of trusting Canadian institutions has been constant for 150 years.
In 2013, the Survey on Social Identity revealed that most Canadians have some or much confidence in institutions.

And to give you some of the levels of confidence: in the Police, 76 percent; in the School systems, 61 percent; in Banks, 60 percent; and in the Justice system and the Courts, 57 percent.

Overall, across seven key institutions -- we have only talked about four -- average confidence amongst Canadians is 50 percent.

Now, lest you think that this number is low, those of you who are required to sit various exams with pass marks of 65 percent or 70 percent might well say that 50

percent is low, let's compare such institutional confidence with the United States. American's average confidence in institutions is only 32 percent. Recall the Canadian average of 50 percent. And note that this sampling was done in mid-2016, before the recent election.

Indeed, since 1992, American average confidence in their institutions has never been above 43 percent. And to compare like to like, American confidence is low in the Justice system, at 23 percent; in the Supreme Court, at 36 percent; and in Congress, a mere 9 percent.

So, Canadian institutions are "doin' alright" , both in and of themselves and compared to the institutions of other countries. There is a sad oversight, of course: surveying should be one of the seven institutions being measured. I feel your pain!

So what say we demonstrate the significance of surveying using three other metrics: work volumes, frequency of phrasing, and the economic value of employment.

WORK VOLUMES:
In 2015 alone, surveyors represented by the three Associations here – so surveyors in Québec, in Ontario and on Canada Lands -- registered 25,000 Survey Plans.

FREQUENCY OF PHRASING:
What about frequency of phrasing? Well, since 1867, "Land surveying" has been used once in every 200,000 words in English Literature, with peaks in 1890, 1910, 1925, 1960 and 1970.

"Arpenteurs-Géomètres" has been used twice as much over that same period, once in every 100,000 words in French Literature, with peak usage in 1900, 1960, and 1975.

ECONOMIC VALUE OF EMPLOYMENT:
The third metric I hinted at is the economic value of surveying. In a 2011 study, Canadian surveyors made "bank": Median income ranged from $81,000, if you were paid by salary, to $105,000 if you were self-employed.

These numbers come from a very large sample of about a thousand. To put these amounts in stark contrast, income over $80,000 in 2011 put Surveyors in the top 10 percent of all Canadians.

The median individual income in Canada in 2011 was $34,000.

The robustness of Canadian institutions such as Surveying (and "Surveying" includes self-regulating associations, parcel fabric, jurisdictional boundaries, subdivision processes, and so on) is reflected in how well Canada links economic prosperity with social progress.

Canada ranks second in the world (out of a sample of 133 countries), according to the 2016 Social Progress Index.

We are first in fourteen separate indicators, and the most important one to us is this: access to, and ease of use of, property.

And "property" is defined as running along the continuum from freehold, to condominium/strata, to co-operative, to open access, to common property.

First in the world!

On the other hand, Canada's cell phone usage sucks! We ranked 102nd out of 133 countries, because only 81 percent of you own a cell phone.

AVOIDING A STORE OF MISCHIEVOUS LITIGATION:

Part of the reason for the influence of surveying is that Canada, from its early days, focused on land more than on people.

Here is a quote from "The Nation", written in 1875: "Here we are; rooted to the soil … This feeling constitutes nationality. We recognize ourselves as belonging to the land … as borrowing from it a name and a position in the world."

As early as 1763, the Royal Proclamation explicitly recognized the link between surveys, or surveying, and the land.

In acknowledging that it was "just and reasonable" that Indigenous Peoples should not be molested in their possession of land, Canada could not "grant warrants of Survey" (i.e., could not survey) beyond "the Bounds of their … Government--"

Now, when I say "Canada in 1763", I am talking "proto-Canada, or Québec.
-- or indeed upon any lands which had not been ceded to or purchased by the Crown". This influence of surveying has been a constant refrain.

Twelve years later, in 1775, the Crown Instructions to Governor Carleton set out that all Tracts of land, all parcels of land, legitimately purchased from Indigenous Peoples "shall be regularly surveyed by a Sworn Surveyor in the presence and with the assistance of a [First Nations]... witness."

The plan (or map) of survey which described the boundaries of the parcel was then to be recorded with the Crown.

Fast forward a Generation or two to 1839, when the Earl of Durham suggested reforms to the two Canadas, Upper Canada and Lower Canada. Much of his Report was devoted to the role of surveying.

If land “is so carelessly surveyed that the boundaries of property are incorrectly or inadequately defined” then there is a store of mischievous litigation for the people.

Surveys were accepted as integral to reform. I quote: “I have already pointed out the importance of accurate surveys of the public lands. Without these there can be no security of property in land, no certainty even as to the position of boundaries … marked out in maps or named in title deeds.”

Thirty years later, in 1869, Surveyor Dennis Senior, in Manitoba, advised the Minister of Public Works that “a considerable degree of irritation exists … in view of surveys being made without the Indian title having been first extinguished.”

In 1873, the First Nations at Fort Ellice, Saskatchewan petitioned to stop surveys until their land issues were resolved.

At the Treaty ceremony the following year, 1874, Federal Government Officials were lambasted for allowing surveys to proceed before Aboriginal title had been addressed.

THE BOUNDLESS CONTINUITY OF THE SHADE:

And here we have an early hint of the role of surveying in reconciliation, with surveying as an institution that links all Peoples, all Canadians, with the land, for any discussion of land tenure in Canada must acknowledge that Indigenous Peoples knew “parcels” and “boundaries”.

The very word “canada,” of course, refers to a “large parcel”, the bread and butter of surveying.

In the Laurentian language , spoken in the 16th Century in the St. Lawrence Valley, “canada” meant “village”, “settlement”, “land”, “town”, “cluster of dwellings” or “collection of huts”. “Kanata”, just up the road from us here, means “town” in Mohawk.

Cartier, in narrating his voyages of 1535 and 1536, labeled the larger territory of the St. Lawrence Valley “le pays de Canada”, the “land of canadas”, or the “land of villages”, or the “land of parcels”.

In 1631, European arrivals noted with admiration that Indigenous Peoples, and I quote: “Were very exact and punctual in the bounds of their lands … I have known them to make bargain and sale amongst themselves for a small piece of quantity of land.”

Soon thereafter, the Innu of Québec demarcated trapping parcels of about four square leagues, or roughly 32 square kilometres in area.

Blazed trees were used to bound each band's property rights (i.e., they were monuments). They discouraged trespass. Parcels and boundaries became institutionalized in response to changing conditions, such as the demand for fur-bearing animals.

CHANGING CONDITIONS:

By 1764, First Nations were "perfectly well acquainted with their exact original boundaries … divided and subdivided."

Just after that, Joseph Brant led the Six Nations from the United States (present-day Upstate New York) into Upper Canada (present-day southwestern Ontario).

At that time, the community understood fee simple, leases, severances, sales/transfers and advocated at the time for a registry of their rights in land.

One final example should suffice.

The parcel that the Whitefish Lake First Nation in north-central Ontario reserved for themselves in the 1850 Treaty, the Robinson-Huron Treaty, was clearly defined by the community using nine monuments known to the community -- and I will just read off the first bit of the description: From a lake known as "the place of high cranberries," to Keecheemenessing (meaning "Great Island"), to "an island where there stands a tree having a spreading top…"

And so on.

SOME TRITE STUFF:
Let's conclude the Opening Part with some trite stuff -- because it goes without saying that socio-economic development is a function of parcel-based property rights.

I know I am preaching to the converted when I say that. After all, "trespass" literally refers to "crossing a boundary". This reflects the territoriality of humans. As a species, territoriality is innate to us and is shown in some of the first laws ever written.

About 4,000 years ago, the Sumerians of Mesopotamia (and "Mesopotamia" means, literally, "between the two rivers", the Tigris and the Euphrates) legislated that those "who violated the boundary shall give one sheep, 10 loaves and one jug of beer" and … "reconsecrate the parcel" , reconsecrate the Boundary.

What is less obvious is the extent to which territoriality, land tenure, parcels and boundaries have influenced the development of Canada.
And here are some examples: Inequitable policies in Québec, in 1834, led to

Papineau's 92 resolutions; Ontario's Clergy Reserves spurred the rebellion of 1837; tenure reform in Québec, in 1843, led to a Seigniorial Commission; Prince Edward Island rejected Confederation in 1867 owing to the influence of absentee landlords; Ontario's westward expansion led to the 1870 brouhaha in the Red River Settlement; British Columbia's entry into Canada in 1871 was predicated on building a railway; the Mackenzie Valley pipeline was deferred in 1975 until rights in land were confirmed.

And the most recent example is the Nunavut-NWT boundary, which was recently surveyed and which, as we speak, is being mapped so as to provide certainty to mining claims. And so on.

PART 2 - "REGALING WITH 10 COLOURFUL VIGNETTES":

It's a bold assertion indeed that surveying pervades Canada's psyche.

You want the best available evidence for that, so let's substantiate the assertion with 10 vignettes, in chronological order.

VIGNETTE 1: "SOMETIMES, INFERIOR SURVEY EQUIPMENT ROCKS":

Vignette 1 is entitled "Sometimes, inferior survey equipment rocks".

The boundary between Canada and the United States has been described as "inconvenient to the point of freakishness."

Negotiation and compromise underpinned the first survey of the boundary in 1766, along the 45th parallel of latitude, between Québec to the north and New York and Vermont to the south.

The 45th as a boundary dated to 1614, when the New Netherlands Company was granted an enormous parcel of land and a three-year monopoly to trade between the 40th and 45th parallels; that is, south of New France (or Québec), which lay to the north, and north of Virginia, which lay to the south.

By 1664, New Netherlands had morphed into the Province of New York, had passed from the Dutch to the British, and the Province of New York also used the 45th parallel as its northerly boundary.

In 1763, the Royal Proclamation set out or established the southerly boundary of Québec as "45 degrees of north latitude."

So we are not talking here about the definition or establishment of the boundary; we are talking about the Survey or Demarcation of the boundary after said Establishment.

Three years later, in 1766, Governor Murray of New York and Lieutenant Governor Carleton of Québec set out, with their two assistants, with their two surveyors, to survey the boundary.

Murray, of New York, was accompanied by Harpur, a Professor of Mathematics for the Province; Carleton, of Québec, was accompanied by Collins, Deputy Surveyor General of Québec.

Harpur surveyed the 45th parallel just south of Ilse a la Motte; Collins surveyed the 45th parallel through the north part of Missiskoui Bay. The two lines, the two initial lines, or trial lines, I suppose, the two demarcations, were about five miles apart.

We now know that Collins' line was north of the 45th -- and keep in mind that Collins is working for Québec -- and Harpur's line was south of the 45th. Harpur is working for New York.

Each surveyor had established his provincial parcel smaller than the other's parcel -- a scenario that "is perhaps unique in the history of boundary disputes."

The two surveyors compromised by establishing a final monument midway between the two initial lines.

So essentially, two-and-a-half miles north of Harpur's line and two-and-a-half miles south of Collin's line.

The negotiated compromise was a function of technology (because there is some suggestion that Collin's instrument was actually inferior to Harpur's instrument), of technique (because there is also a suggestion that Collins' technique was better than Harpur's technique), and of limited redundancy -- because, of course, they are taking an average or a mean on the basis of a sample of two.

The compromise established the monument that served as the starting point for the entire boundary between the St. Lawrence River and Lake Ontario in the west and the boundary with New Hampshire in the east.

It is a distance of about 250 kilometres, and it was surveyed starting in 1771.

The very fact that the demarcated or surveyed boundary deviated from the 45th by as much as two kilometres is irrelevant, because, as you know, a boundary as surveyed, as demarcated on the ground, if sanctioned by the two parties, becomes the boundary, and the sanction was provided by the Webster-Ashburton Treaty of 1842.

It sanctioned the monumented line as the Boundary.

VIGNETTE 2: "DRAMA QUEEN":

Vignette 2 is entitled "Drama Queen". In 1783, some fifteen to twenty years later, after the upheaval of the American Revolution, the United States asked Britain to make a voluntary offer of Canada as a conciliatory gesture.

I am paraphrasing the American negotiators of the day, when they said: "We won. You lost. We want the large parcel to the north. So, give us Canada and we're good!"

While Britain resisted that request -- which is why we are now celebrating the 150th Anniversary of Canada -- the boundaries of the resulting Treaty of 1783, or "Treaty of Peace", or "Treaty of Paris", appalled Governor Haldimand, who said, and I quote:

"My soul is completely bowed down with grief … we have humbled ourselves so much as to accept such humiliating boundaries."

Of course, "back in the day", Haldimand was known as a bit of a drama queen.

VIGNETTE 3: NAPOLEONIC PRETENSIONS:

Vignette 3 is titled "Napoleonic Pretensions". When I talk about "Napoleonic pretensions" and the expansion of Canada, you will harken back to the film produced by the Hudson's Bay Company that we saw about an hour ago, in that the Governor of the Hudson's Bay Company, through its formative years, was George Simpson, who had Napoleonic pretensions.

It goes without saying that the Hudson's Bay Company (HBC) is an institution that shaped Canada and that George Simpson, as Governor, shaped the HBC.

But what of the boundary dispute that shaped Simpson?

In 1820, while still a junior employee, Simpson was stationed for the winter at Fort Wedderburn on Lake Athabasca in north-eastern present-day Alberta.

The Northwest Company, a rival fur trading company, built a small blockhouse twelve metres from Fort Wedderburn. The Northwest Company blockhouse is on Potato Island, or was on Potato Island. Fort Wedderburn was twelve metres away. And the reason for proximities was so that each fur trading company could watch the "comings and goings" of its rival.

The HBC demarcated a boundary first, establishing a fence mid-way between the two buildings. So six metres from the HBC building, Fort Wedderburn, and six metres from the Northwest Company blockhouse on the Island.

The NWC, the Northwest Company, disagreed with this demarcation. They disagreed with the location of the fence.

On October 19, 1820 the NWC attempted to establish its own boundary, its own fence, sixty centimetres closer to the HBC building.

In other words, 6.6 metres from its own building and 5.4 metres from the Hudson's Bay Company building.

Really, it was a second demarcation of the boundary. The second demarcation vexed the HBC. On October 23rd, four days later, they arrested the fence-builder, Simon McGillivray Jr.

These series of incidents (the need to establish a boundary, the absence of a surveyor, no sanctioning of the first demarcation, and a dispute between the first and second runnings of the line) weighed heavily on Simpson. He admitted in his Diary: "I have my private doubts as to the legality" of the arrest.

You can well imagine the effect that this boundary dispute had on George Simpson and on the subsequent merger between the two rival fur-trading companies, and on the Company's influence on the development of much of Canada.

It acquired over seven million acres of land across Western Canada after 1869.

VIGNETTE 4: ROYAL CANADIAN INSTITUTE & THE TIME-LORD:

Vignette 4 is titled "Royal Canadian Institute & the Time-Lord". In 1849, a few surveyors in Ontario decided "to organize a society for the better improvement of surveyors, in order that much … litigation … may be prevented."

The first meeting took place on June 20, 1849 in an office at the corner of King and Yonge Streets in Toronto, with the purpose of uniting three professions: Land Surveyors, Architects, and Civil Engineers.

By September of that year, 1849, surveyor Rankin was Vice-President; Surveyor Dennis Sr. was Secretary; and surveyor Fleming was on the Standing Committee.

By April of 1850, Rankin had assumed the Presidency.

The "prospects of the young Institute were not brilliant" at that time. The Meeting of February 8, 1850 drew only two people. Nevertheless, the Institute forged ahead, in two ways: One, it debated legislation for regulating the admission of surveyors and the survey of lands throughout the province; and two, it discussed various topics, including accretion in Toronto harbour.

A year or two later, in 1851, the Institute expanded to admit a range of learned

people, ending its professional and exclusive character.

This expansion outraged some original members, who resigned in protest. Yet, the Royal Canadian Institute continues to thrive today, in 2017. It envisions a scientifically-literate Canadian public as essential for civil society and civil discourse.

The Institute Crest -- which was designed by surveyor Fleming -- continues to feature surveying equipment: level, compass, theodolite and drafting square.

Surveyor Fleming also continued to thrive. By 1871, he was the Engineer-in-Chief for the Canadian Pacific Railway, responsible for a staff of 800 in exploratory surveys from Mattawa on the Ottawa River to the Pacific Ocean.

There was some urgency because British Columbia had joined Canada, had joined Confederation, on July 20, 1871, on the proviso that a railway would be started within two years and completed within 10 years ; (i.e., started by 1873 and completed, coast-to-coast, essentially, by 1881.)

Fleming knew that "the first important step towards the construction of the railway being to ascertain … where a practicable and eligible line could be found, a survey" (or series of surveys) "became necessary."

Surveys, thus, allowed the railway, and the railway satisfied British Columbia. The railway also shortened the distance between Liverpool in the U.K. and China by 1,000 miles, shortening it relative to the route travelled by the Union Pacific Railway in the United States.

But this Vignette has a third Chapter, because surveyor Fleming had a third chapter as a Canadian institution, in that he was instrumental in promoting time zones.

Until the 1880s, local time prevailed, such that clocks in Toronto were a few minutes behind clocks in Montreal; clocks in Winnipeg were a few minutes behind Toronto. And so on.

Universal time meant a global system of time standards based on an International Date Line opposed by 180 degrees to the Line at Greenwich.

In 1879, Fleming and the Canadian Institute -- which, as we have seen, he was instrumental in founding some thirty years before -- petitioned the Governor General of Canada to bring the matter to the attention of Britain.

Apparently, Canada had a lot of clout in respect of this issue on the basis that our vast geography made us particularly sensitive to such progress.

By 1881, he presented his ideas at the International Geographical Congress in Venice.

Finally, on November 18, 1883, Canada adopted time zones.

Fleming's strength was in using institutions such as the Royal Society of Canada, the Canadian Institute, the American Association for the Advancement of Science, and the American Society of Civil Engineers to promote universal time in the face of "national rivalry and odious indifference."

VIGNETTE 5: "THE CURIOUS CHAPTER OF IRRIGATION":

Much to his chagrin, Fleming's favoured route for the Communist Party, through Saskatoon, Edmonton and the Yellowhead Pass, was rejected in favour of a southerly route through an arid part of Canada, Palliser's triangle -- and this allows us to discuss the link between a grist mill on the Granby River in Québec in 1831 and a change to the Québec Civil Code in 1918.

The dispute on the Granby River between a downstream grist mill and an upstream tannery wound its way through the Courts and ended up at the Privy Council. The Privy Council, for the first time, allowed a riparian proprietor to "dam up the stream for the purpose of a mill".

That wasn't new. What was new was that it also allowed the riparian proprietor to "divert the water for the purpose of irrigation."

This Decision set the cat amongst the pigeons. It inspired a disparate group of surveyors across western Canada, and it had a ripple effect across most jurisdictions in Canada, including Québec and Ontario.

During that era, surveyors were called upon to address wetlands, watercourses, riparian rights, drainage, and irrigation.

In overseeing surveys of Manitoba in 1871, Surveyor General Lindsay recognized the value of wetlands, because, and I quote, "they give without the least trouble of cultivation, extremely rich hay meadow."

It was common in the Red River Settlement to use the marsh grass (that is, the spongy stuff between upland and watercourse) for hay, and debate in the Red River Settlement, and indeed throughout Manitoba, led to the 1885 transfer of wetlands (which had remained federal Crown lands because they were too wet to farm and thus hadn't been patented) from Canada to Manitoba.

In 1884, surveyor Klotz, Otto Klotz, reported on the Saskatchewan River: on seasonal flows, width, depths, and floodplains.

His exploratory survey took him from the forks of the River in central Saskatchewan to Hudson's Bay in northeastern Manitoba, during which he noted that "the water in the river seems to be in a constant state of ebullition."

At Cumberland Lake, he noted that the difference in water levels between July and October was seven feet, vertically, and that there was a cycle of six years each of high and low waters.

Such information, of course, was invaluable at the time in understanding the Saskatchewan River Basin.

It is even more valuable now as we re-establish the boundaries of various parcels, including islands, that were established at that time, in the 1880s.

Of course, Klotz was also invaluable in a discovery of 1899. The Report of a Survey of the B.C. – Washington Boundary, the International Boundary, had been lost for about thirty years.

Klotz found it in a dusty box labeled "BNA", "British North America", on the top shelf of the library at the Greenwich Observatory, in East London.

But, it was surveyor Dennis Jr. (not Senior) and surveyor Pearce who focused on irrigation as an institution.

At the 1894 National Irrigation Congress, Dennis Jr. learned that the St. Mary's River, in southern Alberta, was to be diverted into the Milk River. This meant, or would have meant, diverting waters from the South Saskatchewan River Basin in Canada into the Missouri River Basin in the United States, thus depriving Canadian farmers.

He proposed an International Commission among Canada, the United States and Mexico, to, and I quote, "adjudicate conflicting rights on the international streams of the North American continent." Dennis' lobbying led directly to the creation of two institutions, the International Waterways Commission, in 1905, and the International Joint Commission, in 1909, which continues to exist and whose mandate continues to be all trans-boundary waters.

Concurrently, surveyor Pearce was instrumental in getting the "Powers-that-Be" to acknowledge that the Palliser Triangle area, the area in the southern Prairies, was in fact arid and that agriculture was incompatible with the riparian right to take water.

It was a tough sell. Members of Parliament did not want to hear that reality. They were reluctant to acknowledge such a reality. In fact, a quote from an M.P. in 1890 is this: "It is not advisable to advertise that the North-West is a country where irrigation is necessary."

Pearce persisted. At the 1890 AGM of the Association of Dominion Land Surveyors, he argued for legislation that responded to the arid ecosystem. In 1894, his advocacy bore fruit, resulting in the Northwest Irrigation Act, which vested in the Crown all waters and the beds of most watercourses.

1894! The legislation eliminated the right to take water willy-nilly. It also significantly eroded (but did not eliminate entirely) the ad medium filum presumption (by which a riparian parcel is presumed to extend to the middle of the watercourse).

The 1894 legislation was trend-setting. Soon thereafter, Provinces and Territories started to retain most watercourses, in the public interest -- and the "public interest" was defined as meeting one or more of these three criteria: so as to generate electricity; to regulate floodwaters in spring (that is, the highs of spring freshets); or to boost flows later in the year.

And they started to retain them in the following sequence: Ontario in 1911; Québec in 1918; Nova Scotia in 1919; the three northern Territories in 1950; British Columbia in 1961; New Brunswick in 1982; and also Newfoundland and Labrador.

Thus, Surveyors contributed to what has been called: "a curious chapter in the history of institutions."

VIGNETTE 6: "LET THE MAN GO FREE":

Vignette 6 is titled "Let the man go free", which you will know is from the Frank Zappa song "The Illinois Enema Bandit".

The Alaska Panhandle, the strip of land between British Columbia and the Pacific Ocean, was first defined in 1825 -- not surveyed but defined -- in an Agreement between Russia and Britain.

The boundary of Russian influence, so as not to impede the fur-trade --- Russian influence was coming from the west; the fur trade was coming from the east. The boundary between the two spheres of influence started at 54-40 North, ran up the Portland Canal to 56 Degrees North, and then parallel with the coast along the summit of the mountains to the 141st line of longitude, and then north to the Beaufort Sea. If the mountains lay more than 10 leagues (which is about 50 kilometres) from the coast, then the boundary was to "parallel the windings" of the coast at that distance; i.e., 10 leagues.

In 1867, Russia transferred Alaska (which included the Panhandle) to the United States, for $7.2 million. Soon thereafter, a gold rush on the Stikine River in northwestern British Columbia meant an influx of miners and the need to survey the jurisdictional boundary between Canada, or British Columbia, to the east and

the United States, or Alaska, to the west.

However, the cost of such survey, $1.5 million over seven years, dissuaded both countries from doing anything at that time. But their hands were forced in 1876 because, in 1876, Peter Martin assaulted somebody on the Stikine River. He was arrested by B.C. Authorities.

But wait! Did B.C. actually have the authority, the jurisdiction, to arrest Martin? The answer depended, of course, on where the assault took place. If the assault on the Stikine River took place east of the boundary, in British Columbia, then, yes, the arrest was valid. However, if it took place in Alaska, west of the boundary, then, no, the arrest was invalid.

The Surveyor General for Canada dispatched surveyor Hunter to survey the boundary at the Stikine River, and he established it twenty-five miles east of the shore. The site of the assault was west of the boundary (i.e., the assault was within twenty-five miles of the shore). The arrest was invalid, and Martin was released by B.C. Authorities.

The lesson was simple: Surveying meant that a man who had been unjustly detained and to whom the presumption of innocence applied was spared the terrors of the B.C. Criminal Justice system in the 1880s and, to paraphrase Monty Python, it likely included an "iron coffin with spikes on the inside!"

Prompted by the Martin assault, arrest and release, Canada and the U.S. realized that surveying the entire boundary was critical. Agreements were entered into in 1892 and 1903 to establish a temporary International Boundary Commission (IBC) to survey the Panhandle Boundary and to resolve seven boundary ambiguities in the description, in the definition.

Over eighteen field seasons, up to and including 1920, the boundary was surveyed. 1,200 camera stations were used, and 5,000 photographs were used. One season's worth of photographs was lost when the boat tipped. The field crew spent two weeks searching for them, to no avail.

The 1903 Award of the Joint Tribunal is the precedent for the Treaties of 1908, between Britain, on behalf of Canada, and the United States, and 1925, and the 1960 Federal Canadian legislation that now authorizes the permanent IBC, which continues to ensure jurisdictional certainty between Canada and the United States.

So, without an ambiguous Panhandle description, without a need to demarcate the boundary, and without a legacy of ad hoc surveys, starting in 1877, the IBC would now not exist, meaning that there is a direct connection between Hunter's Survey of 1877 (to resolve the assault issue) and the IBC.

VIGNETTE 7: "HEAVY MORAL RESPONSIBILITY":

The decade between 1914 and 1924 saw surveyors in Canada invent land use planning. In 1914, surveyor Adams was appointed as the Town Planning Advisor to the Federal Commission of Conservation, based here in Ottawa.

In a chat to the 1915 AGM of the Alberta Land Surveyors' Association, surveyor Seymour extolled the need for planning, and described the role of the surveyor. Seymour, who was licensed to survey in Québec, Ontario, Saskatchewan and Alberta and on Dominion Lands, soon pursued town planning full-time, chairing a Committee on Town Planning for the Association of Dominion Land Surveyors.

By 1918, the Association of DLS, working with the Engineering Institute and the Architectural Association, lobbied for a Town Planning Institute of Canada.
It was argued that the surveyor "ought to be interested in the best use of land, not just in the accurate measurement of it."

In 1924, the Editorial in the Canadian Surveyor Journal promoted a School of Town Planning, to be based in Ottawa. I quote: "Town planning has evolved and is the great sociological achievement of the age … The land surveyor has much influence upon subdividing and a heavy moral responsibility in the sociological results … The future of surveying would seem to hold great opportunities."

Surveyors long served the Town Planning Institute. Seymour was an early President; Surveyor General Deville was an early Vice-President; and in 1953, surveyor LeMay was elected Vice-President.

VIGNETTE 8: "FIELD NOTES AS EVIDENCE OF ECOSYSTEMS:

Surveying provided the first systemic record of the land, across wide swaths of Canada. Field notes recorded information about topography, wetlands, watercourses, vegetation, soils, existing settlements, transportation routes, mineral deposits, rock outcrops, current uses, future potential, and so on.

The inventory was valuable at the time, of course, in allowing parcels to be created and then granted and in making the distinction between arable lands (which affected sale prices) and non-arable lands (such as marsh-lands).

Such records applied to both lands granted in freehold tenure, or fee simple, and to large parcels set aside for First Nations' Communities.

As but one example, across the Prairie Provinces, reserves were often allocated on the basis of 640 acres (one section or one square mile) per family of five. Areas of hay marsh were often included in the reserve parcel but were not counted against the per-family (or per capita) allocation, such that only arable lands were used to calculate the allocation.

That was then. This is now.

Such meticulous records from surveyors are now of much value in two settings: first, they are useful in litigation, because determining what happened on the ground at Time 1 (then) is fundamental to ascertaining the location and character of the boundary at Time 2 (now).

They are often the "best evidence" of what happened on the ground, of what was observed and done at time of survey.

There have been some forty Decisions of the Canadian Courts that have either referred to or relied upon Surveyors' Field Notes. And "reliance" varies across a spectrum. At one end, they can be pivotal in resolving the dispute, or supportive, or merely revealing, or inconclusive.

Seven recent cases, within the past ten years, involved parcels that had been surveyed as few as sixty-two years ago and as many as two-hundred-and-twenty-six years ago (i.e., between 1781 and 1955). These Cases set out that Survey Field Notes in litigation are invaluable, for three reasons: one, they are accepted. They provide answers about intention and action in the distant past. Two, they are available to all. They reveal findings, opinions, and conclusions that are relevant. And three, they are comprehensive, including, as they do, land tenure and ecosystem information, not merely boundary information.

And it is this latter attribute, comprehensiveness, that explains the second way in which field notes are now of value: they are excellent evidence of ecosystems in the past. These Records represent the nexus between Indigenous and European land development. They provide base-lines that are now useful in land-use and heritage planning, forestry, ecology, hydrology, archaeology, and agriculture.

In some jurisdictions (e.g. New Brunswick and British Columbia) witness trees were extensively noted. In other jurisdictions (e.g. Québec and Ontario) changes in species were noted, as from pine tree to spruce tree, or from maple to Balm of Gilead, which is a type of poplar.

Indeed, there is one plan of survey that ties a boundary to a specific species of flower, in Saskatchewan.

Witness trees do not necessarily represent actual vegetation cover at the time of survey, owing to selection bias. Only certain trees were chosen, given their species or size. But tree species that were identified along a traverse line or boundary line are accurate.

Indeed, Instructions in June 1867 (a mere three days before Confederation) set out that surveyors were to, quote: "Enter each kind of timber in the order of its relative abundance" , with the result that historical geographers and environmental scientists now use this information to calculate rates of ecosystem-change and to assess biodiversity.

VIGNETTE 9: "ALTERNATE DISPUTE RESOLUTION":

Surveying in Canada has been at the forefront of alternative methods of establishing boundaries, demarcating boundaries, and of resolving disputes over those boundaries -- and this is a credit to two things: one, surveyors' devotion to the potpourri of laws and facts with which he or she is confronted; and two, alternative dispute resolution, or ADR, being "ideal for property disputes between neighbours."

The watershed in the history of ADR is the Jay Treaty of 1794 between Britain and the United States. It allowed disputes to be settled by commissioners appointed by the two Parties.

Only three types of disputes were identified. The first was a boundary dispute between the United States and Canada, or at least, in that era, "proto-Canada". Starting in 1794, commissions decided boundary issues impartially.

Before that, they had been decided politically. "Impartially" meant using principles of law and evidence.

These parameters, the parameters set out in the 1794 Treaty (that is, negotiation between surveyors, negotiation based on legal principles and objective facts) continue to resonate in the IBC today. They also resonate in the Alberta-British Columbia Boundary Commission, which works to maintain the inter-provincial boundary and to replace some sections of the boundary, which are now a watershed, with a rectilinear line.

A second form of ADR, alternative dispute resolution, in Canada vis-à-vis boundaries is third-party arbitration, and surveyors and boundaries have also been at the forefront of its development.

The westerly section of the Canada–United States Boundary was described in the 1846 Oregon Treaty, but it was described ambiguously. This is the very westerly section, west of Point Roberts-Tsawwassen.

It was described in the 1846 Oregon Treaty as running "to the middle of the channel which separates the continent from Vancouver's Island; thence southerly through the middle of the said channel to the Strait of Juan de Fuca and the Pacific Ocean". The question was: The middle of which channel?

There are two channels there. One is the Haro Channel, and the other is the Rosario Channel.We are talking about the Strait of Georgia. But through the Gulf Islands, or certainly through the San Juan Islands, there are two channels. Uncertainty led to skirmishes on San Juan Island, in 1853, over sheep and, in 1859, over a pig. Britain and the United States, prompted by the "pig kerfuffle", stationed soldiers on the island for 12 years.

The British were stationed at the northwest corner of the island; the Americans at the southeast corner.

Finally, the question was submitted to the Emperor of Germany for binding arbitration, and he then referred the question to three fact-finders , three "Surveyors-slash-Geographers."

Two of the three experts found the boundary to lie west of San Juan Island.The Emperor agreed in 1872 and, thus, the Gulf Islands are now in Canada and the San Juan Islands are part of Washington State.

Such binding arbitration informs the Ontario Boundaries Act, which offers, now, an alternative to the Courts for confirming boundaries and resolving disputes.

The legislation was drafted by a surveyor in 1959, has been used extensively by Surveyors (on behalf of both applicants and objectors), and has Tribunal Hearings adjudicated by surveyors (often in the guise of Examiners of Survey).

In fifty-eight years, few Applications for Confirmation have proceeded to a Tribunal, and fewer still have been successfully appealed from the Tribunal to the Courts.

In that period, there have been only twenty-two Appeals to the Courts, some 80 percent of which have been affirmed ; i.e., the Tribunal Decision has been affirmed, or confirmed.

New Brunswick, with the Boundary Confirmation Act, has a similar institution. Recently, the Courts have twice criticized litigants for not using this alternative process. In other words, the Courts in New Brunswick have said to litigants, to complainants, that the Courts "are not an appropriate institution; that the better institution, or venue, is the one set up pursuant to the Boundary Confirmation Act".

In a third example of binding arbitration, the Ontario Surveys Act now allows the Surveyor General to arbitrate a municipal resurvey of a concession or a side road. There have been two re-surveys in the past thirty-five years, and the Courts have affirmed the one Decision that was appealed.

A second Decision is in the process of being appealed but has not yet been heard. These three Ontario and New Brunswick surveying-centric institutions are efficient (that is, they are both faster and cheaper) and they are less intimidating than litigation. Third-party fact finding mediation, which is a third form of ADR, also meets those criteria.

Surveyors are sometimes retained in an ad hoc manner to impartially sift facts and to offer non-binding recommendations.
One example is the location of the northerly boundary of the Mississagi Reserve on

the north shore of Lake Huron, where they used an independent third-party fact finder, in 1986.

Finally, bornage has long been a thing in Québec to address uncertainties or disputes about the location of a boundary.

The surveyor is, quote, "called upon to play the role of arbiter of private property boundaries to the fullest".

As an institution, it is a tribute to Québec's exceptionalism, because it allows for the "friendly resolution of conflicts".

The legitimacy of that process has long been affirmed by the Courts, having been affirmed as early as 1888 by the Supreme Court of Canada over a boundary dispute, a boundary issue between two mining companies, each of which had the right to mine gold on parts of Lot 11, St. Charles Concession, Saint-François Parish, Beauce. Three surveyors were appointed, and Legendre's Opinion was preferred.

VIGNETTE 10: "KEEPING UP WITH THE THE JONESES":

Parcels, boundaries and surveys continue to influence. In 2016, last year, researchers used small subdivisions in Toronto (each with thirteen parcels on average) to test the theory that income inequality causes financial distress.

Small subdivisions allowed conspicuous consumption to be observed; that is, after one landowner, or parcel-owner, won the lottery, the other 12 parcel-owners felt compelled to keep pace: keeping up with the Joneses.

The researchers' hunch was confirmed. Across small subdivisions, a $1,000 increase in a lottery prize causes a 2.5 percent rise in subsequent bankruptcies among the winner's neighbours.

Heading for the waters of prosperity:

PART 3 "SPECULATING ABOUT FUTURE CONTRIBUTIONS".

There are, of course, a couple of cautionary tales about predicting the future. Let me give you two. There are probably many more; but I will give you two.

In 1900, one-hundred-and-seventeen years ago, Canada and Argentina "were seen as twins, progressing rapidly down parallel tracks." The parallels at the time were uncanny-- young democracies, vast landmasses, abundant natural resources, much foreign investment, much immigration, and similar populations.

The population of each country at the time was about 5 million. Yet Canada has since prospered. Our GDP has increased by a factor of eight since 1900, while

Argentina has floundered. Its GDP has increased only by a factor of three. And the primary reason for the difference rests with the positive effects of institutions in Canada.

A second cautionary tale is offered to us by a pundit, in 1883, calling him- or her-self -- we don't know who it was -- "Ralph Centennius". He was a pundit who, in 1883, predicted what Canada would look like now, a hundred to a hundred-and-fifty years in the future.

So let's compare a subset of Ralph's predictions with actuals:
Population of Canada: Ralph predicted 93 million people. Actual: 35 million.
Members of Parliament: 15 predicted; 338 actual.
Population of Churchill, Manitoba: 200,000 predicted; 813 actual.
The speed of Rocket cars: 6,000 kilometres per hour predicted -- and let's use aeroplanes as a proxy; 800 kilometres per hour actual.
And finally, private vehicles: Electric tricycles predicted; gasoline cars actual.

Ralph did conclude with a couple of shout-outs to institutions -- and I quote: "And if the development and advance have been great industrially and commercially (over the 150 years), so have they been great, almost greater, socially" -- meaning that Canada, as of 1853, was "heading for the waters of prosperity".

RECONCILIATION:

Reconciliation is now lurking in the waters of prosperity. For surveying and surveyors, reconciliation is a many-splendored thing. It can mean -- and I am going to give you five examples here:

One, it can mean policies in Nunavut that promote land availability, strategic and community planning, private-market incentives and diversified housing, given the need for 1,500 dwellings in Iqaluit alone, over the next ten years and something in the order of 2,500 houses required across the Territory as a whole.

Two, reconciliation might include infill, laneway, non-traditional and affordable housing in cities such as Toronto, Vancouver and Edmonton, where speculative and absentee ownership is escalating prices.

Three, reconciliation for surveyors and surveying might include finding common ground between resource extraction and transport, on the one hand -- and I am thinking of oil sands, shale gas and pipelines, and so on -- and the social, cultural and environmental concerns of Canadians (and others), on the other hand. It is not an "either/or". It is a "both".

Four, Québec's cadastral reform, which has been reconciling occupation, the extent of legal rights and a seamless database over the past twenty-five years. Such reform is part of a rich lineage in Québec. As early as 1854, the Seignioral Act authorized

Commissioners to determine boundaries.

In 2017, there is now debate about using cadastral reform in Québec to expand the use of bornage beyond a dispute resolution process, to actually sanctioning the original subdivisions.

But the fundamental meaning of "reconciliation" in 2017 has to do with Indigenous Peoples.When it comes to Indigenous Peoples, Canada's development has ridden the wave of reconciliation -- initially honoured, as we have seen, in 1763 and soon thereafter, and then given lip service, and now being made real. Given its links with both the land and the past, surveying is extraordinarily well-positioned to encourage reconciliation of Indigenous Peoples, and in fact all Canadians, with the land.

In 1870, Prime Minister MacDonald hinted at this surveying-reconciliation nexus, as Canada expanded west across the Red River -- and I quote: "It is, of course, important to have land surveyed for settlement …, but that is a secondary condition to the general assent and support of the people."

MacDonald recognized what surveyors, what we, what you, instinctively know: that surveying is as much about social negotiation as it is about measuring distances and directions, or northings and eastings.

There is a community calculus ever-present, such that surveyors are concerned about the implications when a parcel is created, when a boundary is shifted, when a riparian strip is excluded, when access is allowed, or when tenure is reformed.

The interplay between boundaries, parcels, surveying, possession and the community has been illustrated across Canada's development -- and let me give you two that bookend this illustration: At Kahnawake First Nation, during an 1882 survey by surveyor Walbank; and most recently, through parcel fabric renewal across five First Nations Communities between 2010 and 2013.

So, what might such reconciliation look like for surveying? Well, it might assist with, one, specific claims that involve parcels and boundaries. Survey issues comprise 22 percent of claims.

So, 22 percent of the 1,700 claims that have been submitted by First Nations, something in the order of 400 claims, involve parcels and boundaries.
Two, it might include third-party fact-finding (either binding or not) to resolve boundary issues.

Three, it might involve mediation between the two Crowns, between the Province, on the one hand, and the Federal Government, on the other.

Four, it might involve a Boundary Tribunal for parcels of Aboriginal title land. Aboriginal title is a "thing", and has been a "thing" since June of 2014. But there is

no mechanism that now exists to efficiently resolve the boundaries of such parcels.

Five, it might involve surveying and mapping capacity-building within Indigenous Communities, of which there are two brilliant current examples: One is the partnership with Wikwemikong First Nation -- and you will hear more about that on Friday; and the second is the curriculum which is now being drafted for a certificate to be offered by the Tulo Centre of Indigenous Economics.

Six, it might include fit-for-purpose surveying as a function of land use, parcel value and location.

Just sayin'. After all, to borrow from Graeme Sandy of NALMA, the National Aboriginal Land Managers' Association, and I quote: "First Nation's people have always had an acute sense of where we are in the world. We navigated throughout our territories guided by our stories, landmarks, waters and the heavens. Present day mapping and geospatial tools and technologies will help guide us in the future as adaptation has always been our strongest asset."

AGENTS OF CHANGE:

To conclude, Canadian Surveyors are "agents of change." As shown in the ten Vignettes, surveying has not simply maintained the status quo and resisted innovation. Rather, surveying has embraced existential challenges in the public interest. Scanning, phoning, droning, lidaring, pdf-ing and gps-measuring are certainly part of the evolving institution that is surveying. However, beware of focusing on technology at the expense of socio-cultural issues. It's a false dichotomy. The equation is "both", not "either/or". So, grasp the nettle. Be both bold and nimble.

There is no need to "change the public's perception of surveyors", as PSC laments. Surveying has shaped Canada and will continue to shape Canada. Surveyors are regarded as "trusted professionals", meaning that raising "awareness and understanding of the value of the surveying profession" is redundant. A recent study of 8,400 kilometres of boundaries that were surveyed between the 1870s and the 1920s found very high accuracy. On average, the distances measured then are within 0.2 percent of re-measured distances now.

Land surveyors have a comparative advantage in Canada. As Timbuk 3 suggested, "the future's so bright, you gotta wear shades". Thank you.

MS. BIGSTONE: Thank you, Brian, for yet another of your always interesting and captivating presentations. I always appreciate your use of different examples to enunciate your presentations.

In appreciation of our speakers' efforts throughout this conference, we are pleased to provide a certificate for a donation made on their behalf to The Ronald

McDonald House of Ottawa, as well as a vest with the “Ronald McDonald House” emblem on it.

A simple Mission Statement for any of The Ronald McDonald Houses across Canada could be "Helping give sick and injured children what they need most: their families."

There are fifteen Ronald McDonald Houses from St. John's Newfoundland to Vancouver, British Columbia, and the same number of family rooms within these various hospitals, and there are two mobile facilities.

Helping Ronald McDonald House to create and support programs that improve the wellbeing of children and their families is our goal.

Again, thank you, Brian.

--- (Presentation of the Ronald McDonald House of Ottawa Donation Certificate and the Ronald McDonald House Vest followed)

MR. PURCELL: We have a very impressive list of Exhibitors. The Exhibitors are a very important part of our Meeting, and we thank them all for taking a few days out of their busy schedules to join us.

They are a vital component of the AGM in demonstrating the latest in technology and support services to our members.

I will ask Dan Robinson and Steve Tremblay of our AGM Task Force to now please escort the Exhibitors into the room.

Each of them will be given a brief moment to introduce themselves to us.
And just as the Exhibitors are making their way to the front of the room, a small announcement: there will be a group photo for the University of New Brunswick’s students and alumni today during the afternoon coffee break. So please meet at the Registration Desk this afternoon for that purpose.

--- (Introduction of the Exhibitors, including brief Introductory Remarks by same, followed)
--- For List of Exhibitors, see Page 16 of the Programme for the National Surveyors Conference, March 1-2, 2017, Ottawa, Ontario

MR. PURCELL: I encourage all of you to visit, meet and greet the Exhibitors. Refreshments will be available in the Exhibitor’s Hall throughout the course of the meeting.

Lunch today will be available in the foyer, and there is an eating area in the Exhibit Hall. Please take the time to visit the Exhibitors during lunch. The Exhibitors’

lunch is being sponsored by Cansel.

There will be Vendor Sessions held inside a separate draped area of the Exhibit Hall. These sessions are 45-minute presentations, brought to you by many of the Exhibitors to help you learn about new technologies. Talk to the experts about implementing efficiencies that will give you that competitive edge.

The Presentation Schedule is posted in the Presentation Area. Our Keynote Speaker Sessions will continue immediately after lunch. Please be back in this room prior to 1 p.m.

Thank you. Enjoy your lunch.

--- (Applause/Applaudissements)
--- Luncheon Break
--- Upon Resuming:

MS. BIGSTONE: Welcome back everyone. Just a quick reminder to turn your cell phones off.

The next presentation is entitled "Hydrography, Underwater Archaeology & Collaboration = Success!"For this session, we have a team of three Co-Presenters: Denis Hains, Ryan Harris, and Andrew Leyzack.

Denis Hains is the Director General for the Canadian Hydrographic Service. In addition, his position also carries the title of Hydrographer General of Canada. Ryan Harris is a Senior Underwater Archaeologist with Parks Canada; and Andrew Leyzack is an Engineering Project Supervisor with the Canadian Hydrographic Service, Central and Arctic Region, Federal Department of Fisheries and Oceans Canada.

"Hydrography, Underwater Archaeology & Collaboration = Success!"

MR. HAINS: Merci beaucoup; thank you very much. Bonjour, mesdames et messieurs, chers collègues arpenteurs-géométres.

Je vais faire ma présentation en anglais mais il me fera plaisir de répondre à des questions en français ou avoir des discussions en français durant la pause ou plus tard dans les prochaines journées.

Good afternoon, ladies and gentlemen, dear Land Surveyor colleagues. First of all, we wish to extend our thanks to the ACLS, Ordre des Arpenteurs-Géométres du Québec and the AOLS for inviting us to present today on the always exciting topic of marine surveying outcomes!
--- (The following remarks accompanied by PowerPoint Presentation):

Slide No. 1 “Hydrography, Underwater Archaeology & Collaboration = Success!”:

As I often say to the Land Surveying Community, most of you are focused on the land, or the “dry” side of surveying, whereas hydrography is focused on the marine, or, if you prefer, the “wet” side of surveying.

At sea and in hydrography, the nearest land is usually the distance under the keel of your ship. So it is not what you see. It is what you don’t see, and what you don’t see under the waterline, that is the hazard to navigation, and that is the raison d’être du Service hydrographique du Canada at Fisheries and Oceans Canada.

Slide No. 2: Purpose:

Moving to the next slide. Donc l'objectif de la présentation ici, je vais d'abord débuter avec un peu de contexte.

So some context regarding the collaboration that took place, collaboration being the key to success, as the title suggests.

Ryan Harris, a colleague from Parks Canada, will talk about the history of Rear Admiral Sir John Franklin; Andrew Leyzack, from the CHS Office in Burlington, will talk about hydrographic surveys, a component of this “adventure”; and then Ryan will return to talk about underwater archeology.

Slide No. 3: The Challenge of Arctic Hydrography!:

CHS, the Canadian Hydrographic Service, is neither a treasure hunter nor a wreck hunter. However, our work done in collaboration with other partners brings to us the opportunity to be a part of a bigger team, such as the projects we will talk to you about this afternoon.

The Arctic is a huge challenge when it comes to the preparation of nautical charts and other publications of the Canadian Hydrographic Service. Less than 10 percent of the Canadian Arctic is covered with adequate hydrographic surveys, and less than 1 percent is covered with modern hydrographic surveys.

This slide illustrates the huge challenge that we face in charting the Canadian Arctic for safe and efficient navigation.That is not to say that 90 percent of the Arctic, or 99 percent, has to be covered by modern hydrography.

The slide now on the screen (Slide No. 3) shows the traffic pattern in the Arctic. The primary corridors are shown in red; the secondary corridors in purple; and then other levels of corridors, where most of the marine traffic takes place.
This represents about 16 percent of the Arctic.

It might take another two decades to get to the point of completing all of the

modern hydrography surveys in those corridors, and it will take close to two centuries to achieve the full coast-to-coast, shore-to-shore, modern hydrography, covering the complete Arctic.

As you can see, both in terms of affordability and requirements, we are not going to go for full coverage, unless evolving technology allows us to do so within the logistical constraints in which we operate.

So, what do we mean by “adequate” surveys, “standard” surveys? We are talking about surveys that are done after the 1970s, using microwave positioning, a known datum, as well as an echo-sounder, a single-beam echo-sounder. Modern technology uses multi-beam echo-sounders, which, in analogy, is full-bottom coverage, as one would see with remote sensing, at the sea bottom.

Slide No. 4: Why Collaborate?:

Looking at the rectangle, we see the area of interest, the area where, working collaboratively with our colleagues from Parks Canada, we searched for the wrecks of the Franklin ships that had disappeared.

We see the area where we carried out our research and, on a larger scale, the area where the Erebus and Terror were identified as having been seen. So clearly, our colleagues from Parks Canada had a specific requirement and, at the same time, if you look at the area in the corridors that are identified on the last Slide, as I explained previously, the main corridor and the secondary corridor, there was a requirement for charting in the area, in addition to this “interest” in searching for the Erebus and Terror ships.

So joining forces was a natural result. The Arctic is a place of many challenges, of many difficulties. In terms of the Navigation Season, the number of Sea Days can vary from year to year, depending upon the ice conditions that are encountered, making it difficult for planning purposes.

My colleagues will go into more detail in that regard.

Slide No. 5: A Common Requirement for Surveying:

The next slide shows the areas, originally at the north and at the south, where we started the research effort, again in collaboration with our Parks Canada colleagues.

Slide No. 6: Three Phases of Collaboration:

There were three phases to our collaboration.Operating in the Arctic is an expensive proposition, requiring a lot of resources. As such, we in Fisheries and Oceans Canada work closely with the Canadian Coast Guard, which offers ice breakers to accompany the civilian fleet involved in undertaking surveys in the Arctic.

So the Canadian Coast Guard, DFO, supported the Underwater Archeology Services of Parks Canada in its Mission.

The enhanced bathymetric data that we were taking for hydrography was enriched and completed via the enabling technology that existed within Parks Canada, with side-scan sonar.

Slide No. 7:
Clearly, the logistical costs were shared. Also, our collaboration on this project led to increased awareness of the activities of our respective departments, and that increased awareness, in turn, led to enhanced knowledge on the part of each department in respect of the work of the other.

Overall, repeating what I have just said, working in this collaborative fashion increased the departmental awareness of, and support of, the work of our respective departments.

While each was aware of the other, working together on this project has led to our being more knowledgeable about the work that we each do and how we might work together in the future.

The main logistical element is cost. Costs are an important component of working in the Arctic. So working with the Canadian Coast Guard, working with the Royal Canadian Navy and working with private sector entities and other non-governmental organizations all added to our success on this important project.

As is also indicated on the slide now on the screen, looking at the very bottom of the slide, the Prime Minister's Office at the time was very committed to the research we were carrying out in respect of the Erebus and the Terror.

The awareness of the Prime Minister's Office, and their interest in our activities, helped us in showcasing and in representing the importance of hydrographic surveying and marine surveying in Canada.

Slide No. 8:
Before I pass the microphone to my colleagues, still in terms of the Phases of Collaboration, I will point out the fact that high resolution sonar is now available in the area of the survey that we made.

It is useful for our primary mandate, which is safe and efficient navigation in Canadian waters. And you can see, in the Exhibit Hall, just at the entrance, the DEM that was produced with the hydrographic data, a very accurate DEM that we produced for the Erebus Ship.

The capacity in Parks Canada now, as we work together, to use multi-beam technology and to do the same kind of coverage on the Terror wreck is something

that my colleague Ryan Harris will discuss with you in a few moments from now.

In a spirit of commitment on the part of both departments, we can now work more closely with each other, allowing us to accomplish more in the way of discovery together. Without further ado, I will now pass the microphone to my colleague Ryan Harris.

Thank you.

MR. HARRIS: Oui. Merci, Denis. Thank you. I, too, want to extend my thanks for the opportunity to speak with you today.

At the outset, I have a short Introductory Presentation to outline the history of the Franklin Expedition, to offer something of an historical context, but also -- and I think more important -- a geographical context that will frame much of what Andrew will talk about and that I will conclude with in this session.

Slide No. 2 (Harris): HMS Erebus & HMS Terror 1845

Illustrated London News: In 1845, Captain Sir John Franklin departed Greenhithe, County Kent, in England, with Orders from the Admiralty to navigate and try to chart, finally, a Northwest Passage through what is now the Canadian Arctic Archipelago.

The hope was that, with extensive preparation, this elusive goal of a route to the Orient, something that had alluded English mariners since Elizabethan times, would finally be realized.

Slide No. 3:
Under Captain Franklin was his Subordinate Officer, Captain Crozier; and in their two Ships, the Erebus and the Terror, both handsomely outfitted for Arctic navigation, they departed England, with much optimism, seemingly well-placed.

Both ships had been involved in polar navigation before: the Terror in the Arctic in 1836, under Captain George Back, and both ships, under James Clark Ross, to the Antarctic, in 1839, a highly successful scientific expedition that the Admiralty very much wanted to repeat with Franklin in 1845.

Slide No. 4:
So the two ships were sound and reinforced to withstand the rigours of Arctic ice, with extensive reinforcements inside the hull, with iron plating on the bow, special heating apparatus for keeping the crew warm and, in the case of 1845, innovative adaptations in the form of a steam engine that would drive a rudimentary two-bladed propeller.

The other “claim to fame” for these ships is that the Erebus and Terror were the first

ships to be outfitted with screw propellers for the purpose of polar navigation. Moving to the next slide...

Slide No. 5:
At the outset of the Expedition, in 1845, things were going seemingly well. The Expedition ascended Baffin Bay and proceeded westward into Lancaster Sound and were able to circumnavigate Cornwallis Island, which hitherto had been assumed to be a peninsula.

They over-wintered in 1845 to 1846 off Beechey Island, and the following year is when things really started "to go south", literally and figuratively, for the Expedition.

Slide No. 6: Cairn Note:
As they proceeded southward through Peel Sound, we believe, they eventually became trapped, or beset, in Arctic ice, in 1846, and they would remain in the clutches of the ice for two full years.

Much of what we know about that route and what transpired for the Expedition essentially derives from this now iconic note, the "Cairn note", that you see on the right-hand side of the image now on the screen.

It was discovered in a rock cairn by Lieutenant Hobson of the McClintock Search Party, in 1859, one of the last of a tremendous succession of Expeditions that were dispatched to try to learn something of the fate of Franklin and his men, all 129 of the individuals that entered the Arctic, none of whom would ever return.

Without going into the grisly details, this note determines where they over-wintered in 1845, where they were beset, that the two Ships were abandoned on April 22nd, 1848 and that 105 survivors at that point were going to proceed on foot to the southeast, to Back's Fish River.

Slide No. 8:
Ultimately, that is where the historical story ends, for the Underwater Archeologist at least that is interested in locating the shipwrecks themselves, and so the modern search for Franklin and his two ships, Erebus and Terror, has relied extensively on Inuit testimony, or Inuit traditional knowledge, much of which was recorded or written down by a succession of search parties: in 1859, McClintock, whom I have spoken of; in 1879, Lieutenant Frederick Schwatka, a U.S. Cavalry Officer, who was trying to identify some written trace of what befell the Expedition; and ten years before, a search sponsored by Charles Francis Hall, an American Publisher, an individual who felt he was on a mission from God, to try to save whatever men might have survived at that point.

These various search parties encountered the Inuit across Boothia Peninsula, King William Island, on the Adelaide Peninsula, and they attempted to glean snippets of

what happened.

Slide Nos. 9 and 10:
Much of that information is conveniently summarized in this U.K. Admiralty Chart, Chart 5101, which, in red, shows a number of Franklin-related sites, the sun-bleached bones of many of the crew, as they were found across the King William Island shores; and, in blue, testimony that comes from the Inuit -- the "Eskimo", as it says in the Legend.

Is specifically says that this information is "inherently unreliable, given the source", attesting to the cultural biases of the day.

Slide No. 11:
But this map summarizes a couple of the hypothetical trajectories that the ships took after they were abandoned in Victoria Strait, to the northwest of King William Island.

This information essentially ascribed two large expanses of search areas, which we affectionately call the "Northern Search Area" and the "Southern Search Area", where, since 2008, and going back even before that, to 1997, Parks Canada has been working with various Government Partners and non-profit Private Sector Partners to try to locate some trace of the two Franklin shipwrecks.

The overwhelming effort, not just on the part of the Government of Canada, but those of prior search parties, had generally focused on the Southern Search Area, given that the Inuit traditional knowledge, the accounts from the Inuit, are far more detailed.

In fact, this map shows a chart that was drawn by an Inuk (ph), who, reporting to Charles Francis Hall, in 1869, actually rendered a map, on which we can attribute certain land forms to modern features, and actually pin-pointed, by the small "1" in the bottom-left image, where, to his knowledge, one of the wrecks was located.

Charles Francis Hall also recorded information suggesting that one of the wrecks was a couple of miles to the northeast of O'Reilly Island; and if not there, farther north and close to Kirkwall Island.

And so generally there is much more information for searchers to focus on in the Southern Search Area.

Slide No. 12: Project Franklin, 1967:
Certainly, in terms of the Government of Canada, the searches in 2008 to 2016 were not the first at the federal level. In fact, we can speak of Project Franklin, in 1967, which was a Department of National Defence Centennial Commemoration Survey, a multi-pronged survey, involving the Army, the Air Force and the Navy, to locate Franklin Sites on land and, hopefully, under water.

In fact, the slide now on the screen shows a couple of divers from Fleet Diving Unit, Atlantic, who were involved in a number of “tote” diver searches in Port Devils, in wetsuits, near O’Reilly Island.

Ultimately, a number of them had to be medically evacuated due to hypothermia.

Slide No. 13: Project Franklin - Debris Area:
But this small snippet of a chart shows, in hatching, the underwater areas that they scoured, under very laborious conditions, in 1967.

Slide No. 14:
These searches didn’t show any material underwater; but associated shoreline surveys documented a number of apparently nautical artifacts, which, at the time, were attributed to Franklin and his men.
On the slide now on the screen, we see a belaying pin, in the top-right, for ship’s rigging, and an iron drift bolt for securing the ship’s timbers.

Slide No. 15:
In this image, also recovered in 1967, we see a smattering of copper hull sheathing, which is generally used by ships to deter biofouling and marine-boring organisms from devouring the ship’s timbers.

So it wasn’t unreasonable to assume that these might be related to Franklin, given the geographical context. However, subsequent research by the Underwater Archeological Team, was able to identify that in fact these materials all relate to another shipwreck in the area--Who would have thought?

Slide No. 16:
In 1932, a small gasoline trading scooter, the Emma, was shipwrecked near O’Reilly Island.

All that said, even though there was another wreck and that these materials were perhaps a false lead, there was more than enough justification to continue searching in this area.

Slide No. 17:
In fact, the Schaltka Party, in the 1850s, 1859, identified a number of materials on the Adelaide Peninsula, close to O’Reilly Island, that demonstrably came from the Franklin Expedition.

Looking at the top-left on the slide now on the screen, we see the sawed-off cap of a mast from a small boat, clearly of Royal Navy origin; and at the bottom-right, part of a block shell, of ship’s rigging pully, which, if you look carefully, below the text, on white, you see an arrow, which is called a broad arrow, which is a British Government Property Mark. So clearly coming from Franklin.

Slide No. 18:
After 1967, a number of different search efforts were mounted, a number of them by David Woodman, whose name is well-known in “Franklin” circles, having written the book “Unravelling the Franklin Mystery”, which attempted to better understand the Inuit testimony and weave it into a coherent narrative about what happened.

David was involved in a number of towed magnetometer surveys over the ice: 2001, 2002; and there was one previously, in 1965. He was also involved in searches in 1997; and then, in 2004, lugging (ph) sonar. But none of these undertakings revealed any indication of wrecks.

The use of magnetometers to try to locate the wrecks was based on the assumed large quantity of iron that would exist in the hold due to the steam engines. But as we looked at it in 2006, when we first started to speak to the Hydrographic Service, we were of the mind that the magnetometer wouldn’t provide a sufficiently-high probability of identifying a target and was going to be fairly inefficient in terms of how much ground we could cover and how close the sensor would have to get to the wreck to show any indication.

So fairly early-on, we decided that a summer of Marine Survey using towed side-scan sonar would be a more effective and reliable means.

Slide No. 19:
The slide now on the screen shows us during our first surveys with the Hydrographic Service deploying towed side-scan sonar from one of their Hydrographic Service survey launches.

Slide No. 20:
Eventually, we brought up our own boat, the Investigator, to complement or supplement the Survey, and by 2014, we had sort of reached an apogee in terms of the number of different platforms and Survey tools that were at our disposal.

Slide No. 21:
Over this period, the beginning of 1997 through 2008 to 2016, this work was largely staged from this platform (referencing slide on screen), the Sir Wilfrid Laurier Canadian Coast Guard 1100 Series Ice Breaker, which has been our “Arctic Home Away from Home” -- and this section of the presentation serves as a good segue for me to hand the reins over to my colleague Andrew Leyzack, who will talk about the modern search and the role of the Hydrographic Service, following which I will return to talk about the shipwrecks themselves.
Thank you.

MR. LEYZACK: Thank you, Ryan.

Good afternoon, everyone.
Just a word on the magnetometer surveys: One thing we do chart often in the Arctic is that magnetic compasses are useless in those areas, as well as the fact that we often see magnetic anomalies, and I tend to recall, in that area, there is a lot of magnetic anomaly which otherwise would have confused the readings that Dave Woodman was getting.

Slide 10 (Leyzack): The Link to Hydrography:
My role here is to talk about the link for hydrography.

Denis has already introduced that and how our two organizations fit together very well in forming this collaboration, a collaboration which obviously grew. But I would like to go back and paint a picture of these early explorers as surveyors.

Whether it was Samuel Hearn's expedition from Fort Prince of Wales to the Arctic Coast in 1769, James Cook's foray into the Western Arctic in 1778, Mackenzie's journey down the river which was to be his namesake in 1789, or Sir John Franklin's overland expeditions of 1819-21, 1825-27, they all were surveyors. All of these gentlemen were committed to surveying and mapping the frontier lands that they encountered.

I would like to cite a quote from the Chartmakers Book that was published on the 100th Anniversary of the CHS, the Canadian Hydrographic Service, and that is as follows:

"No other single factor has played a greater part in charting the coasts and seaways of Canada than the search for the Northwest Passage." (Chartmakers, Fillmore and Sandilands, NC Press Limited, Toronto, 1983.)

Another quote, this one from Men and Meridians:

"The scope and persistence of the numerous expeditions sailing into dangerous and largely unknown waters [in search of Franklin], has had no parallel in the maritime history of the world. During the decade of the search (between 1849 to 1859), 33 ships wintered in the Canadian Arctic..." (Men and Meridians, The History of Surveying and Mapping in Canada, Vol. 1, D. W. Thomson, Queen's Printer, 1966.)

And they weren't just searching; they were also surveying.

So a lot of information, a wealth of information was collected during that time which went towards improving charting and mapping in the Canadian Arctic. Much of the Victorian media coverage at the time and scholarly text show romantic

images of ice-bound ships of exploration when describing the search for the Northwest Passage.

I would like to put another picture to that, and that is this one here (referencing Slide No. 10 on screen) one of hydrographic ships at work in ice-free waters.

Here, we see the Erebus and the Terror in ice-free waters, engaged in deep sea lead-line sounding work.

Slide No. 11: An Intersection of Interests:
To illustrate the role of hydrography within the Area of Interest, as we call it, of those seeking out evidence of the Franklin Expedition, I would like to offer a brief overview of the hydrographic activities that were leading up to our collaboration, that period that I will describe as "most actively occurring during the Cold War Era and onwards".

That Area of Interest, as Denis described, is an intersection of modern marine transportation routes, the Arctic Marine Corridors, as we call them, with a hypothetical "most probable vector", as we coined it during the early part of our collaborative work, which was the path that HMS Erebus and/or Terror may have traversed, either manned or unmanned, as they drifted from their last known position in Victoria Strait.

So we have the confluence of these two areas.

On our side of the fence, we know we need to improve the charting in this area. We are looking for a good reason to collaborate and get the data that we need to fix up those publications.

Slide No. 12: Early Modern Era Surveys:
I will fast-forward a hundred years ahead, to the Cold War Era, the era where we see a real influx of activity, particularly to establish the Dew Line Sites, that chain of radar monitoring stations that were installed throughout the Archipelago.

The act of doing so required a great deal of reconnaissance work, surveys that were necessary to get ships in, first to construct and then to re-supply which was, at the

time, a manned chain of sites -- now automated, of course, as one can see looking at the picture in the lower-right of the screen.

Much of this work was non-systematic. It was just ship-track line soundings, and they were then referenced to uncontrolled small-scale topographic mapping, which was derived from uncontrolled, or by and large uncontrolled, aerial photography.

The information which was not classified at the time eventually made its way to what were published Provisional Off-Datum Charts.

So still very rudimentary documents serving navigational needs. The first systematic and controlled surveys of the Western Arctic, and specifically the Maud Gulf area, the area that we were interested in, were performed by Capt. T.D.W. McCulloch, aboard the CSS Richardson, in the early 1960s.

We see the Richardson in the upper-right corner of the image now on the screen. (Referencing Slide No. 12)

The Richardson was a 60-foot long trawler-style vessel, based out of Victoria. She was designed and built for coastal surveys and overwintering in the Arctic, and she did a great deal of work back then.

Slide Nos. 13 to 16: A Proving Ground for New Technologies:
Moving ahead, jumping into the Modern Era, we now start looking at trying to get more controlled surveys.

That is not to say that the work that Tom McCulloch did with the Richardson wasn't controlled; but he was still working from, by and large, the existing mapping and simply densifying the soundings within those areas.

Despite commissioning purpose-built ships like CSS Richardson for the Western Arctic and CSS Baffin for the Eastern and High Arctic surveys, the Canadian

Hydrographic Service recognized the challenge of surveying in the Arctic, often under harsh conditions within a limited open water season.

This realty forced us to think “outside the box” and not necessarily use technology in the traditional sense of ships and sonar.

Another quote here from a fellow named Bryan White, from CHS, in 1981, where he, quite rightly, cites as follows:

“...the requirements for hydrographic surveys in the Arctic exceed the capabilities of conventional technology based on ships and launches as operational platforms.”

What did that do?

That forced us to think, as the slide now on the screen describes, about getting into “through-ice spot sounding, using helicopters and track vehicles -- not pictured on the image. But this required a camp to be set up, mid-winter, and for Hydrographers and support staff to set out, on a daily basis, on these missions of performing spot soundings through the ice, “best resolution”, maybe a kilometre apart -- and later on in the presentation, you will see a few snippets/excerpts of charts that show those soundings. But it was still reconnaissance.

From there, we get into using LiDAR.

Slide No. 14: A Proving Ground for New Technologies:
Actually, in the 1980s, 1986, to be precise, we deployed, in cooperation with a company called Terra Remote, an early version of early airborne bathymetric LiDAR called Larsen 500.

The data in the upper-left corner of the slide is the data from the survey in 1986; down below that and to the lower-right, we have, actually, 1990’s LiDAR, from a more robust system, called SHOALS 1000.

So here again, we are using remote sensing.

We are trying to cover off these large tracts of white space on the charts, to fill them up with soundings and try to validate the track data that was acquired during the Cold War Era.

Slide No. 15:
Another system that was employed which was very successful in covering off a large amount of ground was our 1990’s TIBS system, or “Towed In-flight Bathymetric System”, which was based on well-established Helicopter Electronic

Method, HEM, proven for geological mapping and, in particular, for measuring ice thickness.

This system was modified for acquiring depth.

Knowing that we could measure ice thickness, see that initial response and then explore the medium below that to the seabed, we were able to come up with a viable reconnaissance system which gave us quite decent results, plus or minus 1 metre in twenty-five metres of water depth. But as the water depth increased, we were getting into a lower accuracy of depth measurement.

Again, reconnaissance information.

Slide No. 16:
Another crack at trying to rectify some of these off-datum charts was the use of LandSat imagery and warping or rubbersheeting our existing nautical publications to shoreline derived from LandSat.

Why were we doing this?
Again, I will reiterate: We were, at the time, looking at a great deal of cartography based on soundings which were surveyed relative to coastline, and that coastline was, by and large, uncontrolled.

Slide No. 17: Opportunities:
Lacking what I will call the controlled systematic sonar surveys that were necessary to ground-truth all of this reconnaissance information, we took every available opportunity to get those surveys out and start plying through the area to see what we could do to validate the reconnaissance information that had been collected by LiDAR and TIBS, and spot soundings.

In 1997, as Ryan has already mentioned, we had our first involvement with the search, and one of our hydrographers was called aboard the Sir Wilfrid Laurier, to

join up with EcoNova Corporation, the Department of National Defence, the Geological Survey and David Woodman.

From that point on, we started to do some opportunity-based surveys, aboard Laurier, from 1998 to 2000.

Slide No. 18:
It was around that time that we were approached by David Woodman to see whether we could help him out with his magnetometer surveys.
The sled illustrated on the slide is not representative of the system that he used; however, it is a proven system that we have actually used subsequently to do spot soundings.

What we did is we simply provided him with the Arctic Sounder and the heated enclosure that would allow him to take depth soundings coincidentally with his magnetometer work.

Mr. Woodman also took advantage of what was then the re-creation of the St. Roch's journey through the Arctic, aboard the RCMP Catamaran Nadon, re-christened St. Roch II, to do some scanning sonar work in the area of Wilmot and Crampton Bay and to back up some of the work that he had done, collaboratively, in 1997.

So we are in receipt of that information, which has gone into our database as further reconnaissance sonar data.

We continued on with some dedicated work in 2001, aboard the Coast Guard Ship Nahidik and then bringing us up to 2008, when we had our initial CHS Underwater Archeology Service surveys completed.

Slide No. 19: Building Collaboration:
I talk about the business of trying to rectify these old charts. The slide now on the screen actually illustrates the displacement between modern data and the old chart, which is below that.

The vectors that you see appearing are the displacement between where we surveyed the shoal and where it had been charted, and in some cases that distance was up to five cables, or one kilometre.

So getting out there, in the context of that first collaborative survey program, our main objective was to try to get a good handle on just how far off the existing nautical products were, assess the risk of trying to put an 1100 Class Ice Breaker

into some of these off the beaten path areas, and essentially to cut line to get down to these specific target Areas of Interest to Parks Canada.

The Provisional Chart that you see on the right is something that we cobbled together to do just that. It was cutting line southeast down to O'Reilly Island so that we could get the Sir Wilfrid Laurier and launches deployed down in that area to begin searching out those waters, building upon the work that was done in 1967.

Slide No. 20:
At the time, we were using single-beam sonar, with Parks Canada side-scan. But then, jumping ahead to what became known as the "Arctic Charting and Mapping Pilot Project", in 2011-2012, we re-equipped those launches with a multi-beam sonar, and still concurrently towed side-scan, such that, now, we are not only getting a very wide swath coverage with the side-scan, searching out potential artifacts on the seabed, but a very quantitative sampling of what is down there in "X", "Y", and "Z" with the multi-beam system.

At this time, during this Pilot Project, we saw the introduction of additional partners, like the Arctic Research Foundation, the Canadian Space Agency (which was providing us with imagery to help back-up some of our LiDAR results), the Department of National Defence, and Environment Canada.

Fugro Pelagos flew our LiDAR during this period. We also had the University of Victoria get onboard with one of their AUVs.

So a lot going on during those two years, a lot of data being acquired!

Slide No. 21:
This next slide shows some of the results of the modern bathymetric LiDAR that was collected, showing reflectance, the bathymetry, and also as a deliverable the down-look video that was acquired to ground-truth what it was that we were sensing with the LiDAR.

Slide No. 22:
And then, come 2014, we have a fair bit of support going on, as you can see from the slide now on the screen.

These are the "All Partners", as we call them.

In addition to those who joined us in 2011 and 2012, we had other partners, including other private partners, along with the resources of the Canadian Navy and

Defence Research, and Development Canada. We also had new dimensions in terms of data acquisition from the Navy vessel that was deployed to the site.

The Royal Canadian Geographical Society and their partners would contribute assets and support to Outreach and Education.

Slide No. 23:
The slide now on the screen illustrates all of the platforms that we had at our disposal in 2014, with the Sir Wilfrid Laurier being the central base of operations.

We had the HMCS Kingston; we had the Arctic Research Foundation's Martin Bergmann; a Scientific Cruise ship, One Oceans Voyager; and, of course, the Parks Canada Launch the Investigator, being deployed from the Sir Wilfrid Laurier, along with our launches Kinglett and Gannet, on a near-daily basis.

Slide No. 24: Deliverables:
And then our Deliverables.

If you were at NSC 2013, you would have had the opportunity of seeing some of these results and so this may be a bit of déjà vu for some of you. But, at the end of the day, we are coming back with a lot of high-resolution bathymetric-source data. The compilation on the lower-right of the slide shows LiDAR and Sonar results, as well as the track-line surveys that we would do with the ship itself, all culminating in new products.

Slide No. 24 and 25:
As of this year, as I speak, we are in the process of producing two new charts of the area, much needed for navigation, as it is very shallow through that area, very rugged, with very low topography.

It has always been a thorn in the side of navigators trying to work their way through the Passage of Requisite (ph) and Storis Passage. But we are looking to having new publications coming out in the next year which will be the culmination of all of our efforts over the past period.

Slide No. 26:
Lastly, we have what I believe to be the crown of our contributions to the search.

Upon Parks Canada's discovery of the Erebus, we dispatched one of our multi-beam launches to the site and conducted multiple passes over the Erebus, running the Sonar at its highest resolution, sub-decimeter resolution returns, to create this DEM (referencing image on Slide No. 25) -- which, if you haven't already done so,

please check out the model that we have in the Exhibit Hall. It is a 3D printer representation of the sonar data that we collected in this effort.

Over the years of our working with Parks Canada, we have been able to transfer our knowledge of this technology to Parks Canada and similar systems have now been installed on their vessels.
So that spirit of collaboration has, I think, by and large, enabled Parks Canada to take on a lot of the work that we had done to help them out in the initial stages of our collaboration.

Thank you for your time.
With that, I will turn the microphone back over to Ryan.

--- (Harris Slides, continued)

MR. HARRIS: Thank you, Andrew.

Slide Nos. 22 and 23: HMS Erebus:
As Andrew outlined, in many ways the joint program started to reach a critical mass, certainly by 2014, with the constellation of partners that he showcased, all bringing together a synergy of capability and expertise, and technological capacity, largely focused at that time on Victoria Strait.

Of course, in 2014, despite all of these preparations, Mother Nature conspired to send us off in a different direction and, despite our intentions in Victoria Strait, ice cover prevented, really, any meaningful survey in the area whatsoever.

Slide Nos. 24 and 25:
So that compelled us to proceed to the southern search area, to make the most of the Field Season, and that is actually when we finally caught a break. Dr. Doug Stenton, of the Government of Nunavut, Archeologist, Director of Culture and Heritage at the time, and the Coast Guard Transport Canada Helicopter Pilot, Captain Andrew Stirling, were onshore, essentially assisting the Hydrographic Service to set up a GPS Reference Station to facilitate survey in that area, when Captain Stirling came across this large hunk of iron. (Referencing image on Slide No. 24)

After surveying for 1,200 square kilometres up to that point and not seeing a single solitary trace of anything human-made on the sea floor, this was a big clue, an important clue.

This large piece of iron was brought back to the ship, the Laurier, and my colleague on the Underwater Team, Jonathan Moore, looking at the ship's historic plans from the Admiralty, the Navy Board Plans of Erebus and Terror, was able to identify it,

fairly quickly, as a fitting from one of the ships' davits, the arms for deploying the boats over the side.

It might not show up here (referencing slide on screen), but there is actually also a broad arrow that you see on the base of the fitting.

So this is a pintle that clearly comes from one of the Franklin Ships. (Referencing image on Slide No. 25)
Slide No. 26:
With renewed optimism/enthusiasm, we took to the survey the next day, on September 2nd, 2014. They launched over the side of the well deck of the Laurier and, in relatively short order, we came across an unmistakable side-scan trace.

Slide No. 27:
This is a subsequent image, after many approach passes. (Referencing slide on screen)

Very quickly, immediately, we could tell that we had come across a shipwreck, and indeed one of Franklin's ships, given a number of diagnostic features.
We could see, for example, that the ship was standing bolt-upright on the sea floor, with about five metres of relief, and that it was essentially intact from stem to stern, with a bit of damage around the transom. Even parts of the upper deck were still preserved in-situ.

After a short delay, to return to Ottawa to make announcements with the Prime Minister's Office, our entire Dive Team returned to the site of the Erebus, later in September, and, once the weather subsided, we took to the water and began to enthusiastically document what was visible on the site.

Slide No. 28:
Here, we have an image showing the ship's bell from the Erebus -- which, even under water, glistened, with this beautiful patina.
You can see the broad arrow, the sort of ubiquitous symbol of British property, and the date "1845".

I wish that archeology was always as straightforward as that, with artifacts coming with a date!

But here, we got quite lucky.

This is actually the only artifact that we raised in September of 2014, in the hope that it might have the name of the ship embossed or engraved on the opposite side -- which, unfortunately, it did not.

But, as Andrew mentioned, in between our dives, we would detach from the mooring and prepare for the next dive, and the Hydrographic Service and their launch would

dart in and, in that time, they conducted a very, very detailed survey, with a multi-beam of the wreck site.

One of the things that I want to convey in this presentation is just how important this dataset has been to us and exactly how we have made use of it.

Slide No. 29:
Here, we see a planimetric or orthogonal view of the multi-beam data.
Probably one of the key uses of the data fairly early-on came in supporting the identification of the wreck indeed as that of Erebus, as opposed to the Terror.

Slide Nos. 30 to 32:
We weren't certain -- although we had our hunches fairly early-on. But the data from multi-beam really sort of cinched it and in fact we were able to overlay the upper deck Plans of both Erebus and Terror over the multi-beam and only with the Erebus Plan -- because the Ships were different sizes, slightly -- could we demonstrate spatial correlation in terms of the breadth, the overall length, and the

precise locations of the four masts, the main mast, the hatchways, the pumps, and all of the upper deck fittings.

It was actually a very, very convincing case for the ship being the Erebus.
The multi-beam data subsequently has been used extensively by our team. In general, we use it as the digital base map for all the archeological wreck that has ensued.

Since 2014, we have actually conducted a number of return visits to the wreck site, where we continue to collect data.

We have recovered about fifty-three artifacts to date. But we have also done a very thorough documentation of the overall integrity of the hull and the spatial limits of the debris field.

And here, the multibeam serves as the backdrop, the geo-correct backdrop for increasing the high resolution data that we are superimposing on that map set.

And actually here we see a fairly recent photogrammetry, a 3D photogrammetry image, which was developed from about a thousand underwater photos taken by a member of our dive team.

These have been stitched together with Agisoft 3D photogrammetry software into the image you see on the screen.

And, of course, what the multibeam helps to do is to scale it and to geo-rectify it very, very accurately, with I believe the post processed kinematic positioning on the data being accurate to about a centimetre, which has been extremely helpful to us.

We made a commitment, fairly early-on, to invest in and undertake high resolution 3D point cloud imaging of pretty much everything we see.

Here, looking at the multibeam data, it allows us to query the wreck site in interesting ways. In fact, we can take horizontal cross-sections through the data and we can identify the beam locations, the stents of the lower deck.

Slide No. 33:
Here we see the upper deck beam starting to appear in orange and the actual intact upper deck structures above that. And again, we add photogrammetry data on top of this.

The fact that the point cloud data is spatially accurate and properly oriented, and the attitude is correct, allows us to quickly assess the angles of heel and pitch on the sea floor, to identify scour patterns around the wreck, and to document integrity issues.

Here, you see two cross sections through the point cloud data, one through the location of the forward pump, which you see on the left, and you can see the upper deck beams actually coming loose from the stringer below, with them starting to collapse into the hull.

And then farther stern, on the right, actually in the area of Captain John Franklin's cabin, we can see how ice has pressed down at some point in the past on top of the wreck, depressing the upper deck beams into a collapsed "V" shape, providing very, very useful information in terms of the ongoing study of the physical deformation of the wreck site.

Slide No. 34:
Back in 2015, in April, we took the first opportunity to return to the site, this time in collaboration with National Defence, and we essentially piggybacked on their annual operation "Nunalivut Sovereignty Projection Exercise", where, actually, they re-directed one of the Legs of the Operation to support a Joint Military/Parks Canada Diving Operation on the Erebus wreck -- and here you see the extents of the Ice Camp that was set up by Joint Task Force North, supported by the First Canadian Rangers Inuit Patrol Group.

Of course, as you land in the Twin Otters, all you see is an unending expanse of flat ice.

Slide No. 35 and 36:
Here is where we are taking the opportunity to landmark the stem and stern location of the wreck site. With the multi-beam, we are able to situate access holes through the ice very, very precisely, not wanting to have access points that would risk entangling our "umbilicals", and also that were in close proximity to features of interest.

Slide No. 37:
Here, you see the Fleet Diving Unit, Atlantic, the folks in Halifax, the divers that we were working with very closely, lifting out an approximately two-metre thick block of ice from one of the access holes, which they are doing with a gantry used for recovering unexploded ordnance.

Slide No. 38:
There you see the Joint Dive Team and one of the access holes.

It is actually the first time that the Navy has ever dived with a civilian dive team integrated. So one of their divers/one of ours at all times.

They work with all kinds of groups worldwide, other NATO Dive Groups, but always separately side-by-side.

So this was quite a new undertaking.

Slide No. 39:
The precise positioning of the access hole allowed us to put a hole right over top of one of the two 6-pounder bronze cannons, located off the stern, enabling the recovery of one of the guns back in 2015.

Slide No. 40:
Most recently, the 3D multibeam data, as Andrew mentioned, was used for 3D printing.

We have taken it a step further in terms of giving it to a Modeller, and using the actual bathymetric surface and the bathymetric cross sections that the point cloud data offer, he has been able to render a very accurate 3-dimensional wooden model, a traditional wooden model, of the entire site, and this allows us to actually embed very, very subtle archeological details, like the deck prisms or illuminators that allow light through the upper deck, the ship's tiller, a large piece of bronze, about 12 feet long, the cap stand, the pumps, and every individual plank and spar that we can see on the site, as well as showing a certain amount of the biofouling that we identified or encountered early on.

Slide Nos. 41 and 42:
Again, as mentioned earlier, we had a commitment to a very high detailed, 3-dimensional Site Plan. We also work with a number of more rudimentary traditional methods from our Underwater Archeology toolbox.

Here, situating artifacts using simple fiberglass tape baselines, folding rolls for offsets, and plumb bobs for determining vertical.

Increasingly, however, the mainstays of our trade back in the 1980s are becoming just a means of confirming and backing up digital means of site recording.

I mentioned photogrammetry, of course, which is absolutely going to revolutionize underwater archeology, at least in conditions where you have low turbidity.

Slide No. 43:
Here in the level of the lower deck, one of our underwater archeologists is documenting the spatial location. We see a number of coarse earthenware ceramic plates from the Galley Area.

We are actually able to situate all of those artifacts in a precise 3-dimensional GIS in the point clouds software that we are using.

Slide Nos. 44 and 45:
Given the interest of the audience, I just want to mention a couple of the artifacts that we have encountered.

We certainly don't have time to go into all of them, or even many of them.
A number of interesting "finds" that we have made in the vicinity of the lower deck, generally in close association with one another: here, on the right-hand side, you see a Naval brass sexton, still perfectly intact, with all of its lenses and filters; and then an anonymous burled brass knob from some manner of scientific instrument above.

And there is something interesting on the left, basically a patinated brass frame, with glass inset, which we speculated initially might be part of a lantern of some sort. But subsequent research by a member of the team was able to identify this in fact as part of a mercury bath artificial horizon -- a rather unusual find from an underwater archeological site.

And you see an example from the Collections of the National Maritime Museum in Greenwich on the right-hand side.

And this was a logical thing to have for Arctic Survey, where, as certainly Andrew can attest, often the low-lying land, often covered with residual snow, and the

cloudy sky and ice on the horizon, blends the horizon into one sort of indiscernible whole.

So to have a mercury bath horizon makes perfect sense.

Slide No. 46:
In fact, you can see an image of this device -- which many of you might be familiar with -- in the bottom of this image, where a ship's officer is using a sexton.

You can see the horizon perched upon a little mound of snow.

This is actually an image depicting the Terror in 1936 during the Back Expedition.

Slide No. 47:
We also have the potential of the site to reveal aspects of its scientific mission. We are looking, here, at a table leg and attached stretcher. But it is the context that is interesting.

Slide No. 48:
We speculate that this might represent the short table leg and stretcher of the chart table that was in Franklin's cabin, as depicted here in an Illustrated London News engraving from 1845, when the Ships set sail.

Slide No. 49:
I think what is interesting is that that table leg was found on the sea floor, in the vicinity of where the ice has taken a big bite out of the stern.

And then a lot of the material you see below the windows, in this image, has essentially been dropped straight down to the sea floor.

What is in the middle of the image is a series of chart cabinets, which could be potentially very interesting archeologically, given the prospect of paper materials potentially surviving on-site, given the preservation conditions and the fact that it might all be compressed in an inter-leafed jumble off the stern.

The potential that annotated charts could conceivably survive on this wreck site is something that is quite tantalizing, among many of the other archeological potentials that we muse about.

All kinds of things that we might hope to find sandwiched in the collapsed cabin. This shows a small Deep Trekker remotely operated vehicle that we deployed last summer, here exploring in the compressed layer of the upper deck in Franklin's cabin.

Many of the cramped spaces that are presently inaccessible to divers, we might be able to access with remote cameras, including the Engine Room space, to tell us

something about this innovative adaptation of a steam engine, in fact, which was a very early railway steam engine from the Greenwich Railway, which was purchased by the Navy.

Slide No. 50:
Just as I leave Erebus behind here, I just want to mention one of our biggest accomplishments, actually, in 2015 was not just to achieve legal protection of the Erebus Site itself but, working with our partners, being able to identify and protect a 10 kilometre by 10 kilometre area of protection under the Emergency Provisions of the National Park Act -- which you see in the square in Wilmot and Crampton Bay there -- which has been transferred to Parks Canada, with access to that area now being under the authority of our Nunavut Superintendent, with the exception of Inuit involved in traditional harvesting activities.

Slide No. 51: HMS Terror:
I will leave the Erebus at this point and just quickly touch on the wreck of the Terror, which was located last summer by the Arctic Research Foundation -- unexpectedly, in Terror Bay.

And, of course, we always get asked: Well Terror Bay! Duh!

But in our defence, I can say that we scoured Erebus Bay also and didn't find the Erebus there!

So much of our work looking for Terror had focused on Victoria Strait, to the north, given that that is where the Inuit traditional knowledge generally suggested, somewhat vaguely, that this second ship was located, indicating that it was lost in deep water and that ultimately they were unable to retrieve anything from it, which they were regretful about.

Slide No. 52:
The image now on the screen shows the multi-beam equipment that we procured for 2015, in consultation with the Hydrographic Service.

Essentially, our ability to conduct multi-beam survey operations we owe principally to the knowledge that has been transferred from our colleagues at the Hydrographic

Service, and sort of job shadowing them for a few years in their launches was instrumental.

Slide No. 53:
Here we see one feature that we would expect, I think, to see on one of the chart updates.

This is a feature that we were mapping in 2015 and following up again in 2016. This is a rather shocking shoal, right in the middle of Victoria Strait, more or less due west of Victory Point, where that cairn note was located.

This is a ship trap. I think the least depth on this shoal is less than three metres.

This really attests to the importance of the work in this area of water where, if you look at the white barren areas of the charts, you might assume it is safe navigation. But, no. Just the opposite.

Slide No. 54:
The image now on the screen is from last year.

We didn't have the Hydrographic Service onboard the Laurier. We were going it alone for the first time, like a fledgling leaving the nest.

Here, we are actually installing a multi-beam system on the Laurier, using the CHS Pole mount.

And this in fact was an Environment Canada multi-beam system.

A certain amount of information and knowledge had been transferred to us, and we are trying to pass it on to our colleagues at Environment Canada.

Slide No. 55:
This image shows some of the coverage, basically the MCAV coverage from the Laurier right off of Victory Point. Slide

No. 56:
Next, HMCS Shawinigan, one of the Naval Platforms that was attached to the Survey.

Near the port stern, you might be able to see the CHS multi-beam pole mount. The CHS had equipped the MCAV with the means to survey multi-beam under their direct supervision.

Slide No. 57:

Of course, it is all, from an archeological standpoint, a bit of a moot point in Victoria Strait, as the wreck is not there. It was found right around the same time in Terror Bay.

So really, after we had demobilized our entire Survey Operation, when we learned about the discovery in Terror Bay, we sort of had to hastily re-equip and try to document and validate the find the best we could. So here we are steaming out in the Hurricane 753 of the Laurier.

Slide No. 58:
We were able to get some decent side-scan sonar imagery on the 15th of September, and the side-scan clearly indicated that this indeed was one of Franklin's ships and, by extension, it would have to be the Terror, although we wanted to identify it specifically as that ship, just to sort of check our work on the Erebus, I suppose.

Slide No. 59:
But, as you see from the image now on the screen, it was even better preserved than the Erebus to the south.

In fact, the side-scan revealed that the entire upper deck is intact, in fact with a thick lense of sediment sealing everything in, with the balustrade at the bow still jutting up into the water column.

Slide No. 60:
Here, another view, showing the ship's davits, the arms, again, for launching the boats; the port, the starboard, and the stern davits and skylights.

In fact, you can even see the exhaust flue from the ship's heating apparatus, near the fore hatch.

So all perfectly consistent with Erebus and Terror, and, indeed, specifically Terror.

Slide No. 61:
On the second day of availability, we donned our diving kits and made just three dives on the site.

That is all we could manage, given the conditions on that day.

Slide No. 62:
On descent, past 10 metres, things looked pretty good and then, all of a sudden, it just went completely black, as the storms had been raging blowing about 50 knots

for the preceding few days, churning up the bottom sediment, making it very difficult to see much.

Slide No. 63:
This is the third dive, actually, where visibility had improved a little bit, with the tidal current.

This image shows Marc-André Bernier, the Chief of our Section, gazing at one of the stern gallery windows, still intact at the stern.

So this would have been Crozier's cabin inside.

Slide No. 64:
On this image, looking on the left, we see the flue for the heating apparatus; and on the right, an exhaust from a cabin stove.

Slide No. 65:
With the third day at our disposal, on the 17th of September -- so our last day of survey -- with the winds mounting, we set out at about Beaufort 3 or 4, and it was about 5 or 6 by the end of the day. But we hastily installed the multi-beam system that we had stripped off the ship and kind of quickly did an installation and surveyed in all the sensors the best we could and, under very disfavourable conditions, we were able to at least get some diagnostic information.

Slide No. 66:
This is just one pass over the top of the wreck, again showing a lot of the davits and the balustrade. But it did indicate a very meaningful measurement from just the knee of the head back to the taffrail, in nautical parlance. But 112 ½ feet, which was a perfect correlation for the Terror and which would have been short for the Erebus -- not that we had any real doubt at this point, to be frank.

Slide No. 67:
But also multi-beam allowed us to query some features, including the balustrade, which, in this image of the Terror, they actually moved it up and stepped if further back than was the case with the Erebus.

And this distinction very clearly shows up on the multi-beam data.

Slide No. 68:
As we prepare for return to the Arctic this summer, we have a number of different tools that we will be utilizing to better understand both wreck sites. Beyond multi-beam, we have also been increasingly moving towards autonomous underwater

vehicles -- not inexpensive or other tools, but engaging or embracing this emerging technology for us.

This shows our Iber 3 AUV, equipped with a ring laser gyroscopic inertial navigation system, being required for any sub-sea work in the Arctic, given that in magnetic flux, compasses simply don't work very well at all.

But this Unit is equipped with side-scan sonar transducers, and we can also rig it with a towed magnetometer, to allow us to conduct very high precision, high-density magnetic anomaly surveys right around the wreck site, trying to identify various objects in the debris field.

Slide No. 69:
Just another interesting technology, sort of parallel to a number of the LiDAR instruments we see in the Tech Room there.

Working with a company by the name of 2G Robotics, in Waterloo, we have been working to develop underwater laser scanning methods and working with their technology to essentially bring LiDAR below the surface.

This shows a ULS-500 System that they built for us.

Slide Nos. 70 and 71:
The same system used on an AUV in the Gulf of Mexico here, showing the 3D point cloud of a U-Boat, the E166, at over 5,000 feet water depth, showing the astonishing level of detail that is preserved.

So we will be looking at doing much the same thing but from a surface platform, which will allow us to see the Erebus from the surface when conditions are just right, to do extremely high-resolution passes over the wreck site.

With the new point clouds, we will generate with our 700 kiloHertz multi-beam and the laser, we will be able to always go back to the multi-beam dataset to compare one point cloud to the next, allowing us to be able to assess change in deformation of the hull over time.

Slide No. 72:
The final thing I want to talk to you about, again in the way that we are much indebted to our colleagues at the Hydrographic Service, as well as to the Coast Guard, which has been supporting us since 2008, and indeed from 1997, and a direct offshoot from this joint survey, this past year, the Coast Guard transferred to Parks Canada this Vessel Platform, the Arrow Post, built in 1992, a 29-metre, 228

ton mid-shore Fishery Patrol Vessel, that we are now converting and refitting as an Underwater Archeological and Marine Biological Research Vessel.

With the guidance of the Hydrographic Service, we are installing our multi-beam sonar in the bottom, which will provide a very useful survey.

Slide No. 73:
Just before the "hook" comes out, I will conclude with the same slide that Andrew showed, a slide showing the array of partners involved in this work.

Something as complex as this sort of multi-disciplinary, multi-year survey, in such a remote challenging location, draws upon, and drew upon, a very impressive array of talented people, dedicated people.

I will conclude on that note. Thank you.

MS. BIGSTONE: I want to thank Denis, Ryan and Andrew for a very informative presentation and a great follow-up to the NSC 2013 Presentation.

I know, Andrew, you thought you guys were close then. It is gratifying to know that you did find exactly what you were looking for. But, more important, it shows the benefit of, and the need for, collaboration and, in addition, the need to verify and validate the evidence that we find as surveyors, whether we are surveying on land or on the water.

In appreciation of your coming before us and presenting at our conference, we want to present to you three Certificates of Donations that have been made on your behalf to The Ronald McDonald House.

--- (Presentation of the Ronald McDonald House of Ottawa Donation Certificates followed)
--- (Applause/Applaudissements)

MS. BIGSTONE: I think I have been in the spotlight enough today, so I will now pass the microphone over to Murray.
(To Murray Purcell): Don't mess it up!
--- (Laughter/Rires)

MR. PURCELL: We have a little bit of a program change at this point, a slight change.

Our Future Astronaut Speaker, Natalie Panek is hung up in her "Air Canada Spaceship" right now and will not be arriving until a little later on today. So we are

going to move into the Insurance Presentation. But before we do so, we will take a fifteen-minute break to stretch our legs and move around a bit.

Thank you.

--- Afternoon Coffee Break
--- Upon Resuming

MR. PURCELL: Our Speaker today is Ms. Natalie Panek.

Ms. Panek is a woman working in a non-traditional field, in a male-dominated industry.

Natalie has degrees in Mechanical and Aerospace Engineering and a career in the Aerospace Industry. She works for the National Aeronautics and Space Administration, NASA, which has provided her with an opportunity to change the perception of women and to encourage the next generation of women in the fields of Science, Technology, Engineering and Mathematics, known as "STEM".

Natalie has had some extraordinary experiences that have shaped her dreams of becoming an astronaut, including internships at NASA's Goddard Spaceflight Center and Ames Research Center, where she worked on a mission to Mars. She

has also co-authored papers on Microgravity Combustion and On-orbit Satellite Servicing.

Natalie is on a mission to inspire the next generation of female game-changers to take on challenges and pursue careers in engineering and technology.

As many of you are aware, we were "this close" to getting our Prime Minister to talk at our Event. It was only last week that we heard the sad news he could not attend. But within the response was the following:

"Natalie Panek, one of your Guest Speakers, has interacted with our Office before and she is a truly inspirational woman."

Please join me in welcoming Natalie Panek...

--- (Applause/Applaudissements)
REVOLUTIONIZING WOMEN IN TECHNOLOGY:

MS. NATALIE PANEK, Keynote Speaker: Good afternoon, everyone. Thank you so much for having me here today.

It has been a bit of a wild day. I will have flown from Toronto to Ottawa twice today now. So I am thankful I have actually made it to your Conference.
Just out of curiosity, did anyone in here want to be an astronaut when they were a kid?

--- (Show of hands)

So, yes. A good number of you.
Does anyone still want to be an astronaut today?

--- (Show of hands)

All right.
I actually fall into both of those categories. I wanted to be an astronaut from the time I was a kid, and I am now thirty-two years old and I still want to be an astronaut "when I grow up"!

Everything that has led me to where I am today in my career has been driven by this goal of wanting to travel to space, of wanting to see Earth from a different perspective, and so today I want to share with you some of the lessons that I have learned along the way, lessons that have encouraged me to appreciate that learning

knows no boundaries. We can learn no matter where we are, as long as we embrace curiosity.

In the Introduction today, it was mentioned that I work in a male-dominated environment, in a non-traditional field -- and I think only one of those things is true. Yes, the Aerospace Industry is male-dominated; but I don't think it is non-traditional. I think that is a bit of a misnomer.

So I encourage you, as you are listening to my presentation today, to think about the lessons-learned that I have had and how those can be applied to your lives but also how we can encourage and inspire young people -- because I truly believe that young people are our future; and by encouraging them to be curious and every-day explorers, we can build resiliency and sustainability in our communities.

I want to start off today with a little story about perseverance.

I grew up out west, in Calgary, in the Canadian Rockies. I spent a lot of time in the outdoors, camping, backpacking, and that meant a lot of nights star-gazing: looking up at the stars and dreaming about what is out there.
I also loved watching Sci-fi: Shows like Star Trek and Star Wars -- and that was a perfect combination for this life-long dream of space travel.

Unfortunately, in Calgary, the main industry is Oil and Gas -- which didn't really align with my passion for wanting to work in the Aerospace Industry. So I was constantly looking for opportunities where I could get some sort of Internship or Placement Position in the Aerospace Industry--Maybe even at NASA!--and in one of my online searches one day, I found something called "A Space Exploration

Scholarship". This was an opportunity for one Canadian student to go down to NASA and intern for a summer.

As soon as I saw this opportunity, I knew that I had to apply.

So I filled out my application, wrote my essays about "Why I was Passionate About Space", got reference letters from my supervisors in university and sent the Application Package off to the Canadian Space Agency.

A few months went by and then I got an e-mail in my inbox, advising me on the status of my application, and when I opened it, it said:

"Thank you for taking the time to apply. But, unfortunately, you have not been selected for this opportunity."

Because they were taking only one Canadian student, I was realistic and aware that I probably wasn't going to get chosen. I was just starting Mechanical Engineering at the University of Calgary and I didn't have that much experience under my belt.

So "life goes on" and I went back to focusing on my Studies.

A year later, I got a reminder e-mail about this Placement Position, and I thought: "For sure I am going to apply for this again, because I still want to follow this path and passion for Aerospace." So I updated my Application Package and sent it off again to the Canadian Space Agency.

Similar to the previous year, a few months went by and I got an e-mail on the status of my application, and this time when I opened it, it said:

"Thank you for taking the time to apply. But, unfortunately, you have not been selected for this opportunity."

Okay. So that is two rejections now!

So again, "life goes on". I go back to focusing on my studies. I join some extracurricular projects at school, like the Solar-Powered Car Team, and I have lots of other things to focus on.
Again a year goes by and for the third time, I get an reminder E-mail for this opportunity, and for the third time, I update my Application Package, get new

reference letters -- because this time, I am thinking: You know what: third time's the charm! I've totally got this in the bag now!

So I send off my application and again wait for that e-mail in my Inbox. When I open it, guess what it says, after three times of applying:

"Thank you for taking the time to apply. But, unfortunately, you have not been selected for this opportunity."

So I am getting really good at dealing with this rejection now. It happened three times. I am getting a little bit more frustrated, wondering whether I am even cut out to do this type of work or whether a career in Aerospace is even what is "in the stars" for me.

So I go back again to my studies, and now I am applying for graduate schools and I eventually accept a position at the University of Toronto, at their Institute for Aerospace Studies.

So I pack all of my things, move from Calgary to Toronto, and start my graduate studies.

For the fourth time, I get this reminder E-mail of this Internship Opportunity at NASA, and this time, when I get that reminder E-mail, I think to myself: Maybe they'll just feel sorry for me and give me the position in the program.

So I update my Application Package again--Which I am really good at by now!--get new reference letters from my supervisors and again send it off to the Canadian Space Agency.

Like the previous three times, I wait for that e-mail in my Inbox and it pops in about mid-week one day in February -- and this time I am a little bit hesitant to open it, because I don't know that I can deal with that rejection and failure again. I don't know that I can handle not being selected for this internship.

I finally talk myself into opening it, and guess what it, finally, said, after four times of applying for this internship:

"Thank you for taking the time to apply. But, unfortunately, you have not been selected for this internship."

So now I am feeling pretty devastated. I don't know what to do. I spend a couple of days just thinking about what had happened, reflecting on the whole process, and then this idea kind of just occurred to me. I thought: You know what, there's a telephone number at the bottom of that e-mail -- the rejection e-mail -- and I thought: Why don't I just call it and get feedback on my application. I was hoping I would just be able to speak to someone who could tell me what sort of experience I

needed to land this type of Placement Position, to get my foot in the door in the aerospace industry.

I had a whole message rehearsed -- because I thought I was going to a voice mail, and when I called the number, someone picked up on the other end; and within two minutes of that phone conversation, I had that Internship Position offered to me on the spot!

It just goes to show the power of perseverance and creating your own opportunities. Sometimes your door is opened just a little crack and it is up to you to push it all the way open and to continue pursuing your dreams. It turned out to be one of the most amazing summers of my life. I was surrounded by scientists and engineers who were literally building stuff that is flying in space right now. I got to go in Clean Rooms, like the one you see on the screen, with the technicians and their super-attractive white bunny suits, working on something like what is shown here, called the Lunar Reconnaissance Orbiter.

And this spacecraft is actually orbiting the Moon right now, sending beautiful images back.

I also got to go into one of the largest Clean Rooms in the world.

This is where NASA astronauts actually trained to repair the Hubble Space Telescope when it had an issue with one of its primary mirrors after it was first launched.

And for the hours that I spent on this internship, I spent ten times as long trying to get myself there -- and that, in so many ways, made it so much more rewarding!

For the longest time, I didn't want to talk about this internship or what it took to get me there, because I was embarrassed. I was embarrassed that I had failed and had to work so hard to create that opportunity for myself.

When I shared this story with a group of young women at an all-girls high school in Toronto, they just latched on to it. They loved the idea that someone kept persevering and was resilient in the face of failure. They told me that they probably wouldn't have applied even a second time and that hearing a story of failure from someone like me encouraged them and reminded them that they needed to keep pursuing their dreams, even when they faced obstacles.

And I think this is a really important lesson, regardless of what stage one is at in one's career, because no matter how much we research and plan and put in the upfront work to make something happen, obstacles always appear, things always go

wrong -- that is the “real world” -- and we have to learn how to improvise and get past those obstacles in order to find success on the projects that we work on.

What I loved about this internship is that it was what I call “a peak moment” in my life.

I first heard of this idea of “peak moments” through an organization called “The Women’s Executive Network”. The Women’s Executive Network is a Toronto-based organization that encourages smart women to lead. They offer a number of Mentorship Programs where they pair young women with one of their Top 100 Most Powerful Women Award Winners, and you get to have a one-on-one mentor relationship over the course of the year.

In addition to that mentorship relationship, you also participate in a number of Professional Development Sessions.

In one of these development sessions, the Facilitator put these few questions that you see on the screen. She asked:

What was the time working on a project that you felt full of life?
What were those conditions?
Was that a peak moment?
Are you moving towards or away from those conditions?
And what do you need to do to get back to those conditions?

When I first saw these questions, I thought they were kind of silly. I didn’t really understand the point of the exercise or what it was going to tell me about my own life or my own career goals. So we all paired up and went off to an isolated place at the university where we were having the Session. We each took our turn sharing what was a “peak moment” in our lives, and I want to share one of mine with you today, a “peak moment” that occurred when I was actually on a second NASA Internship, the year after the first one I’d had.

I was out at NASA’s Ames Research Centre, in California, working on a Mission to Mars. We were trying to see whether a crew that was sent to Mars could live

underneath the surface in a network of lava tubes and cave systems that are on Mars, rather than in a habitat that is on the surface.

It was a very intensive program, with scientists and engineers from all around the world. We worked seven days a week, for about a three-month period.

During that three-month period, we had one free weekend, in the summer. So what does a group of space cadets do on their one free weekend?

Well, they go skydiving!
About a dozen of us piled into two vans and drove out to Monterey, California, where you can do what is claimed to be the World's Highest Tandem Skydive, where you jump from 18,000 feet.

When we arrived in Monterey, we pulled up to this old airport, with a hangar, where they had one plane that was talking them up to do their jumps.

At first, we all got ushered into this small building, where we signed our lives away on a piece of paper, also known as the "Waiver".

Once we had signed the waiver, they moved us into a rather large hangar, probably about the size of the room we are in today, where they got us all "geared-up" in our harnesses, paired us up with an instructor, and gave us the instructions for what we were supposed to do on our jump.

This was nice, because it was a tandem dive, meaning that the instructor -- who was attached to our backs for the entirety of the jump -- was doing all the work.

They were monitoring altitude, pulling the chute. All we had to do was to "enjoy the ride".

So they got us paired-up with our instructors, who put us in our harnesses and then gave us a really brief instruction about what to do right before you jump -- which is to put yourself in this really flattering position that is kind of like this (referencing image on screen), as you are standing in the open door before you jump out of the plane.

After they gave us our instructions about what to do, they filed us into the airplane that you see on the screen -- a pretty small airplane; no seats inside. All the overhead compartments removed. Just enough space for each of the six of us who were jumping on this flight, with our partners, to gather in squished fashion, sitting

on the bottom of the airplane. So we all squish into this open cockpit of the airplane, taxi to the runway, take off and start climbing up to 18,000 feet.

Once we level out at 18,000 feet, there is one pair who are sitting in front of me who are going to be the first to jump out of the plane.

So together they awkwardly manoeuver themselves to the open door of the airplane and then, two seconds later, they're gone! Just like that!

And then it's my turn, with my instructor.

He taps me on my shoulder to start, awkwardly, kind of maneuvering our way to the door.

At this point, you are in sensory overload.
If anyone in here has skydived, you know what I am talking about.

It is really loud. The wind is rushing around your face and your hair. You are about to throw yourself out of a perfectly working airplane.

It's just adrenalin overload.

And right before I jumped -- I don't know why -- I looked over my right shoulder, just like this (demonstrating), and behind me on the plane was Korea's first astronaut, with the biggest grin on her face, giving me a "Thumbs-up" before we jumped out of the plane.

And it was in that moment that I realized that I was having a "peak moment".

I was surrounded by an incredible group of scientists and engineers from around the world, working on a Mission to Mars, trying to see whether people could live in caves on Mars, which had never been studied before, and I was jumping out of an airplane after an astronaut gave me a thumbs-up!

And that astronaut is on the picture with me here, Yi So-yeon, who also is a woman, which is pretty amazing!

I like the idea of reflecting on your peak moments.

It forces you to think of times in your life that you have felt fully challenged and full of life, times where you feel like you have all the resources at your disposal to

succeed and like you can accomplish anything -- and this, for me, was one of my peak moments.

Reflecting on your peak moments allows you to feed information forward from previous experiences into future goals and growth.

We can't change the past; but we can shape the future, recognizing our goals and everything that we need to do in order to achieve those goals.

So I encourage you all, if you have a few spare minutes in the next weeks or months to sit down with a friend, grab a cup of coffee, and ask each other these questions.

As simple and basic as they sound, I have often reflected back on them in my own life and used them to gauge where I need to go and what steps I need to take to get to that next career step and my dream towards wanting to travel to space.

What I will say about peak moments is that while there are times when you feel full of life and like you can achieve anything, that doesn't mean that everything has to be going smoothly. Things can be going wrong and you may still have a peak moment, and in those moments you have to learn how to embrace failure.
I learned this more than ever when I joined the University of Calgary Solar Power Car Project back in 2005.

The Solar Power Car Project, we built to participate in something called the North American Solar Challenge.

The North American Solar Challenge is a race across North America, where groups of students from universities in the United States and Canada build these solar powered vehicles that they then enter into a race to whose vehicle is the fastest.
For the first time, in 2005, the North American Solar Challenge was finishing in Canada, at the University of Calgary Campus, and when the Challenge Organizers approached the President of the U of C about finishing on our campus, he knew instantly that we couldn't just have a group of students waving the checkered flag as all of these cars from other universities crossed the finish line; that we actually had to enter a car in the race and try to compete.

There were a few problems with this.

Most universities that build solar powered cars have been doing it for many years. They have a legacy of vehicles and designs to build upon, which means that they also have resources and mentors in place to help them build new iterations of their vehicles. They also have sponsorships in place, which means that they have money

to actually buy the stuff they need to build their car. Also, they have two years to build a new design iteration of their vehicle.

We had never built a solar powered car before. We had no idea what we were doing. We had no mentors, no money, and only nine months to build our vehicle. So we were the underdogs in this race from the absolute start.

And for the nine months that we built this car, leading up to the race, we learned the "ins" and "outs" of teamwork, that frustration that often arises when success isn't immediate and when teams are over-worked. But also that amazing feeling of accomplishment when you do have that smallest amount of success that gives you just enough momentum to keep going.

What I really loved about this project is that it was literally a classroom outside of the city limits. We were getting to apply what we had learned in class to a "real world" engineering project. And we went through the entire life cycle of an engineering project, from that upfront brainstorming session, where you are literally taking pencil to paper, sketching out any ideas -- nothing is a bad idea -- to moving on to the analysis and number crunching phases, where you actually get to prove that the concept you have come up with could work in the real world.

This is something that you could take from "paper" to "reality"!

The slide now on the screen is an image of our team doing computational fluid dynamics.

So we are just visualizing how the air is flowing over the aerodynamic shape of the car, trying to make sure that it sees the least amount of drag as possible -- because, ultimately, we want it to go as fast as possible in order to win the Race.

And I will just go back a slide for a moment to point out that all of those black squares that you see on the top of the car are the solar cells.

So that is what is transforming energy from the sun into electricity, which is powering a motor that is sitting in a single rear wheel of our vehicle.

Once you have done all of the number crunching and analysis and have convinced yourself that your design could actually work, that is when you get to start ordering

parts and hardware and getting to start building things in your lab, putting your vehicle together and then getting it out on the streets to actually do some testing.

The slide now on the screen is an image of me and a fellow engineer working on a prototype of our vehicle.

You can see the chassis of the car, all of the electrical wiring. There is some suspension up front--Which wasn't very good!--and then at the very front of the car, there is a wooden box that houses a number of lithium ion batteries.

The thing about solar power technology is that it requires the sun. You need a really clear sky, a sunny blue day in order for the types of cells we were using to be the most efficient.

Unfortunately, we don't always get those "perfect weather" days. It is often cloudy and overcast, or raining, or even hailing, and so sometimes you want to be able to drive your car directly off your batteries.

So you can use your solar cells to charge your batteries and use that energy source as a reserve to power your vehicle.

Once you have done some testing on your car, you have manufactured everything, you've got everything together, then you actually get to take it to Austin, Texas for a scrutineering phase.

In your Scrutineering Phase, Officials from the North American Solar Challenge go over every aspect of your car, to make sure it is actually safe to drive on highways. So they make sure that your mechanical design is safe; they make sure that there are not going to be any structural issues with your chassis or the frame of your car;

they make sure that you have turn signals and a rearview camera, just like the normal “working car” that we drive every day.
Everything that a normal car has, these vehicles also had to have, because we were driving alongside transport trucks, pick-up trucks, and any other vehicle that one could imagine driving on our highways.

If you got past that scrutineering phase, the drivers had to prove that they “know their stuff”, that they are able to handle the car and know the systems in the vehicle inside out.

So you take the vehicle to the Texas World Speedway, where all of the drivers do qualifying laps to prove to the Race Officials that they can handle the vehicle.

The image now on the screen is a picture of me doing my qualifying laps at the Texas World Speedway, showing that I had in-depth knowledge of the system.

When we were working on this project, everyday we were learning something new. Every day, something was breaking and failing and we had to go to the basic roots of that hardware and those components in order to better understand how they work.

Everyday, we were trouble-shooting and having to figure out how to improvise and make decisions as to how to get our car on the road.

So even to get to qualifying laps was a big deal for our team.

And then we were really excited when we actually got to start the Race.

The North American Solar Challenge was a 10-Day race, from Austin, Texas, north to Winnipeg, and then west back to Calgary.

And I love showing this picture because not many people can say that they crossed the border between two countries in an experimental test vehicle, with the Customs

Agent knocking on your little window, asking for your passport! (Referencing slide on screen)

It wasn't all smooth sailing for us on this race, either. About three days into the race, I was driving a leg in Oklahoma.

I mentioned that the suspension on the cars wasn't that great.

This is an experimental vehicle, after all!

And every team has a Lead Vehicle that is travelling them.

You can see the van that is front of our car on the image now on the screen, and a Chase Vehicle that is following behind them.

We are all connected by radios, talking to each other; sharing race data. I am giving the team updates about what it is like in the car.

I get to a point where it is starting to feel really bumpy in the vehicle and not having as smooth a ride as I have experienced previously, and I am a bit concerned that everything is not "okay" in the vehicle.

When I relay these concerns to the rest of the team, our race engineers made a strategic decision to keep pushing until the end of the day -- because we had a truly beautiful weather day and they wanted to see how far we could get and if we could make up any time.

Unfortunately, when we pulled over at 6 p.m. at the end of the race day and took the top shell of the car off -- which you see in the picture now on the screen -- revealing just the chassis underneath, the entire bar that was running under my lower back had actually cracked in half.

Every team in the race has a race official that is traveling with them, and soon as our team's race official saw that our chassis was compromised, he immediately deemed our car unworthy to continue racing.

This was a devastating moment. We had worked so hard over the past nine months to get the car to this point, and all we wanted to do was to come back to Calgary with our working vehicle having completed the race.

Fortunately for us, the timing worked out perfectly, in that we actually stopped outside of a barn on a farm in rural Oklahoma and an elderly couple came outside to see what all the commotion was, to see what this spaceship-looking vehicle sitting on their front lawn could possibly be, and they were so excited about what a group of university students was trying to accomplish that they offered up their barn to us overnight to try to repair our vehicle, to get back into working order. It wasn't all

smooth sailing for us on this race, either.

So my amazing fellow teammates actually spent the next twelve hours welding our chassis back together in order to get the car race-worthy and on the street at 8 a.m. the next morning to continue racing.

We were able to do that in that moment, in that high-stress situation, because we had learned to fail over the previous nine months and had made strategic decisions about how to get past those failures.

That allowed us to get past this major failure when it really counted. And ultimately, at the end of the day, we crossed the Finish Line at the University of Calgary, with 10,000 people who came out to cheer us on, to see what a group of students with resiliency and passion, and drive, could accomplish with limited materials and a limited amount of funds.

The one thing that I remember most about this day, actually, when we crossed the finish line is that a young girl came up to me and asked me for my autograph, and the reason she gave for doing so was that she had never seen or met a female solar powered car driver before.

I want you to hold on to that thought for a little later in my presentation.

One of the other commonalities between all of the projects that I have worked on is that they have all been experiences outside of my comfort zone. They have been

projects that I had been scared to undertake, projects where I felt I didn't have the skills to succeed, projects in which I felt out of place.

And I particularly felt that way when I started my first job out of Graduate Studies at MDA, which is the company that built the CanadaArm2.

What you are now looking at on the screen is CanadaArm 2, which was instrumental in building the International Space Station and which continues to operate on the space station today.

When I was hired into MDA, they brought me on for a Project called "On-Orbit Satellite Servicing".

They wanted to use a next-generation robotic arm, a next iteration of the CanadaArm, to repair and service satellites in orbit.

Out of curiosity, how many of you here today have used a phone?
--- (Show of hands)

And how many of you have checked the weather in the last week?
--- (Show of hands)

How many of you have used GPS in the last month?
--- (Show of hands)

How many of you have flown on a plane in the last six months?
--- (Show of hands)

And how many of you have eaten food today?
--- (Show of hands)

Almost everybody.

All of these activities, and so many more things that we depend upon in our daily lives, rely on satellites, these amazing pieces of hardware that could be the size of a shoebox to the size of a school bus, orbiting around the Earth.

The thing about satellites is that they are designed to last only a certain amount of time. Just like our vehicles or our appliances, they can break down and they can run out of fuel or propellant.

Unlike our appliances and our cars -- which can get fixed if they are broken, where you can take your vehicle to a mechanic to get the tires changed or the oil changed -

- satellites have no opportunity to be fixed or repaired in orbit. That type of infrastructure simply doesn't exist in space.

What you now see on the screen is an artist's rendition of all of the space debris that is currently in orbit around the Earth. It can be debris that is the size of a paint fleck, to the size of a marble, to the size of screwdriver, through to an entire satellite that is no longer functional because it has had parts break down or it has run out of propellant.

The paradigm of the current Satellite Industry is to launch new satellites into orbit to replace the ones that have broken down in order to meet our growing demand for data without doing something about the satellites that are up there.

It is not sustainable, and it shows no accountability for how we are using the environment around Earth or how we are exploring space.

So the idea was to use a robotic arm to repair and service these satellites.

On the screen, we see a broken down satellite and what we would call a "Space Mechanic", or "Orbital Tow Truck", and on that orbital tow truck, there are two

robotic arms and those two robotic arms literally deploy in space and manoeuvre themselves to the broken-down satellite and carry out repairs on it.

Whenever you are doing space Pprojects, you are going to launch hardware into outer space, you have to pass through a series of technology-readiness levels.

That is a scale from 1 to 9.

So a 1 on the scale would be “Hey! I have an idea!”, like the pictures you see on the screen, which is an artist’s idea of what this could like -- to a 9 being “I’ve actually flown in space”, like the Space Station or the Canadarm.

You have to pass through all of those technology-readiness levels in order to actually be operating hardware in space.
In order to get through those levels, you build hardware on the ground. You build prototypes of what you want to do, to show that your idea is actually possible.

Just like on that solar powered car, where you start off with the brainstorming phase and then order your parts and start testing a prototype, we build prototypes of space hardware in our labs in order to prove that they could work in space.

On the screen, we have an image of a robotic arm we have in our lab in Brampton, trying to show and prove-out the technologies that would be necessary to repair a satellite in orbit.

This robotic arm works exactly like one of our arms. If everyone in here wants to just put out an arm, right or left -- I will get you all moving a little bit -- we all on our arms have a shoulder, an elbow, and a wrist. At your shoulder, you can pitch up and down and you can yaw right and left. At your elbow, you can pitch up and down; and at your wrist, you can move three ways: you can pitch up and down; you can yaw right or left; and you can roll.

This robotic arm literally works in the exact same way. It has a shoulder that is mounted to the floor of the laboratory, down here; it has an elbow, just like we

have an elbow; and it has a wrist over here that moves in those three degrees of freedom. (Referencing slide on screen)

So it is pretty neat, to me, to think that we have this amazing technology that we use in outer space that is adapted from things that we know work really well.
If you or I wanted to send a text message or grab a jar of peanut butter, we use our hands -- because they are really good at doing dexterous tasks.

These robots don't have hands per se; they have something called an "end effector", which is the large hunk of metal that allows the robot to grab on to other tools to carry out its tasks.

In order to do something like satellite servicing in space, you have to get access to the components on the satellite.

In this case, we were trying to prove-out the idea of refueling a broken-down satellite -- which is actually very similar to refueling our vehicles here on Earth.

If you or I needed to go fill up our vehicle, we would simply pull into a gas station. Once we are at the gas station, we would jump out of our car, go over to our fuel door, open the door, unscrew the cap, and then grab the fuel nozzle from the gas station, put it in outrvehicle and start pumping fuel from the gas station into our car. It is really very similar for a satellite. Instead of the little door on our vehicles, satellites have are called "thermal blankets".

That is this white material in the corner. (Referencing slide on screen)
That thermal blanket covers the entire satellite, to protect it from the extreme temperatures of space.

So you have to move those thermal blankets out of the way in order to gain access to your valves.

After that, in the same way that we unscrew the cap on our vehicles, you have to unscrew a tiny little nut on the top of the "fill/drain" valve.

Once the robot has removed that nut, it can put a tool over top of the valve and start pumping fuel along the hoses of the robot from your orbiting tow truck vehicle into the broken-down satellite, making it workable again.

When I was first hired-on to this Project, I was doing a role called "Operations Engineering", and this was essentially taking 3D models from the Mechanical Engineers and the Designers, putting them in software where I could visualize the entire mission, where I could rehearse all of the elements of what was going to

happen, to prove out our concept, to prove that it would actually work, before we started ordering hardware.

As I am sure most of you know, if you are working on a “real world” project for a customer, you often have to go through major design seviews, to give your customer updates about what you are working on, and to make sure that you are still on the path that they are expecting you to be on.

About a month into this job, we had our first major review with our customer, and because I was the only person doing this role in Operations, my supervisor asked me to put together a presentation about what I was working on and present it to our customer. I was extremely nervous. I had just started this new job in Robotics. I had no idea what I was doing, and I had no experience in robotics. I didn’t take robotics in University; I didn’t study robotics in my Master’s Degree.

Sure, I had built solar cars and learned how to fly a plane. But none of that knowledge, to me, translated into robotics.

I spent a lot of time putting my presentation together. I spent a lot of time rehearsing it, going over it with colleagues, to make sure that I had everything in check for the presentation with our customer.

When the time of the Customer Review came, I got up in front of the room, got through my presentation, smoothly, and then just kept thinking to myself: Please don’t anyone ask me a question! Please don’t anyone ask me a question! Please don’t...

And then, of course, someone’s hand in the room had to go up!
I don’t even remember what they asked me, and I certainly did not know the answer, and it felt like hours that I was standing up there, frozen, not knowing what to say, and then I said the only thing I could think of, which was: I don’t know.

And a more Senior Engineer jumped in, answered the question, and the review went on without a hitch.

And I know that is a really simple example; but I think it is a powerful reminder that it is okay to admit that we don’t have all the answers, that it is okay to admit that we don’t know things -- because the reason we put ourselves in situations outside of our comfort zone is to surround ourselves with experts who can teach us things we don’t know, who can teach us and encourage us to push our own limits and test our own capabilities.

And what I love about working outside of my comfort zone is that it is such a great gateway to life-long learning. You will put yourself into a situation outside of your comfort zone, where maybe you are at the bottom of the totem pole, where you are not the expert, and slowly you learn, you gain more expertise, and you start to

become the expert and you are becoming more inside your comfort zone. And once you get to that point, you go back outside of your comfort zone.

So constantly look for opportunities that are outside of your comfort zone.

I want to now move a little bit away from the projects that I have worked on to one of my other passions in my extracurricular activities, which is a passion for the outdoors.

I believe you can learn a lot from your extracurricular activities that translate back into your career, and vice-versa.

I love hiking, spending time outside, and doing long-distance backpacking, and a few years ago, I had an incredible opportunity to hike a trail called the Akshayuk Pass, in a park on Baffin Island, called Auyuittuq.

It is a 100-kilometre trek through this beautiful valley, surrounded by mountains, a river flowing all the way down the center, and glaciers running down into that main valley.

This is a remote hike. To give you an idea of what we did, we started in Toronto, down here, flew to Ottawa, flew all the way up to Iqaluit, to a smaller town called Pangnirtung, and then to an even smaller town, on Point 5, (Referencing slide on screen) called Kiq. (ph)

Point 5 is essentially up here, and then we got a boat that took us up the North Pangnirtung Fjord, to the start of the trail, where we would set out to hike this 100 kilometres back out to here, to the Southern Pangnirtung Fjord. (Referencing slide on screen).

Because this was quite a remote hike, when we got to Kiq, we had to do a mandatory orientation session with Parks Canada.

It was about a 3-hour Session, and honestly the only things that I remember from the Session are two of the biggest risks on this hike: one was polar bears, that we had a good chance of encountering one on the hike; and the second one was “major river crossings”, because you are hiking down this valley with a river running through it, with glaciers that are feeding into the main river, there are a number of crossings that you have to do.

And the one piece of advice they gave us was to cross the rivers as early as you possibly could in the morning -- because that is when their flow is at the lowest. At that point in the day, there hadn’t been time for the sun to be beating on the glaciers,

increasing the melt, or you wouldn't have a lot of rain accumulation, also increasing the flow of the river.

I actually didn't think much about that at the time. I didn't appreciate the great difference in the flow of the river from 4 a.m. in the morning to 3 p.m. in the afternoon.

This hike took us about seven days, and on our third day into the hike, we had one of our major river crossings, which is the river you see on the screen.

I took a picture of it right before we crossed it.

We got to this river at about 3 p.m. in the afternoon -- which was way later in the day that the Parks Canada Staff ever recommended that we cross a river. But it also seemed too early in the day to stop hiking. We figured we could have hiked for three or maybe four hours more after crossing this river, and we really wanted to get to the other side. So we made the decision to cross it.

I packed everything away in my backpack that could possibly be loose, pulled out my trekking poles, undid my hip belt, and started making my way across this river.

I actually did quite well, for the most part. I got about 90 percent of the way across when I slowly felt the rocks beneath my feet slipping and I started to slip with them. My partner was crossing with me at the same time, saw me starting to slip, thought I was going to go down and so made the slightest motion to reach out and put his hand on my bag to stabilize me -- which was enough to actually throw me off balance. My feet went out from under me, and I started floating down this river.

I lost both my trekking poles; I was soaking wet in the Arctic, and it took me about 200 metres before I was able to clamber my way out to the other shore. Fortunately for me, the only thing that was wounded was my pride, because I had made such a stupid decision to cross this river.

Fortunately for us, the weather actually cleared. It turned out to be an amazing day, and we were able to set up a clothes line to dry out some of my clothes. But for me, this was a perfect lesson in patience and that oftentimes in life we want success immediately. We just want to get to that "other side". We want everything to happen right away, without taking the time to evaluate the risks and everything that could possibly go wrong in the path to achieving our goals.

And so while I talk a lot about working outside of one's comfort zone and persevering, that doesn't mean that one shouldn't take the time to slow down and

evaluation one's surroundings and the resources one needs in order to get to that next step.

The other thing I will say about this hike is that the partner that I was travelling with is actually six-foot-seven.

So that river -- which, for him, was probably below his knees -- was up to my waist, and I should have known right away not to evaluate my capabilities against his capabilities. I should have in that moment recognized that while he might have been able to cross the river, I certainly couldn't, and it wasn't a good decision for us to keep going.

So take the time in your career to be patient, to take in those steps day-to-day and evaluate your risks as you proceed forward and you will get to the finish line, with arms outstretched, maybe to the sky, like in this case (Referencing Slide on screen), having made it to the end and crossed the finish line.

And then I want to finish today talking about mentorship -- because I wouldn't be where I am today without the power of mentors, without people who have been my champions, who have encouraged me to take on opportunities that I didn't think I ever could, who have encouraged me to push my own limits and test my own capabilities.

Some of my greatest mentors have been people I've had one-on-one relationships with, like the woman, through the Women's Executive Network, that I mentioned earlier this afternoon, like Maryse Carmichael, the first Commanding Officer of the Canadian Forces Snowbirds, who I was able to e-mail questions regarding her career, about what it was like for her to work in a male-dominated field.

I had my supervisors at NASA who were also my Champions.

But oftentimes, mentors and role models can be those we see from afar, people that we see and recognize in the media.
I mentioned early-on in my presentation that I grew up watching Sci-Fi, that I loved shows like Star Wars and Stargate, one of my favourites.

On the screen now is a photograph of Samantha Carter, the lead character on the show Stargate-SG1.

For over a decade, she was a reminder to me, on a weekly basis, that women could succeed and thrive in the sciences, in non-traditional roles and in situations outside of their comfort zone. And I truly believe, as a woman who is advocating to get more women in these types of roles, in Science, Technology, Engineering and Math, that we need better role models in the media, positive role models on an

every-day basis that young people can see and relate to and see a career path for themselves in it.

To emphasize that point, I want to do a little bit of an experiment, one that I do at all of my talks. So I will ask everyone in the room to stand...

I have been talking for a while, so this will give you an opportunity to move around, to stretch your legs.
--- (Audience in the room standing)

I am going to call out a name. If you recognize the name of the person, remain standing; if you don't know the person, take a seat.

Okay. So remain standing if you know the person; sit if you don't.
Kim Kardashian...
--- (Audience remained standing)

And you can look around the room as I call out these names to see how it turns out.
Steve Jobs...
--- (Audience remained standing)

Adam Savage...
--- (Audience members beginning to sit)

MS. PANEK: Okay. So I had the entire room standing for "Kim Kardashian" and "Steve Jobs", and about half the room standing for "Adam Savage".

What about Wynne Shotwell...
--- (Additional Audience Members took their seats)
And you guys can continue looking around the room.

What about Elon Musk...?
--- (Those Audience Members standing remained standing)

If you know the person, you can stand back up.
--- (Complete Audience Standing)

Okay. What about Jessi Combs...?
--- (Some Audience Members took their seats)

What about Melissa Pemberton...?
--- (Some additional Audience Members took their seats)

Okay. I think I now have the whole room sitting.
It is kind of hard to see to the back.
And one more: Simone Giertz...?

--- (Audience Members Sitting)

Every time that I do this, I get the same results: everybody knows the Reality T.V. Stars and the men working in Tech. But when I say names of incredible women, women who are doing visionary work in Science, Technology, Engineering and Math, we don't know who they are.

Turning your attention to the screen, we have here Jessi Combs, one of the coolest women I've had the privilege of meeting. She is a Customs Car Fabricator and is trying to set a land speed record in the rocket car in the photograph, called the "North American Eagle".

We have women like Kimberly Bryant, who started Black Girls Code in the United States to encourage minorities to get into coding and technical roles.

Melissa Pemberton is an aerobatic pilot. She competes in Competitions all over the world. She is also a base jumper and a rock climber.

And then lastly, Simone Giertz, who has risen to fame over the last little while on YouTube as the self-proclaimed "Builder of Crappy Robots".

I have one thing to ask of you all today, and that is to introduce a young woman in your life -- maybe it is a daughter, a friend's daughter, or a niece -- to a woman working in a STEM role, a Science, Technology, Engineering and Math role, because sometimes all it takes is that simple conversation to light a spark and to inspire young people to recognize all of the amazing possibilities that are out there for them and all of the amazing ways in which they can change the world.

And at the end of the day, Tech careers aren't going to be for everyone. But by having conversations such as this, we promote science literacy in our communities, and that means that we are encouraging others to think critically about the world we live in, to be able to validate information that is presented to us and just to be every-

day explorers. And being every-day explorers is what is going to allow us to change the world in a positive and profound way.

Thank you very much for your time and attention.

MR. PURCELL: Natalie, thank you very much for your insightful presentation. We have made a small donation to the Ronald McDonald House on your behalf, in consideration for your taking the time to inspire all of us with a peek into your already full career.

Best wishes on making it up there into Space!
--- (Presentation of the Ronald McDonald House of Ottawa Donation Certificate followed)

INSURANCE AND RISK MANAGEMENT ADVICE:
Liability Insurance Adventures and How to Protect your Business:

MR. PURCELL: There are many commonalities among Surveyors across Canada and, unfortunately, making professional errors is one of them.

Our next presentation will review the insurance loss history of surveyors in Ontario, Québec and nationally. It will discuss common surveyor errors in Ontario and

Québec, examine real life claim scenarios, and outline the financial impact on the surveyor and the client.

This highly entertaining presentation is a “must see”, as I have been told, as you will gain valuable insight on typical surveyor errors and, more importantly, how to avoid making such errors!

Mark Sampson of Arthur J. Gallagher is the Insurance Broker for the AOLS and PSC Insurance Programs. He is the man who puts “Insure” in the word Insurance.

Assisting Mark in his presentation will be his Arthur J. Gallagher Ontario Dream Team, members of the AOLS Insurance Advisory Committee:

Joseph Young, who is our Committee Chair, Dasha Page, and Dan Dzaldov.

As with any Claim Report, that “Dream Team” would not be complete without a word from your adjuster, and so we have with us today Mr. Stephen Black, an adjuster for the AOLS program, from Maltman International.

MADAME MORIN: Du programme d’assurance du Québec, nous allons accueillir deux avocats de Rousseau Boisvert avocats, contentieux de La Capitale assurances générales Inc.

Monsieur Sébastien Patry qui c’est joint à l’équipe cet hiver à titre de stagiaire en droit en vue de compléter sa formation professionnelle à l’École du Barreau du Québec, , et Frédéric Blanchette, gradué en droit à l’université de Sherbrooke en

1998 et qui détient un baccalauréat en common law à l'Université de Queen's à Kingston en Ontario.

MR. PURCELL: Please welcome our Insurance Speakers...

--- (Applause/Applaudissements)

MR. MARK SAMPSON (Arthur J. Gallagher Insurance and Risk Management): Thank you, everyone. We are very excited to be before you.

This is, apparently, the best slot to be in terms of your overall conference agenda, it now being 3:30 p.m. on the first day.

So I thank the "Powers-that-be" for that.

While we are awaiting the arrival of Dasha Page and Joe Young, we will get started.

Thank you for your words of introduction, Murray.

Slide Nos. 1 and 2:
At this point, I will review with you what we are going to talk to you about today. Obviously, we are going to talk about some claim statistics for Ontario, Québec and nationally. Also, in terms of the added value you are going to get today, we are going to talk to you about real-life claim scenarios.

Slide No. 3:
As Murray mentioned in his Introductory Remarks, there are common errors across Canada, common surveyor errors -- and in that regard, we have actual surveyors to talk to you, as opposed to people who play surveyors on T.V. like I do.

So we have actual surveyors who will talk to you about common errors and ways in which to prevent such common errors, and those individuals will speak to you in both English and French as they cover the statistics for Ontario, Québec and nationally. Also as part of our presentation, we have some adjusters with us, who will talk to you about that aspect of insurance.

Once those portions of our presentation have been addressed, I will come back and talk to you about the Ontario program specifically, as it is the Ontario program that

is a part of your AGM. So at that point, I will take ten minutes or so to provide you with an update on that program.

Slide No. 4:
Murray and Sophie have already provided some background on our Presenters, so I won't repeat that.

Slide No. 5:
Let's talk about the Introduction.

When I was asked to come before you and enter into a discussion with you about surveying, I was trying to figure out in my own mind what the commonalities are among surveyors across Canada, what are the things that unite you as a profession,

and, of course, the first commonality I came up with is that you all share the same education, that you all love math and being out in the field.

But that was too easy.

Then I was thinking: What else unites surveyors?

And, of course, the next thing that came to mind was “Claims”.

Surveyors tend to make the same errors. Regardless of what province you are from, what territory, the errors that surveyors tend to make are similar across Canada. So that is definitely a commonality.

But I wanted to get a little deeper. I wanted to try to figure out what unites surveyors across Canada.

As it happens, I represent both the National Insurance Program and the Ontario Program, meaning that I have travelled across Canada in those capacities, and the one thing I came to realize is that surveyors like to drink!

It is definitely a commonality! They like to drink and they like to have fun.

But then I wanted to go even deeper: How do they have fun together? What unites them coast to coast to coast?

This is a big country.

Dancing? Singing?
And then it came to me: Weddings!

Every surveyor likes to attend weddings, and they love to dance at weddings. Is that not true?

--- (Audience reacting in the affirmative)

Yeah!
So what type of song do surveyors like to dance to? What type of group do they like to listen to?

Slide Nos. 6 and 7:
So of course what song?
--- (Music followed: Y.M.C.A. by the Village People)

Every surveyor loves to dance to this song!
Am I not right?

--- Audience reacting in the affirmative)

Yeah! All right. So what I tried to do was to get the Village People to actually come to the AGM; but, unfortunately, they weren't available. So the next best thing I could think to do was to have some of the members up here present themselves as the Village People. If you look at the pictures, they are changing.

(Referencing slides on screen)

We have Dan Dzaldov, as you can see from the picture, dressed as the Indian; next, we have Luc, on the right; and that is actually me, right there, when I used to have a moustache; and then we have J.-C. in the middle; and then, of course, there is

Blain Martin right there; and finally, and, of course, my favourite, one Mr. Joseph Young as the Cowboy.

Ladies and gentlemen, the Village People for the Surveyors! Give them a round of applause.

--- (Applause/Applaudissements)

As the theme of this presentation, I want to identify the smartest surveyors across Canada.

This is the theme today.

I am going to have for you a series of skill testing questions.

And I know it is the end of the day, and I know you are tired. But I want you to participate, if you don't mind.

So everyone please stand up. We are going to ask some questions.

--- (Audience Standing)

First, of course, the Y.M.C.A. theme.

Does everyone remember the lyrics? It is: "Y", "M", "C", "A."
I am going to ask you a question at this point, and you are going to vote on what the answer is.

And at the conclusion of the Questions, I am going to ask you to vote.

You can't look at your partner. You just have to vote on whether it is a "Y", an "M", a "C", or an "A".

And if you get the answer wrong, you have to sit down.

So I have a few questions for you and we are going to see who are the smartest surveyors here.

Slide Nos. 8 and 9:
The first question: Being a land surveyor is the best profession in the world. What is the second-best profession?

The first one: A smell tester?
Next one: Pet Food Taster?
Next one: Elephant Waste Manager?
The fourth one: Insurance Professional?

--- (Laughter/Rires)

All right. On the count of "3", everyone vote. 1, 2, 3: Vote.

--- (Audience indicating their Answers)

And the answer is…"A".
All right! Good!
Stay standing. That is the first one.
Okay. Did anyone sit?
If someone voted wrong, I am actually hurt! I am actually hurt!
Okay.

I wasn't always an Insurance Professional. I actually used to drive a bus. I am forty-two now. It was nineteen years ago that I drove this bus. But I wasn't very good at it. And the reason I wasn't very good at it is that my math skills were just "okay".

Now, you surveyors have awesome math skills...
Well, actually, some of you don't! I have seen some of your errors!
But let's just say that most of you do.

Slide Nos. 10, 11, and 12:
So here's a math question for you...
Is everyone ready and focused?
All right. Here we go.

Number 2: You are a Bus Driver. You start your route at 11 a.m. and there are fifteen people on the bus. At the first stop, two people get off and four people get on. At the next stop, two sets of twins get on and a mother and her baby get off. Then, two stops later, a group of teenagers get on, but only four of the kids pay and

one doesn't. On the final stop, two boys, three seniors, seven girls and one set of twins get off the bus. Did everyone get that?!

All right. Here comes the question: How old was I when I drove the bus?

Some Audience Members: Nineteen!

MR. SAMPSON: Don't say it. Wait for the balance of the question.
Forty-two; eighteen; twenty-three; or twenty-seven?
On the count of three, everyone is going to vote.
Ready? "Y", "M", "C", or "A"?
Go! Vote!

--- (Audience Members indicating their Vote)
And the correct answer is "twenty-three".
If you got the wrong answer, sit down; if you voted "C", remain standing.

--- (Audience Members standing and sitting)

All right. We have some "smarter surveyors"!

Slide Nos. 13 and 14:

Next question: How many people were left on the bus?

--- (Laughter/Rires)

"Y", ten; "M", fifteen; "C", eleven: "A", nineteen?
Are you ready to vote?
Okay. Vote "Y", "M", "C", "A".
One, two, three: Vote!

--- (Audience Members indicating their Vote)
Ten people.
Who voted "Y"?
Remain standing.

--- (Some Audience Members Standing)
Good job!
Wow! You guys are really smart!

Slide Nos. 15 and 16:
Last question.
I know that some people think of the surveying profession as boring.
I personally don't.
Some people think it's old.

I don't.
Now is your chance to prove me wrong.

Question Number 4: Who sings this song?--And no helping from the audience.
Ready?
Only the people who are standing can vote.

--- (Music followed: "You used to call me on my cell phone..."

Snoop Dog; Fifty cents; The Weekend; Or Drake?
All right. Are you ready to vote?
"Y", "M", "C", "A". Last one. Ready? One, two, three: Get ready to vote.
Get ready, Murray. Hurry up!

--- (Audience Members who remained standing indicating their Vote)

The answer is "Drake".
All right!
Who is remaining standing here?

--- (Some Audience Members remaining in standing position)

These are the smartest people in Canada for surveyors.
Give them a round of applause, everyone...

--- (Applause/Applaudissements)

The smartest people!
Well done! Well done!
How come these guys were sitting? Did they fail right off the bat?
Okay. We've got to move on. We are going to talk about some claim statistics. I am going to turn the microphone over to Joe (otherwise known as "the Cowboy"), who will talk to you about Claims.

MR. JOSEPH YOUNG, (Chair, AOLS Insurance and Claims Committee): Thank you.

At the outset, let me apologize to our audience. I'm traumatized. I had to see the backend of Mark dancing behind the podium!

--- (Laughter/Rires)

Slide No. 17: Claims Statistics:
My portion of the presentation will not be as exciting as Mark's, but I thought I would provide you with a little bit of background on the past five years and current Claims, as Chair of the Committee.

Slide No. 18: Ontario Claim Statistics:
As you can see from the slide now on the screen, over the last five years, we have averaged about a million dollars a year in claims, unfortunately, with the average being about $20,000 per claim.

So claim levels remain fairly consistent year-over-year.

Slide No. 19: 2016 Potential Claims Overview:
Next, a breakdown of the claims registered in 2016, broken down by "Construction", "Legal", "Topo", and "Other".
As one can see, Construction Claims make up a large percentage of overall claims, and a large percentage of the Construction is vertical, something that continues today.

Slide No. 20: 2016 Potential Claims Overview:
On the slide now on the screen, we have a further breakdown on the types of errors that we as a committee see.

That completes my portion of the presentation. Thank you.

As chairman, I have delegated the balance of this portion of the presentation to everyone else!

--- (Laughter/Rires)

Slide Nos. 21 and 22:

M. BLANCHETTE: Merci, merci. Je serais aussi bref pour les statistiques relatives au Québec que mon collègue Monsieur Young. Le tableau que je vais vous présenter consiste en une répartition du numbre et du montant des réclamations par type de mandat et par région en fonction des sinistres qui nous ont été rapportés chez La Capitale entre le 1er avril 2015 et le 31 mars 2016

Comme vous pouvez le constater, c'est environ 80 réclamations qui au Québec nous ont été présenté chez La Capitale pour les arpenteurs-géomètres, pour une somme totale d'environ 1 200 000$.

En fonction des mandats, vous pouvez constater à même le tableau, c'est surtout en fonction des certificats de localisation puis les certificats d'implantation que des réclamations sont formulées finalement à l'égard de votre travail. Si on fait la somme, c'est-à-dire du nombre de réclamations, 38 et 16 sur 80, ça représente

litéralement 70 pour cent des réclamations qui concernent ces deux mandats-là précis, puis si on fait le total des montants, c'est environ 800 000$ sur 1 200 000$.

Donc je dirais que l'essence du travail est là, puis c'est ça pour les statistiques au Québec.

Merci beaucoup.

MR. SAMPSON: Thank you.

I, too, will be brief. I know claims statistics aren't the highlight of the presentation.

I represent surveyors nationally.

The Professional Surveyors of Canada has a Program that includes everyone except Québec and Ontario.

Slide No. 23 and 24: Losses by Year Canada (excluding Ontario and Québec):
As one can see, looking at the slide now on the screen, total claims costs are a little higher when averaged out across Canada. But what I will focus on for purposes of my portion of the presentation is the "Losses by Policy Year" for the national on a national basis.

Slide No. 25: Percentage of Claims by Region for 2014-2016 Policy Year:
Based on my experience, B.C. mainly has Construction Claims and Title Claims; Alberta is primarily Construction -- and as one can see from the graph, that has the highest cost.

Title Claims last the longest, given their litigious nature.

And as you go through to Ontario, we see that it is a bit of both, "Construction" and "Cadastral"; and then once you get to the East Coast, the Claims are much more title-related.

We see the percentages set out on the graph; but I am not going to spend a lot of time on that aspect of the presentation, given the time constraints we are facing.

Slide No. 26: Claim Scenarios:
At this point, I am going to move on to the "Recent Claims" examples.

For the most part, these examples are not made up. They are disguised to some degree, but they center on real-life claims.

To my mind, this is one of the more important things that you are going to learn all Conference.
You don't want to make these mistakes.

They are avoidable. These are mistakes that some of your colleagues have made, and you are going to learn ways to avoid them.

I will now turn the microphone over to Dan, who will focus on one of the claims, "Communication Errors".

MR. DAN DZALDOV: Thank you.
I decided to open by quoting George Bernard Shaw, as follows: "The single biggest problem in communicating is the illusion that it has taken place."And I sincerely hope that this quote acts as my theme for this presentation, rather than your opinion of my portion of the presentation!

Slide No. 28: Types of Communication Provided:
What often seems clear and obvious to us may not be clear to the client. And further, in the liability world, properly documented correspondence is key.

On the slide are some types of communication I have chosen to speak about -- and I will quickly run through them with you.

They are: temporary benchmarks, housing cut-sheets, commercial building layout sheets, CAD Files, and coordinates -- and I am going to focus on "coordinates" at the outset.

Slide No. 29: Temporary Benchmarks:
But just going through the others quickly, for "temporary benchmarks" -- and hopefully most of this is going to be information that you already know, with some of it, perhaps, being a "reminder" for you, something that you are not doing.

These all come from the claims that we receive.

As Mark has said, we simply pulled these out.

Obviously, when you are providing temporary benchmarks, you should be providing more than one, for the obvious reason that something could be wrong with one of them, and then ask them -- and you are going to hear me repeat this -- ask them to report any discrepancies.

The fact that you told the client to tell you about the discrepancy before acting on the survey might mitigate your damages down the road, in the event that it is found that there was something wrong.

You always get the call "Just send me your benchmarks".

You are taking on liability.

This isn't a Business Presentation. This is a Liability Presentation.

You are not looking for fees to go out to the site to verify; but you are taking liability. So why wouldn't you go out to the site to make sure that everything is okay before you provide the client with the information!?

Slide No. 29: Housing Cut Sheets:
Next, housing cut sheets.

Make sure they are clear. And again, what might be clear to you might not be clear to the client.

These days -- and perhaps it has always been this way -- there is a lot of underside of footings, or more than one underside of footing on most Housing Site Plans. So make sure you circle and communicate what you have done.

You have sites where you have a new excavator who has never worked in residential before and he makes his assumptions and so we don't know what happens when you see him.

Make sure they know what you have done.

Again, whenever you are sending information, ask them to let you know first if there is a problem.

Dasha is going to talk a little more about "office checking". But make sure you checked your information before you send it out.

You would rather have a client upset that you sent it out at 1 o'clock in the afternoon as opposed to 9 o'clock in the morning, when they wanted it, because you might catch something and stop them from making a mistake, or worse.

Slide No. 30: Commercial Building Lay-Out Sheets:
Next, "Commercial building lay-out sheets".

Again, make sure everything is clear. Circle, communicate exactly what you have done. Don't leave it for their interpretation to know what offsets you put on and which gridlines you marked. Make sure that is all clear.

Again, "report if there are any discrepancies" and wait until you have checked the information.

We have talked about it before. You want to check everything the next morning.

We are all busy. But a lot of mistakes can get caught pretty quickly and you can act on the matter before it gets out-of-hand.

Consider providing a special lay-out sheet for industrial/commercial properties. The contractors love using your information when you provide a full drawing, fully dimensioned.

They don't want to have to open up their full set of drawings. But you may have taken information from somebody else for use on your drawing, as opposed to laying out those points yourself. You may have laid out four points for them and your drawing shows the whole gridline structure, with dimensions.

In such instances, why would you want to be responsible for somebody else's work!?

So try to give the client only what you need to give in order to illustrate what you have done.

Slide No. 30: CAD Files:
If you are going to release CAD Files, make sure your client is aware of how current the information is.

Sometimes, you are releasing something prepared quite recently; other times they might be contacting you for an old file, in which event you want to make sure you communicate what time period the information is from and what you believe it can be used for.

Again, "report discrepancies".

I presume at this point, most people, if not everyone, has a disclaimer that goes with the drawing, and one of the things you might want to note as part of that disclaimer is commenting on "changes to the plan".

We have actually seen claims where the CAD File was manipulated. But then, of course, everyone looks to blame the surveyor.

So adding some wording to the Plan of Survey with respect to changes to the plan might help.

Slide No. 31: Coordinates:
Next, "coordinates".

I am going to elaborate a little more on "coordinates" a little later. But if you are agreeable to providing coordinates, make sure you make it clear to the client and whoever else you are sending the Plan of Survey to exactly what you are supplying. I realize that it is actually quite easy to simply send out coordinates.

Most people are busy and they just want to be finished with that phone call.
I recently had a file on a 10-acre parcel where the client was starting to do work --

and we had done work in the area before.

We had worked on the parcel before and, of course, the request was that we simply send along the coordinates.

Slide No. 32: Sample Exchange with Contractor/Client:
When I came up with this particular slide, it was about five weeks ago. So actually it is now six weeks and a lot more than fourteen e-mails that have gone back and forth, trying to explain to the client why it is not as simple as just giving the coordinates and what the issues are with them, and the matter is still not resolved. Was it easier to simply give them what they wanted?

Yes. It certainly was. But it is not always the right decision.

Slide No. 33: "The Story"
Next, a Sample Case which is based on something that happened recently. Surveyor was a legal surveyor for a 2x2km development block in the GTA. There are about ten subdivisions within that block for different developers, mostly residential but with some commercial properties in different little pockets of the block.

The Surveyor used a known coordinate system but scaled the data to ground, with the scaling point being somewhere in the middle of that 2 x 2-kilometre block.

Over the years, as is common, municipalities want information for the GIS and so they asked for the CAD file, and the surveyor provided it, with an explanation that it was provided "in grid", so that they could easily install. So it was scaled back to grid.

A number of years after the registration but before the subdivision, or one of the subdivisions, was assumed, the developer was ready to get the commercial block developed and, of course, since the assumption was not completed at that point, as is often the case, there were virtually no survey monuments on that property.

The contractor, as contractors do, sent an e-mail to the developer asking that the developer get the surveyor to send along the Control Points, and the developer, of course, forwards that to the surveyor.

No matter how many times you discuss these things with the developer, they simply forward the e-mail and assume that you are going to supply the information to them.

I have two scenarios for you.

Slide No. 34: "The Outcome" - Scenario #1:
The first scenario is: The surveyor is swamped and would love to just provide the information they want and not open another File.

So the surveyor has someone pull that file. The surveyor has someone photocopy and supply the Control Sheet, as well as the coordinate listing. The surveyor goes for lunch. The surveyor returns to the office after lunch. The food was fine. But something is wrong. What is it?

And we will get back to that.

Slide No. 35: The Outcome" – Scenario #2:
The second scenario starts in exactly the same way: Surveyor is still swamped and would love to just send the information; but the surveyor takes the time to recommend that perhaps it would be better if we actually installed the survey monuments at the corners of the commercial property.

The surveyor also offers to transfer a temporary benchmark.
So, let's make it really easy for them. We will put some elevations on top of the bars at the corners as well -- all instead of supplying the "stock control" from the file.

Slide No. 36: "The Result" – Scenario #1:
Even though the surveyor explained exactly what it was -- the values are in ground and you can't relate this; they are not in grid -- the developer simply passed it on to the contractor and the contractor, in turn, gave it to their layout staff and didn't tell them anything.

So the layout staff input the Control into their GPS Unit and construction starts, with the underground services going in first.

Obviously, they did not check anything "because, you know, the legal surveyor supplied the control. What can possibly go wrong!?"

So all the services were built, and they are about fifteen centimetres off.
I explained to you earlier where the scaling point was.
So everything was off in one direction.

The issue was, ultimately, that there was a huge invoice to move various services and to redesign the site, because they caught this later on, when they went to build the curbs and everything didn't line up.

So the first call is from the client, saying the control was wrong, and the second call is you calling your Insurance Broker, saying: "We've got a problem."

Slide No. 37: "The Result" – Scenario #2:
Likely some e-mails and/or discussions back and forth as to why the surveyor does not supply "stock" control off of the control stockroom shelf. But the result was:
No call to the surveyor's Insurance Broker -- unless you really just want to call to

talk insurance -- and who doesn't like doing that!?

MR. SAMPSON: Come on! Call me!

--- (Laughter/Rires)

Slide No. 38: Photograph:

MR. DZALDOV: I thought I would leave you with a picture talking about "communication" or "assumptions" -- and, on that note, I am going to now call upon our esteemed Past Past President, Dasha Page.

Slide Nos. 39 and 40: Office Checks:

MS. DASHA PAGE: Thank you, Dan.

Unfortunately, as we were putting together all of our cases, some of the stuff repeats, as one can imagine, given that we all make the same types of mistakes. When we went through our zillion slides, we had to delete some, as the cases I had highlighted were very similar to those that Dan brought forward.

So let me apologize at the outset for any repetition with Dan's portion of our overall presentation. The fact that there may be simply illustrates the fact that we all make the same mistakes, whether we are based in Ontario, Québec, or any other region of Canada.

And I can assure you that the same types of mistakes are made in Europe, where I originally come from.

We have to check our work. There is simply no way around it. We often ignore this checking as a very redundant chore. It is very easy to do so, given how busy we all are. But unquestionably, checking our work is a very effective risk management tool and one that is important to incorporate into one's business practices.

Checking your work enables you to detect or minimize the exposure to mistakes and errors that can result in a costly financial burden, not to mention, of course, a tarnished reputation.

A sound checking process also supports the achievement of quality.
There is no question about that. Every surveying business should incorporate adequate checking procedures into their quality improvement process.

And it is very easy not to do so. We are all very busy, and particularly so in today's market. We have far too much on our plates, making the Check List seem just such a waste of time. But it can protect you, and it can protect your Business.
Slide No. 40:

A properly developed checking process will identify the potential risks, as well as providing a quality assurance and improvement of your system, and it will demonstrate your commitment to protecting public confidence and interest.

Slide No. 41: Checking Procedures Most Often Missed:
As we review all cases at the committee, these are the common checking procedures that are most often missed. (Referencing slide on screen)

A lot of Surveyors don't seem to really deal with the "Written Contracts and Client Reporting" procedures.

It is very important to have written contracts. Those written contracts don't take you too far -- and, as surveyors, we are always blamed for everything.

All of you know that.

Next, the "Project requirements and deadlines".

It is essential to know and to state the project requirement and deadlines in the contract.

"Geodetic datum" is one that seems to come up quite often lately; and finally, "Site Bench Marks", as Dan has already mentioned.

Also, horizontal coordinate datum cannot be missed nor under-estimated. Also of utmost importance is "field work check, followed by office check".

We have all been there and will be there again. Let's try to minimize the risk.

Slide No. 42:
Let's now get into some of the stories.

Slide No. 42:
1) Written Contracts and Client Reporting
"The Story":
Communication Error: Again, repeating what Dan has spoken about, one of the cases that we reviewed involved a foundation that was laid out for a single residential dwelling. Later on, it was measured to be 20 centimetres too low. Your crew reported that fact to you, but you failed to report it to the client. Instead, it was reported two weeks later.

"The Outcome":
It was discovered eventually that this was not a mistake on the part of the surveyor; that in fact it was one of the trades people that made that error. But because of the delayed reporting, the surveyor was found to be partially responsible and was liable for a payout in the amount of $20,000, all of which was very preventable had the

right checks been in place.

Slide No. 43:
"The Moral – How to Prevent It":
So again it is a matter of communication. Your reporting has to be outlined for each Job. The contract should clearly outline the Scope of Work and the Reporting Procedures, and any issues affecting the project should be communicated to the Client immediately upon discovering, with a follow-up in writing.

And all of those procedures should apply to even the smallest job.

We do that all the time. If it is only a $400 job, those same procedures should be followed. There is no circumstance in which those "communication" procedures should not be implemented. The smallest job can take you down.

Slide No. 44:
2) Project Requirements and Deadlines
"The Story"
Another story relates to the accuracy of the project reporting.

We underestimate, sometimes, the accuracy that is required by the Job. We might have missed something in the scope of work. The client may be asking for 20-milimetre accuracy. You don't realize that, and once they bring the steel in, it is discovered that it doesn't fit.

Now what!?
Again, a small error, resulting in a very large claim.
In this case, it was $100,000.
Twenty millimetres. That's all it takes!
Slide No. 45:
"The Moral – How to Prevent It":
Again, it is very important to confirm the elevation datum and site bench marks. Use higher-precision instruments. Double and even triple-check the lay-out work. Your Confirmation of Order outlining the project accuracy needs to be signed by the client.

Again, speak to the client. Repeat.
You can't do enough of that.
Really, following such procedures will prevent a lot of problems occurring down the road, problems that could bring you down.

Instruments should be calibrated regularly and prior to the high-precision work. Evidence of check measurements should be kept in the Project Field Notes and Raw Data Files.

And photos.

Everybody has a cell phone today. Have your crews take a lot of pictures and save those pictures in the Raw Data File such that they are easily found if and when needed.

Next, Story Number 3.

Slide No. 46:
3) Geodetic Datum and Site Benchmarks

"The Story"
Vertical errors, constantly.
That is all we see.
These are probably the most common errors that we at the committee encounter.
A site benchmark was established by a surveying company for a proposed development. The construction company laid out a number of caissons before discovering that the benchmark was related to the wrong geodetic datum, resulting in a 14-centimetre discrepancy.

This is something that happens quite often, especially in the Toronto area, where we have more than one datum that is used.

Working in the City of Hamilton, I am used to that. There is a difference.
You need to know which benchmark you are requested by the client to use and what the "As Built" Engineering Plans are using.

"The Outcome":
The caissons had to be removed in this case, and the payout was $100,000.

"The Moral – How to Prevent It":
Again, this was preventable had the proper checks been carried out.
What checks were missed? Elevation datum confirmation during office research and calculations; field check on site; and existing site plan feature with a known elevation.

I always tell my crews to take a measurement outside of the Data Collector File.

I just don't like to be called "wrong".

An office check of the field layout would have prevented that as well.

Slide No. 48:
5) Horizontal Coordinate Datum:
Everybody is confused, now, with the horizontal coordinate datum. In Ontario, we are bound by our Regulations to work in NAD83 (Original) or NAD83 (CSRS).

I can't really talk about the Regulations in this regard in Québec and the rest of Canada, given that my experience doesn't take account of those other jurisdictions. So I apologize that my example is limited to the situation in Ontario.

The conversion between NAD27 and NAD83 datums can result in shifts of up to 100 metres or more.

I don't think that everybody realizes that, given the cases we see coming before the Committee.

Comparing results of NAD83 (CSRS) values to NAD83 (Original) values, we see coordinate differences of up to a metre and more for the Province of Ontario.

Again, it is very important to know which datum you are working in, and it is important for your staff to know what they are using.

You need to educate your staff and crews in this regard.

It is not just you. It is the people who are working for you.

Slide No. 49:
6) Field Work Check followed by Office Check

"The Story":
This is all about horizontal error.
A survey crew laid out points in an excavation for a residential dwelling. Later, the crew measured the as-built foundation and found it to be skewed by 12 centimetres. It was discovered that the crew laid out one point in the excavation in the wrong location. How? Well, we are going to find out.

"The Outcome":
The foundation walls had to be torn down and rebuilt, resulting in a Payout of $10,000 to $15,000.

Slide No. 50:
6) Field Work Check followed by Office Check
"The Moral – How to Prevent It":
Again, this was very preventable.
Had we completed the redundant field checks ---
And, quite frankly, the word "redundant" shouldn't be even there. Saving one's skin should not be described as "redundant".

Had we completed the field checks, including hand measuring with a tape, if possible, and taking check measurements with an instrument on the set points; completing office checks as soon as possible and reporting to the client any issues; advising the client not to use the set points until the office check is complete and the

layout verified.

Speaking of checks, does anybody here notice anything wrong with this slide?
I am just wanting to see that you are paying attention.
It is late in the day. We are all tired.

The check mark is going in the wrong direction.
Right?

I am just making sure you are paying attention!
I purposely did it that way.

UNIDENTIFIED SPEAKER: That is a left-handed checkmark!
MS. PAGE: That is a left-handed check mark. Exactly!
Thank you!

Slide No. 51: Use of a Checklist:
Use a checklist as a quality assurance and error prevention procedure:

We make mistakes, not just in construction (though those make up the predominant category), but also in our legal work.

While the checklist is a very important tool, I have two examples for you where a checklist cannot replace common sense. However, checklists will help compensate for our limited memory and attention -- just as you are perhaps experiencing now in paying attention to me.

Again, it is late in the day and I have gone on too long. I am speaking to you in a monotonous tone of voice and the topic is boring.

I understand all of that.
Do I have your attention now!
We have a few examples of plan errors to go over with you.

In one of the examples we have set out on the slide, a sewer easement was shown in the wrong location on a Reference Plan due to a drafting error.

Obviously, the OLS checked it, or perhaps it wasn't in the Land Registry Office Records.

I am not sure.

A proposed condominium development had to be redesigned as a result, and the surveyor suffered the delay cost damages.

Again, another example of an error having been preventable had the proper checks

been in place.

Another example involved a 2-metre road widening that was missed on a Reference Plan.

A new dwelling was constructed on the parcel based on this plan. Another firm prepared a Surveyor's Real Property Report and discovered the missing road widening. The dwelling was found encroaching into the front yard setback by 2 metres. Unfortunately, this dwelling had to be demolished, at the cost of the surveyor.

Again, preventable!

Slide No. 52: Claim Scenario "Ontario":
On this slide, we have an actual example
So what went wrong here?
What Went Wrong?

We see a stake. You got a phone call: "You messed up. Your crew sent me a temporary benchmark on the site. It was wrong. My excavation was 1 metre too deep."

Did anyone see anything wrong?
Of course, you are the judge.
Did your crew set the site benchmark on the wood stake wrong?
How do you know?
What was your checking procedure?

Do you have the checking procedures? Do you have your raw data file? What do you have to check?

"How can you prevent this":
The crew needs to take check measurement to known points prior to and following setting of the benchmark.

That would obviously let you know whether they did a good job, that they set the benchmark correctly.
The crew also needs to take a check measurement on the benchmark they set on site, with that point recorded in their raw data file.

Slide No. 54:
"A Further Problem":
But the client is saying that we had altered our raw data file and that we are just trying to get away with a mistake that we had made.

He keeps using the physical evidence of the wood stake, claiming that your crew

went on the site and actually measured the site benchmark to be 30 centimetres too low.

So now you are still facing the same problem: Is it you? Or what is it? What is the problem? Did my Crew make a mistake? How do I know?

Slide No. 55:
What else can you do to Protect Yourself?
How can you protect yourself?

You need to protect yourself. You need to go out of your way to protect yourself, because it is the surveyor that is always blamed in these situations.

I always tell my crews to use a permanent benchmark, such as a utility pole, as opposed to a temporary benchmark, and to take pictures, just so we have some kind of documentary evidence of the benchmark.

Slide No. 56:
And if you must use a wood stake, always make sure to mark not only the elevation of the site bench mark but also the bottom of the wood stake where it intersects with the ground, such that if you go back, you can prove what happened. You can dig around the stake and find the paint mark, proving that they in fact drove the stake down to get away with a mistake that they made on site.

You really need to protect yourself, because, again, it is the surveyor who is blamed for everything. You cannot leave these things to chance.

That completes my portion of the presentation. Thank you.

--- (Applause/Applaudissements) MR. SAMPSON: Good job!

Slide No. 56: Village People:
Moving to the next slide -- and, Blaine, I don't think you saw this slide earlier. By the way, I will accept $50 to be donated to the Education Fund should anyone wish to have a copy of this photograph.

We would be happy to accommodate any such request. I have a whole other section. We were going to ask a whole bunch of other questions. However, given the time, and given that we were a bit behind in starting the presentation, I suggest we skip this section of the presentation -- unless you are really wanting to play another skill testing game -- and move on.

So at this time, I will ask the I.T. people to move to the Québec slides, and I will call on Frédéric to speak to some of the claim scenarios from the Province of Québec.

Thank you.

For above-reference Skill Testing Questions, see Slide Nos. 57 to 67

Slide No. 68: Claim Scenario “Québec”
The Story, The Outcome, and How to Prevent it:

Slide No. 69:
De certaines réclamations plus fréquentes et des manières de s’en prémunir adéquatement

MS. BLANCHETTE: Alors merci à tous d'être ici, particulièrement aujourd'hui. Comme vous le savez, c'est une journée importante. C'est la fin de la période des transactions de la Ligne nationale, et je suis heureux de vous annoncer que Carey Price n'a pas été échangé.

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Diapositive no 70/Slide No. 70:
Cas no.1 : LE TALUS

Mise en situation :
Lorsque Mark m'a appelé pour discuter des cas, des cas de leurres, si on pourrait dire, en responsabilité civile et professionnelle au Québec, je vous dirais que le premier cas qui vient à mon esprit, et j'en ai plusieurs dossiers à mon bureau, c'est le cas du talus.

Et on peut dire, voyons, un talus, qu'est-ce qu'il a de si spécial? Bien, c'est la zone d'éboulement. Et je dois vous avouer que dernièrement, depuis un an ou deux, on a plusieurs dossiers qui concernent la zone d'éboulement qui est non-identifiée, et le cas que je vous donne c'est un cas classique.

Je veux dire, on vous mandate -- on mandate le professionnel, on lui demande d'aller sur les lieux pour préparer un certificat de localisation. Très souvent on situe dans la couronne nord de Montréal, comme vous savez, où les arpenteurs qui travaillent dans cette région, c'est la présence de l'ancienne mer de Champlain, et on a souvent des dénivelés.
Et à ce moment-là on est souvent en présence donc de talus, et la plupart du temps la plainte qui suit le certificat de localisation, c'est la suivante.

Vous avez la mention à la réglementation municipale zone à risque. Le bien-fonds n’est pas situé, en tout ou en partie, à l’intérieur d’une zone d’inondation, ou d’une zone à risque établie par le règlement municipal de zonage.

Or, comme vous le devinez, le propriétaire de la maison finit par savoir, soit par son voisin, soit par la ville ou soit par un rapport et un certificat de localisation

subséquent, que, oh, non, non, vous êtes dans la zone d'éboulement.

Et pour un propriétaire, se faire dire que son terrain peut finalement s'ébouler, qu'il peut perdre peut-être sa maison ou quoi que ce soit, ça cause évidemment, vous vous en doutez, un très grand stress. Et c'est pas long que le professionnel reçoit un coup de téléphone ou une mise en demeure, évidemment.

Cependant, le premier réflexe qu'on vous demande évidemment c'est d'appeler votre assureur de la Capitale. Bon. Une fois que vous appelez l'assureur, il y aura quelqu'un qui va prendre certaines dispositions car bien qu'on ait pu oublier ou mal identifier la zone d'éboulement, il y a une série de procédures que l'assureur va prendre.

Premièrement, on peut obtenir une étude de caractérisation du sol. C'est-à-dire, écoutez, vous êtes dans une zone d'éboulement, mais est-ce que vous êtes vraiment en danger de subir un éboulement? Et très souvent, ce n'est pas le cas.

Il y a également l'assureur peut obtenir une évaluation de la valeur de l'immeuble pour vérifier si effectivement le propriétaire de l'immeuble va subir un impact sur la valeur de celui-ci. Et très souvent, si l'étude de caractérisation du sol est à l'effet qu'il y a très peu de risques, sinon aucun risque d'éboulement, bien, la valeur de la propriété n'en sera pas affectée.

Évidemment le fait de ne pas avoir identifié correctement une zone d'éboulement peut entrainer la responsabilité professionnelle et l'assureur va vous conseiller d'envisager le règlement du dossier. Mais à ce moment-là, si évidemment il y a eu un rapport de caractérisation du sol en bonne et due forme et si le talus semble stable, les dommages seront probablement très peu élevés, soit probablement le coût si jamais c'est le propriétaire qui l'a fait, le coût du rapport de caractérisation du sol lui-même. Parce qu'une faute professionnelle n'entraine pas nécessairement des dommages.

Mais c'est évidemment nécessaire d'aviser l'assureur en temps opportun pour faire les démarches qui vous ont été expliquées.

Maintenant, comment peut-on éviter qu'une telle situation se produise?

Évidemment, le premier conseil, c'est de bien analyser le règlement de zonage de la ville car habituellement la ville elle-même identifie les zones types et qui sont propres un talus ou une zone d'éboulement.

Également je voudrais vous rappeler la législation. Vous la connaissez déjà évidemment, mais le Règlement sur la norme de pratique relative au certificat de localisation. Si on va au paragraphe 8, on dit :

L’arpenteur-géomètre qui confectionne un certificat de localisation doit avoir

personnellement pris connaissance de la réglementation municipale applicable au moment de la préparation du certificat et conserver au dossier les références à la réglementation consultée.

Tant qu'au paragraphe 9 :
Sauf dans les cas visés à l'article 10, l'arpenteur-géomètre doit vérifier les divers éléments concernant ou affectant le bien-fonds qui fait l'objet du certificat de localisation et notamment les suivants.

Paragraphe 21:
Le fait que le bien-fonds soit situé ou non, en tout ou en partie, à l'intérieur d'une zone de protection, d'une bande de protection, d'une zone d'inondation ou d'une zone à risque établie par le règlement municipal de zonage

J'aimerais vous rappeler, sur ce sujet, au sujet du talus, que le simple avis d'un agent ou un inspecteur municipal n'est pas suffisant. S'il vous plaît prenez connaissance vous-même du règlement. On ne peut pas, en matière de jurisprudence, simplement demander l'avis à l'inspecteur municipal. Ce n'est pas raisonnablement suffisant pour s'assurer d'être à l'intérieur ou à l'extérieur d'une zone d'éboulement.

Deuxièmement, on vous conseille de prendre l'habitude de faire une visite des lieux. Et très souvent on sait que les techniciens vont sur les lieux, mais on vous conseille, nous, chez votre assureur La Capitale, qu'une bonne pratique consiste à ce que le professionnel aille lui-même sur le terrain.

Le deuxième cas m'est venu en tête, et cette fois-ci c'est un cas où le dossier, ou en fait l'exemple que je vais vous donner, c'est un exemple où le professionnel s'est assez bien comporté. Il n'a pas commis d'erreurs, mais souvent la situation c'est une situation car on demande souvent beaucoup de choses à l'arpenteur-géomètre en matière de réglementation municipale, surtout lorsqu'on parle d'usage des lieux.
Et l'exemple que je vous donne est le suivant. Vous avez des demandeurs. Donc vous avez une procédure judiciaire en bonne et due forme. Les demandeurs ont acquis un immeuble de 5 logements, et ces demandeurs ont reçu de leur vendeur un certificat de localisation qui datait du 1er décembre 2006. Or la vente a eu lieu en 2012 et les vendeurs, eux, viennent dire, bien, il y a eu aucun changement n'ayant eu lieu dans cet immeuble depuis qu'on en a fait l'achat et 2006.

Et la problématique qu'on rencontre dans un cas comme celui-là souvent c'est que le règlement municipal empêche d'avoir cinq logements dans l'immeuble. Alors on dit à l'arpenteur, bien, tu m'as dit que l'immeuble était conforme à la réglementation municipale. Erreur. Et ça, c'est très important.

Le professionnel, lorsqu'il se prononce sur la réglementation municipale, ne doit pas se prononcer sur l'usage. Ici, le professionnel se prononce, mais relativement à ce qui lui est demandé par rapport au Règlement sur la norme de pratique relative au certificat de localisation. Et habituellement on lui demande de se prononcer sur la

conformité du bâtiment eu égard aux marges de construction qui doivent être respectées selon le type de bâtiment.

Et dans le cas que je vous présente, je peux vous assurer que c'est ce qui était écrit dans le certificat.

Or les techniciens du professionnel qui se sont rendus sur les lieux ne sont pas allés à l'intérieur de l'immeuble et le professionnel estimait que les techniciens n'avaient pas à aller voir combien qu'il y avait de logements et si c'était conforme à la réglementation municipale.

Nous, nous sommes d'avis que le professionnel s'est bien conduit dans la rédaction de ce rapport.

Nous ne croyons pas que la responsabilité du professionnel soit engagée, car l'article 9 du certificat de localisation mentionne les choses suivantes. Alors encore

une petite lecture de l'article 9 :
Sauf dans les cas visés à l'article 10, l'arpenteur-géomètre doit vérifier les divers éléments concernant ou affectant le bien-fonds qui fait l'objet du certificat de localisation et notamment les suivants.

Paragraphe 14 :
Les bâtiments, dépendances et structures localisés sur le bien-fonds, notamment les remises et les piscines.

Paragraphe 15 :
L'adresse municipale.

Paragraphe 17 :
Le nombre d'étages et la nature du revêtement extérieur des bâtiments et dépendances au moment du levé des lieux.

Paragraphe 18 :
La zone au sens du règlement de zonage;

Et paragraphe 19 :
La conformité ou, le cas échéant, la dérogation de la position des structures, bâtiments et dépendances par rapport aux limites du bien-fonds eu égard au règlement municipal de zonage en vigueur lors de la préparation du certificat.
Donc en aucun temps le règlement n'impose à l'arpenteur-géomètre de vérifier si c'est immeuble qui a cinq logements mais si la réglementation lui permet d'avoir cinq logements, quatre logements, et autres.

Dans le dossier que je vous parle, on avait reproché à l'arpenteur-géomètre de ne

pas avoir été plus loin dans son investigation. Or en principe, comme on vient de le voir, le règlement ne lui impose pas d'aller au-delà de ce que je vous ai cité précédemment.

Petit conseil : lorsqu'on inscrit que le bâtiment ou l'immeuble est conforme à la réglementation municipale, assurez-vous de bien qualifier cette affirmation. Dire que le bien-fonds est conforme aux règlements municipaux seulement, ça peut entrainer une conclusion. Les gens peuvent penser qu'il est conforme à tous les règlements municipaux. Or il faut s'assurer qu'il est conforme aux règlements, mais par rapport aux marches de recul, et tel sujet qu'on a ensemble vu toute à l'heure. S'il vous plait ne jamais vous prononcer sur l'usage, incluant la question des droits acquis, car souvent on peut demander à l'arpenteur géomètre si cet édifice, cet immeuble, peut bénéficier de droits acquis. La jurisprudence est claire; la question des droits acquis, ça revient aux tribunaux de déterminer, et à ce sujet l'acheteur devrait consulter un professionnel du droit au Québec, c'est-à-dire souvent le notaire ou l'avocat.

Enfin, il existe une clause de style dans les contrats de vente d'immeuble qu'on voit souvent, et qui va comme suit. On dit que l'acheteur prend l'immeuble dans l'état où il se trouve actuellement, déclarant l'avoir vu et examiné à sa satisfaction et avoir vérifié lui-même auprès des autorités compétentes que la destination qu'il entend donner à l'immeuble est conforme aux lois et aux règlements en vigueur. Donc nous vous suggérons à titre de professionnels de conseiller votre client d'aller faire les démarches lui-même à la ville pour s'assurer que l'immeuble est conforme en matière d'usage ou de droits acquis, par exemple, ou encore de se référer à son notaire lors de la transaction.

Merci beaucoup.

--- (Aplaudissemente/Applause)

Diapositive no. 87/Slide No. 87:
Insurance Company Point of View:
How you can help yourself.

Diapositive no. 88/Slide No. 88:
MR. SAMPSON: We're almost done. We'll be about another ten or fifteen minutes.

I am going to introduce Stephen Black from Maltmans.
He is one of the adjusters. He works with John Breese at Maltman's and he is an adjuster for claims in Ontario.

He will have a brief discussion with you in that regard.
Stephen...

MR. STEPHEN BLACK (Adjuster (Ontario), Maltman's International Group):
Thank you, Mark.

Slide No. 87: Insurance Company Point of View:
How Can You Help Yourself?

As Mark has said, I am an adjuster with Maltman Group International. We are the adjusters for the Ontario Insurance Program.

Slide No. 88: Advice from Insurer - Ontario:
We basically investigate Professional Liability Claims.
So when you have that awkward moment, where you either know something has gone wrong or somebody has made that "phone call", we are one of the first people you will talk to.

We are retained by the Insurers to investigate coverage, liability and damages.
I will review with you some of the "DOs" and "DON'Ts", the process, and some of the strategies we use.

What is key is that in order to help you, we need your help.

Slide No. 89: Benchmark Number 1:

Benchmark Number 1: Your business is conducting surveys; our business is dealing with claims.

There is a tendancy for professionals in every occupation to try to deal with the problems that arise themselves.

Please try to avoid such inclinations. It can make matters worse.

Damage Control:
Damage Control: We can't control what we don't know about.
It's very important for you to provide as much information as possible, as quickly as possible, to assist in the understanding of a new claim, so that we can assist you.
This is in the versions of your Contract, a Purchase Order, Field Notes, Plans, and communications.
We need it all.

Slide No. 90: Benchmark Number 2: Do not admit liability:
Benchmark Number 2: Do not admit liability.
This is a difficult concept for people to understand.

Any such admission, obligation or commitment could cause significant coverage issues as far as that particular claim is concerned.

If you tell someone you will pay to fix the problem, you are right, you will. You! Maybe not your insurer.

Even if you feel responsible, you might not have made the error. Maybe somebody else contributed to that error, either by giving you wrong information or by not telling you something you needed to know.

Don't commit to anything.

You can tell them: "I'll call my insurance company, and they will investigate." Don't go any further than that.

Slide No. 91: Benchmark Number 3: Be objective:
Benchmark Number 3: Be Objective.
Our role is to be objective and assess the facts.

Some people go too far into the "mea culpa" routine and beat themselves up over a mistake. Don't. We are all human. We make mistakes. That's why we have insurance.

Learn from your mistakes. Don't beat yourself up over them.
And if the conclusion is "we should settle", it's because there is a good reason to settle.

Slide No. 92: Closing the loop:
Next, "closing the loop".
We'll take care of the mechanics and the paperwork of a settlement. You don't want a claim to come back at you afterwards because you didn't get a release. It's what we're paid to do. It's confidential, and we try to do it with no admission of liability.

Even if you have a small claim that you think is under your deductible, it is worth reporting the claim.

The damages may be shared with your insurer up until you pay the full deductible amount. Therefore, the damages would need to be double what you've paid as far as deductible is concerned.

That's worth a phone call.

If the claim does not settle and it becomes litigious, we prepare a Brief for Counsel and they take it from there.

We step into the background and at that point just play a supporting role in terms of gathering information for Counsel where required.

We are there to help you get through the claim. That is our role.

--- (Applause/Applaudissements)

M. BLANCHETTE:
Slide No. 93: Advice from Insurer - Québec:
Pour le Québec, les experts en sinistres ont un rôle qui est en tous points semblable à ce qui vient d'être décrit par Monsieur Black. Si on s'attarde à leur rôle plus précisément, ils entrent en jeu à compter du moment où il y a un avis de réclamation qui est transmis.

Le point sur lesquels ils ont insisté, c'est vraiment de dire qu'ils collaborent avec vous, qu'ils sont vos alliés face à cette réclamation-là. Vraiment, ils vont agir comme des partenaires.

Ils ont un rôle aussi qui est d'enquête. C'est-à-dire qu'ils vont tenter à la lumière des informations de juger tous les scénarios possibles vis-à-vis la réclamation qui leur est transmise.

Puis comme je l'ai dit, ils vont émettre une opinion puis ils vont vous conseiller à travers tout ça.

Leur façon de traiter les dossiers est la suivante.

La première étape, c'est vraiment une prise de connaissance des documents qui sont mis à leur disposition. C'est-à-dire le mandat en lui-même, les notes de terrain, la recherche, des photos, pensez-y.

Ils vont établir ensuite un premier contact avec l'arpenteur-géomètre qui est visé par la plainte. Généralement cette rencontre-là a lieu en personne puis elle se déroule sous forme de questions et réponses.

Par la suite, si l'opportunité se présente, ils vont rencontrer aussi le plaignant, c'est-à-dire la personne qui a fait la plainte, puis ils vont rencontrer les autres intervenants au dossier aussi.

En fonction de la complexité de la plainte qui est étudiée finalement, ils vont considérer la possibilité de s'adjoindre les services d'un expert-conseil, qui souvent va être un autre arpenteur-géomètre. Ça peut aussi être un avocat ou un conseiller légal, et cetera. Si jamais il juge cette opportunité-là valable, c'est important, ils vont aller chercher votre consentement. C'est-à-dire que votre autorisation est requise, puis qu'ils n'iront pas chercher ce service-là sans votre approbation.

Il y a aussi cette possibilité-là qui s'offre à vous quand vous êtes visé par une plainte de vous entretenir avec l'expert-conseil qui aura été mandaté pour faire la lumière de sorte à ce que, entre professionnels, entre experts, vous soyez en mesure de bien vous comprendre puis de transmettre l'information entre vous.

Maintenant, une fois que le dossier est complété puis que l'expert en sinistres l'aura étudié vraiment de fond en comble, il va évaluer toutes les possibilités dont celle de régler le dossier au meilleur coût possible.

Sinon son travail, s'en est vraiment un de conseil, puis s'il juge opportun qu'on ait plus loin au niveau de la contestation, il vous soumettra vraiment son verdict puis ce sera à vous de décider ultimement.

Finalement, en matière de délais pour le traitement d'une réclamation, il n'y a pas de règle en tant que telle, chaque cas en étant un d'espèce. Ce qu'on m'en a dit, c'est qu'il faut laisser le temps quand même s'écouler, puis généralement c'est de un à trois mois pour vraiment qu'on soit capable de se dresser un portrait qui est le bon. Merci.

--- (Applaudissements/Applause)

MR. SAMPSON: Thank you; Merci.
We are in the home stretch, here.

Slide No. 98: AOLS Insurance Program:

MR. SAMPSON: As I mentioned, I am going to give a quick update on the AOLS Insurance Program.

Slide No. 99: AOLS Insurance Program Update:

The AOLS Insurance Program is unique inasmuch as it has certain unique features as part of the program. There are two in particular on which I will give you an update.

The AOLS program does have a self-insurance component to it, and it does have a profit sharing component with theiInsurer, a Profit Sharing Agreement.

Just to reiterate and to remind you, 2009 was an extremely profitable year and it triggered, actually, the Profit Sharing Endorsement.

For those who remember, you will be aware that in 2014, the Insurer, Intact, paid the Association of Ontario Land Surveyors $170,000 as a reward for the fantastic year the AOLS had, with $150,000 of that being proportionally refunded back to the members.

This occurred at the AGM in Deerhurst.

And just to let you know, this was the first and only time an insurance presentation got a standing ovation!

--- (Laughter/Rires)

Thank you.
Yes. It was quite good. I was there.

Now, not everyone in the room here was actually at Deerhurst at the time; and for those who weren't here, I actually have a video of it.

Now, I look a little different in this video. I was dressed in a tux. I looked a little younger. There were even some celebrities in attendance.

I will play for you now the video of the standing ovation that we got...

--- (Whereupon a video of the Oscars was played)

Yeah! You can see the celebrities that were in attendance!
I am getting hugged here (Referencing scene on video).
It was great!

As you can see, Matt Damon was there; Brian Cranston...

This was the celebration as a result of returning the money!

I hope we have another one of those celebrations at some point!

To give you an update, in 2009, the Self-Insurance Fund had a value of $500,000.

There is still a balance in this fund, in the amount of $210,000.

There is still one claim open. It is litigious, so we have to keep some of the Fund available. But we don't expect the claim to be greater than $145,000.

As such, another $65,000 will be refunded from the Self-Insured Fund, proportionally, back to the members. So there is going to be a returned premium!

Is that good news or what!?

--- (Applause/Applaudissement)

All right! Okay!
Oh, I see a standing ovation developing!
I love that!

So what we're doing is we are going to return the $65,000 back to the members.

Plus, the AOLS and the Insurance Committee withheld $20,000 in case we needed to do Loss Control Seminars. But we haven't done them since 2014, so they decided to refund that money.

So we are going to refund the money this afternoon; late this afternoon or perhaps tomorrow.

If you don't stay, you don't get your cheque!

Basically, we are returning $85,000 back to the Members, and your proportion will be based on the portion you paid into the program, less any claim surcharges and eligibility.

You still have to be insured with the insurance program right now.

If you bought a firm and you bought their Assets and Liabilities and you are still part of the program, you get their percentage of the proportion of the return amount. If you bought a firm and just bought the Assets, not the Liabilities, then you don't get the proportion; it just goes back into the overall pool.

So after this meeting and all day on Thursday and throughout the morning on Friday, you can come by my booth -- I am just in the exhibit booth right when you walk in, myself and Laura -– and pick up your cheque.

So you can come by and get your cheque.

And if you want to get them today and cash them, I am more than happy to meet you at the bar and we can have a celebratory drink!

I was going to take questions; however, in the interest of time, I will forgo that for now.

We are five minutes early.

So if you have any questions, come up and see me or anyone here on the committee and we will try to answer any of your questions.

I just want to say, in conclusion, harkening back to Natalie's talk, if you are ever out in the field and you come across a wonderful lake or mountain top and you are trying to think about what your "peak moment" was at this conference, I really hope you think of this:

--- (Whereupon the song Y.M.C.A. was played over the P.A. system)

That's it, everyone. We hope you enjoyed the presentation. Thank you.

--- (Applause/Applaudissements)

MR. PURCELL: All right.
Thank you everyone for a very informative seminar.

We have provided a donation to Ronald McDonald House on behalf of each of you in consideration for your time and wonderful presentations.

--- (Presentation of the Ronald McDonald House of Ottawa Donation Certificates followed)

--- (Applause/Applaudissement)

MR. PURCELL: We are almost "there".

This concludes the day portion of our meeting; but we do have a few announcements that we would like to make before closing.

First of all, I would like to direct your attention to the new AOLS animated film that is being played at the AOLS booth just outside the back doors.

Secondly, the Veterans' celebration is tonight, here in the Shaw Centre.

The Reception starts at 5 p.m., with the Dinner being served at 6 o'clock.

Everything is taking place in the Trillium Ballroom.

Continuing into the evening, the Welcoming Party starts at 7:30 in the Exhibitors' Hall.

We trust that this will be a perfect opportunity to share some food and drink with friends, to visit with the exhibitors, and, of course, to support your Educational Foundation.

As a note, we did run over time on a couple of the presentations today, as you are probably quite well aware by now, so please plan on spending a bit of time with the Exhibitors this evening.

That would be a good idea.

They are a very important part of our meeting.

The AOLS Educational Foundation is sponsoring the Graduate Student Poster Competition, with the First Place prize being $1,500.

This is the 11th year that the Educational Foundation has sponsored a Graduate

Student Poster Session.

The Geomatics-related research posters will be on display inside the Exhibit Hall.

The posters will be judged on Wednesday, and awards presented on Thursday.

Tomorrow we continue our list of marvelous speakers and topics, commencing at 8:30 in the morning.

The Convocation Lunch will take place at 11:45, in the ballroom, on the other side of the Exhibitors.

There are also a number of Committee Meetings tomorrow morning.

Please refer to the conference itinerary for times and room assignments.

Tomorrow night we have the Presidents' Gala Dinner and Show, held on the fourth floor, I believe it is, here at the Shaw Centre. The Reception, with finger food and refreshments, will start at 6 p.m., and the doors will open for dinner at 7 p.m.

Thank you everyone. Enjoy your evening. We will reconvene tomorrow morning at 8:30.

Have a good night.

--- Whereupon Day 1 of the conference concluded,
at 5:00 p.m.

--- Upon resuming, at 9:05 a.m.

--- Murray Purcell, AOLS President, Chairing:

MR. PURCELL: Welcome. The Standard Measure is in place and the Association of Ontario Land Surveyors meeting can now commence.

I want to remind you to silence your cell phones and pagers. As with all official meetings, certain rules will apply. This meeting will be conducted in accordance with Sturgis Standard Code of Parliamentary Procedure.

Proper notice has been given. The meeting has been scheduled within the terms of our governing legislation, The Surveyors Act, and a quorum of at least 15 members as defined in AOLS By-Law 2004-1 are present. I therefore declare this meeting properly constituted.

The Open Forum will commence following the Reports. Please take note that all motions must be in writing with a mover and a seconder. Present the motion in writing to the Resolution Committee, Executive Director Blain or Julia and Penny sitting at the rear of the room with the audio/visual people. Penny will create a slide to show on our screens prior to any vote. Voting will be by a show of hands. Past President Jack Young is our Parliamentarian and we shall abide by his interpretation of the Code should the need arise.

I would remind you that at this time only active licensed, registered and retired members of the Association are entitled to vote. Scrutineers, other than members of Council, will be assigned if the need arises.

As part of our business we must address the Minutes of the 124th Annual General Meeting. Executive Director, Blain Martin, please present the Motion regarding the minutes of the 2016 Annual Meeting. I now invite Blain Martin to come up and commence the 2017 Annual General Meeting.

MR. MARTIN: Good morning everyone.
Blain Martin, Stouffville.

MOTION TO ACCEPT THE MINUTES OF THE 2016 ANNUAL GENERAL MEETING:

Be it resolved that the Proceedings of the 2016 Annual Meeting, as printed in the Annual Report, be received. That is moved by myself, Blain Martin, and seconded by our Registrar, Bill Buck.

MR. PURCELL: Any discussion...?

--- (No discussion)

All those in favour, please raise your hand...
--- (Show of hands in favour of the motion: numerous)

All those opposed, please raise your hand...
--- (Show of hands opposed to the motion: None)

Thank you.
The Motion is carried.

INTRODUCTION OF NEW COUNCIL MEMBERS FOR 2017:

MR. PURCELL: As there was no election this year, there was not a need for scrutineers. Therefore, I can report that we have some great candidates that were nominated for the Junior Councilor position, for one Senior Councilor position, and for the position of Vice-President.

I am pleased to announce that your 2017 Vice-President is Dan Dzaldov. Your 2017 Senior Councilor Alternate is Eric Ansell; and Junior Councilors are Gavin Lawrence and Trevor McNeil.

Please join me in thanking and congratulating these members of our Team of Leaders.

I am not sure whether any of the Candidates have anything to say at this point...Dan Dzaldov, obviously, takes any opportunity he can to get to the mic!

--- (Laughter)

Here he goes!

PRESENTATION OF DONATION TO THE EDUCATIONAL FOUNDATION:

MR. DZALDOV: Some of you saw me make a fool of myself last year when I came up and wore a very bright shirt, in exchange for a thousand dollars, and somehow I got coerced into doing that again this year.

Before I take my sweater off and pain you with looking at this shirt for the rest of the morning, I just want to throw out a little challenge, and it is as follows: Now that I am Vice-President, or am about to be Vice-President, I don't know that it would be appropriate for me to repeat the wearing of the "bright shirt" next year. As such, I am hoping to can get one or other of the our Junior and/or Intermediate Councilors to look to wearing this wonderful shirt next year in pursuit of the $1,000 donation that goes to the Educational Foundation. In fact, perhaps everyone on

Council will be able to do so!

Having put that out there, I shall now call Maureen to come forward and accept the $1,000 donation for the Educational Foundation.

--- (Presentation of $1,000 Donation to the Education Foundation followed)
MS. MOUNTJOY: Thank you very much!

MR. DZALDOV: Where's the photographer!?
--- (Laughter)

MR. PURCELL: Thank you, Dan.

OPENING REMARKS:
I would like to thank the Nominating Committee for putting forward a solid list of names for our 2017 Council. At the same time, I encourage our membership to consider the experience, comradery and personal growth that comes with being a Member of Council.

This business portion of our meeting is being recorded in order that Minutes of Proceedings of this meeting can be available. As such, I would ask that anyone wishing to speak during the course of this meeting proceed to a floor microphone and wait to be recognized by the Chair.

Our Open Forum will commence following Reports.

Please take note that all motions must be in writing, with a mover and a seconder. Please present the motion in writing to the Resolution Committee, Executive Director, Blain, Penny, or Julia, all of whom are seated at the rear.

We do extend an invitation for all of our out-of-town guests to take part in our deliberations over the course of the morning, and we encourage your helpful input. At this time, I will proceed to my report.

OUTGOING PRESIDENT'S REPORT – T. Murray Purcell

This is my last report as your President. What an incredible year it has been!

Every President's wish is that at the end of their term, they have left things in as-good-a-shape, if not better, than when they first took on the reins. For me, to use one of my father's favourite clichés while I was growing up, that meant: "Murray, don't screw this up!"

--- (Laughter)
In reflecting on my platform last year, it was my goal to see the Council of AOLS remain fiscally responsible, in the light of some significant foreseeable legal costs;

to derive results on attitudes both towards and with the Certificate of Registration membership; to determine a result or outcome regarding the provision of sketches; and lastly, to assist in hosting a celebratory Annual General Meeting like no other, a massive marketing opportunity to better bring us into the eyes of the public.

I am proud to say that I believe your 2016 Council and its Committees and Task Forces have assisted us in at least moving all of these Items forward. None stood still for the entire year.

While travelling across the country, there were all sorts of issues of interest brought to light.

In B.C., discussions were centered on the British Columbia Institute of Technology (BCIT) and support of land surveying accreditations to become a BCLS.
In Alberta, talk focused on the introduction of a hybrid Cadastre, a coordinate-only survey.

In Saskatchewan, there was consideration to take a run at Teranet for copyright infringement.

In Manitoba, the AGM produced thirty-two motions to update their Association's By-Laws.

Québec was considering a name change from "Arpenteurs-géomètres" (land surveyor), to "Géomètres Expert" (land expert).

The New Brunswick Association was considering moving under the province's "P.Eng" umbrella to assist with administration.

Nova Scotia Land Surveyors have assisted their province in denying the Teranet model.

Newfoundland has created a By-Law named "Land Gazette", which is their first ever Land Registry system.

Prince Edward Island has administration woes for their less than a dozen active members.

Professional Surveyors Canada is struggling with gaining the attention of Ontario and Québec Memberships for marketing funds.

And the ACLS continues to build its Geo-Ed Learning Portal and build on the Canadian Board of Examiners for Professional Surveyors.

You can see from this précis that there is a lot of "been there and done that".
All of the provincial presidents have been a wonderful support for each other's

issues.

Each association has had issues and questions about transparency of Complaints and Disciplinary Proceedings, and this has become one of our more recent “hot” topics at the Presidents’ Forum.

This is what inspired our recent Survey Monkey. Ontario Land Surveyors should feel proud! Many of the other provinces look to us to lead the way. We are the second largest membership in the country, after Québec. We are leaders in innovation, but also we are realists. We are collaborative. After all, who was the instigator of this wonderful meeting!

We are organized. We are cutting edge. And we are experienced. We are national leaders, and we are world leaders. Leadership without support is failure.

Your Council has been amazing this year, continuously engaged in efforts to protect the public, while considering the best interests of its membership.

Our Committees and Task Force Chairs are active and engaged to meet the call for Council to deliver. Their devotion is addictive to their team.

There are many Committees and Task Forces within the AOLS. However, I want to take a minute to acknowledge some of the more active Chairs over the past year, and they are: AERC, Mark Tulloch; Public Awareness Committee, Michael Matthews; Continuing Education Committee, Tom Packowski; Standards Committee, Bob Halliday; Geomatics Recruitment & Liaison Committee, Hugh Goebelle.

There are many other Committees that have been equally or more active in previous years. However, these were the work horses this year.

Thank you to all volunteers for your time and devotion.

ACKNOWLEDGMENT AND TRIBUTES TO AOLS STAFF:

When I talk of support, AOLS has superior support from our Staff at 1043 McNicoll, from tech savvy Penny and Julia banging out membership and Council communications; to dedicated Lena, looking after our students and managing this elaborate AGM function; to Bill, diffusing complaint bombs and dealing with education; to Maureen, continuously working on awareness, both publicly and internally; to Tim, with Alan, Herman and Sheila, educating and enforcing our Membership on Acts and Regs, and on playing by the rules; to Joyce, capably handing the Front Desk; to Vladimir in keeping our books honest and in good order; and to Blain, the glue for everything, keeping us all on track.
Ladies and gentlemen, this man is a rock, and we are very lucky to have him.
Until you have spent a day watching this guy in action, you have no idea how many

balls this guy juggles. It's crazy!

As Ronald Reagan once said: "Surround yourself with great people; delegate authority; get out of the way." Old Ron was right!

This rings true on so many levels within the Association of Ontario Land Surveyors. The upcoming year sees a great Council, led by an inspiring and competent Ppresident.

Russ, as a Member of Council, is always "dialed in". He recognizes the membership's needs and is extremely well versed in the political savvy necessary to deal with the province and the future of the AOLS.

I am excited to serve on this Council for the upcoming year and I look forward to assisting in bringing Gavin Lawrence and Trevor McNeil into the mix, and to bringing Eric Ansell back into the mix.

To the membership: Thank you for this wonderful opportunity to serve!
We will now call on Dan Dzaldov for Finance and Budget...

FINANCE COUNCILOR'S REPORT AND 2017 BUDGET REPORT:

MR. DZALDOV: Thank you.
I am going to give a very brief review of the finances, present the 2017 Budget, and then speak for a couple of minutes about our investments.

Starting with the review of the revenues -- and I am assuming that everyone who wanted to took the opportunity to go through the actual financial papers that were left in the hall over the last couple of days for your examination and review.

FEES AND LICENCES:
Turning first to Fees and Licences, the figure here was an estimate based on the increase in fees and the numbers we predicted.

As you can see, we are slightly over our number. I guess we guessed right. In fact, there was a little bit more, due to new members, which is wonderful.

SURVEY RECORD INDEX:
Next, the "Survey Record Index", which came in at a little bit below budget.

CREDIT CARD CHARGES:
Moving on to the "Credit Card Charges", what we are looking at here is the Convenience Fee that came as a result of a suggestion from the Open Forum.
The number, at this point, is quite low in comparison to when we get to the Expenses, and that is because the Association didn't start charging the Convenience Fee until the Direct Payment option through your bank was instituted.

So people had the option, if they wanted to do it that way, where there is no charge. For those who don't know about this, as of a few months ago, you can go into your Banking and remit payment for invoices for your dues.

It is somewhat similar to doing so for utilities. That is an option that is available through the four major banks.

COST-RELATED ACTIVITIES:
Next, "Cost-related Activities". Again, comparing it with the Expenses, they both kind of go up together. So the revenue is higher; but expenses were higher as well. In terms of the AGM, the more people we get out, the more costs we incur; but obviously, greater revenue comes into the Association.

CONTINUING EDUCATION:
Next, "Continuing Education". Here, the numbers always balance every year. The reserve goes into the Continuing Education Reserve Fund. So you will see that number matches between this slide and the Expenses.

DISCIPLINE COST RECOVERY:
Next, "Discipline Cost Recovery".
Here, we budgeted $50,000. We did recover $7,500 this year.
We can see that the new policy in that regard is starting to take effect.

OTHER INCOME:
"Other Income" is wonderful, and that is primarily due to additional income from our investments.
We will talk more about that later.

SURVEY REVIEW DEPARTMENT:
"Survey Review Department" shows up as $529,000.
It will show up the same way on Expenses, but I am pleased to report that approximately $90,000 in excess revenue has been transferred to the Survey Review Department Reserve Fund, which is now sitting at approximately $320,000.

EXPENSES:
Moving on to the "Expenses": "Salary" was a little bit over budget this year, but that was offset by a reduction in Office Administration Costs.

SURVEY RECORD INDEX FEES:
Survey Record Index Fees were a little bit higher than budget.

BUILDING:
"Building" was pretty much right on Budget.
As you will recall, last year, Russ spoke about the $10,000 that is set aside as a separate line item, and the intent in that regard is to allow "Extraordinary Items" to

build up a reserve over time.

As you can see from the Slide, we are below budget on that, with about $8,500 going into the newly created Reserve Fund.

COMMITTEE AND RELATED EXPENSES:
"Committee and Related Expenses" was down a fair bit.
Our Committees, as you know, have their budgets, and we always encourage them to do what is appropriate.

I don't think any of our committees spend money when they don't have to. Of note, that would also include "Council and President's Expenses".

DISCIPLINE COSTS:
"Discipline Costs" this year were considerably higher than budget. As you can see, we are about $140,000 above budget.
There is not much we can do about that right now.

COST-RELATED ACTIVITIES:
Next, "Cost-related Activities". We have already spoken about the revenue side. The expenses are higher, but the revenue is higher as well.

LEGAL:
I spoke about "Legal Non-Discipline". That would include the Constitutional Challenge and other legal items.

Similar to the Building Fund, we are looking to build up a reserve for extraordinary items on legal, and this year, we have put about $63,000 away towards that.
If we have another year like that, at some point, we can drop the amount we are budgeting for Legal Non-Discipline.

CREDIT CARD CHARGES:
As you can see here, the credit card charges stand at $46,000. That is an amount that essentially we will save in 2017 as a result of instituting the Convenience Fee, and it will be offset.

AMORTIZATION AND SURVEY REVIEW DEPARTMENT:
Expenses in relation to the Amortization and Survey Review Department are noted as well.

2016 NET INCOME:
The net result is an income for the year of just under $83,000. Obviously, the financial position of the Association has improved since 2015. We would like to build up our reserves again, after a year or two of losses.
Those are our finances for 2016.
2017 BUDGET REPORT:

Moving on to the 2017 Budget -- and I don't think I need go through every single budget item on here.

Looking at the Budget figures, one can see exactly what we have set aside.
Looking at "Investment Income", we do set that down to a nominal number.
We, of course, hope that our investments do well, but we are not going to budget for that.

And you also see, just above that, the Convenience Fee for credit card use is set at $40,000. On the "Expense" side, that will be offset by the same amount. So that should be a wash.

COST-RELATED ACTIVITIES:
The "Cost-related Activities" Item is significantly higher. The AGM this year again comes in at a little bit more expensive than normal; however, the revenues should be a little bit higher as well.

The book is the big item in that line item. Fabulous sponsorships brought in over $200,000 in revenue, which I believe is all being recorded in 2017. The cost of preparing the Book is also recorded. That's why that number is significantly higher than normal.

CONTINUING EDUCATION:
For "Continuing Education", we show a nominal number, with the actual amount dependent upon what we do over the year. Generally, over the years, there is a bit of excess that goes into the Fund.

DISCIPLINE COST RECOVERY:
For "Discipline Cost Recovery", again, we have budgeted $50,000, but I am...
I don't know if "pleased" is the right word. But we do have $13,500 already recovered for 2017. So, again, the new policy is taking effect and some of those costs are coming back in.

SURVEY REVIEW DEPARTMENT:
Next, "Survey Review Department". Here, we have budgeted $575,000 for sticker sales.

EXPENSES:
Next, I will move on to "Expenses", some of which I have talked about as they relate to the various line items in the Budget.

For "Office Administration", the number is significantly higher this year.
We have been holding off on a Software Update to the Website, which has to happen. Also, the Servers at "1043" need to be replaced. Those are significant expenditures that must be done this year. We can't hold off on that any longer.

DISCIPLINE RESERVE FUND:
Next, the Discipline Reserve Fund. I think it is a little bit more responsible now to set it at $200,000 for this Budget Year, given our recent history.

CREDIT CARD CHARGES:
Next, "Credit Card Charges". As I have already mentioned, that balances out.

2017 NET INCOME PROJECTION:
For 2017, we are budgeting/predicting a Net Income amount of $47,500. So hopefully we stay in the black.

INVESTMENTS:
I will move on now to "Investments". Based on a suggestion that came from the floor, and as most of you will be aware, in 2014, we engaged Morgan Meighen and Associates to take over the management of the Association's Investment Holdings.

Julie Brough is the Portfolio Manager with direct responsibility for our Portfolio. As some of you may know, Julie moved to Logan Wealth Management during the year, leaving us to consider whether to move our Investment Portfolio with her to Logan's, and in fact, given the wonderful job Julie was doing, it was decided that we would do so. So Julie is directly responsible and will continue to be directly responsible for our investment holdings at Logan's.

Moving on to the next slide, one can see that in the year since I took over as Finance Councilor, our investments are up by about thirteen percent.

On that note, if there are any questions, I would be happy to try to respond; and if there are no questions, I am happy to take my seat...

QUESTIONS:

MR. KOWALENKO: Wally Kowalenko, Toronto.
I have a question about the servers that need to be purchased. I understand the cost of them, of purchasing the hardware and managing it, and so forth. What I am curious about is whether a Cost-Benefit Analysis has been done in relation to moving to the "Cloud" as an alternative to storing the data on site?

MR. DZALDOV: That's actually a great question.
Analysis is being done. There are different parties involved in looking at this matter. From my perspective, the chance of it not being somewhat Cloud-based, if not fully Cloud-based, are very low.

That is certainly the way things are moving at this time.
Without getting technical, you do need something in the office. But the data, I imagine, would be Cloud-based.

MR. KOWALENKO: Thank you.

MR. PURCELL: Thank you, Dan.
We have a Certificate of Appreciation to present to you and a donation made on your behalf in support of the Ronald MacDonald House.

--- (Certificate of Appreciation/Donation to the Ronald McDonald House presented to Mr. Dzaldov)

We next have our Report from the Surveyor General.

REPORT OF THE SURVEYOR GENERAL - 2017:

MS. SUSAN MACGREGOR, Surveyor General: Let me just say at the outset what a high quality meeting this is, something that can be said for every single AGM that I have attended since becoming S.G., and that, of course, has everything to do with the high quality staff we have at "1043".

So at the outset of my remarks, let me take the opportunity to publicly thank Blain and his team for pulling off yet another successful AGM. This has been an incredibly impressive meeting!

The Surveyor General's Report is at the Registration Desk. If you haven't picked up a copy, please pick one up and have a read through it.

I am not going to go into great detail on the report itself. First, I want to thank my own Staff for all of their efforts in producing very high quality work in what is often a high production and high stress environment.

It would not be possible for me to do the work of my office without their dedication and support. In fact, it is not possible for any of us to do anything without the good people that we work with in carrying out the duties of our offices.

I want to note a couple of changes in the make-up of my office. Roger Grose was recently sworn in, yesterday. He got his licence and is number 1999. So he is now an Ontario Land Surveyor operating in our office. Wikar Bhatti is off on medical leave for the near future. Michael Marlatt, recently retired from MGCS, has come out of retirement and joined my team on a part-time basis. We are very happy to have him as part of our team! Eric Ansell has also retired as Coordinator of Crown Land Surveys, and we managed to encourage him to come back part-time as well, or at least until the golfing season starts up! We are happy to have him back.

Unfortunately, after two national searches, I have been unable to attract a new Coordinator of Crown Land Surveys.

It's a little bit concerning to me, because that position typically feeds into your next

Surveyor General, and who wouldn't want to do this job!?

--- (Laughter)

It's not all bad! We are also encouraging two students, both of whom are actively working to complete their course work to become Ontario Land Surveyors, to join my office, and they are Dave Dixon and Jeff Clark.

Dave is not here, but Jeff is, and I am going to embarrass him by asking him to stand and be recognized...

--- (Jeff Clark Standing)

Jeff Clark, folks...

We are very, very fortunate to have that young man as part of our organization! That's all I have to share with you. I am encouraged by the calibre of this meeting and by the high standards exhibited by the individuals in this room.

I am very impressed with the two Disaster Recovery Projects that we saw. They brought home two points for me: One is the importance of the role of government in terms of managing the people of Ontario. The other is the importance of how we are not only good technical people in how we carry out our profession but how we remain connected to the land and to the people we serve.

To my mind, both of those projects illustrate the criticality that remains in terms of our role in society and in connecting with the people on the landscape. I will leave those thoughts with you. Thank you very much.

MR. PURCELL: Thank you, Susan.
Once again we have a Certificate of Appreciation to present to you in recognition of your efforts on our behalf.

--- (Certificate of Appreciation/Donation to the Ronald McDonald House presented to Ms. MacGregor)

MS. MacGREGOR: Thank you.

MR. PURCELL: Thank you. Great speech.
At this time, we will call on Bill Buck for a short Registrar's Report.

REPORT OF THE REGISTRAR - 2017:
MR. WILLIAM D. BUCK: I don't have a printout of these slides, so I will have to turn around in order to look at them myself!

The majority of my report, I think, is good news, and that is really what I want to

pull out in the few slides that I will present to you, representing, for the most part, charts that can be found in my report itself.

Most of my time is taken up by either the Academic Experience and Requirements Committee and the activities related to that and, on the other end of my duties, the Complaints and Discipline Processes.

ACADEMIC EVALUATIONS:
This first slide shows the Academic Evaluations over the past six years. As you can see, they keep increasing. They have been increasing, almost in a straight line, for the past six years.

I don't have the 2017 numbers shown on the slide; however, at the January meeting, we did twenty evaluations, which is actually ahead of last year. So it appears we will continue increasing the number of academic evaluations.

This is the chart of the articling applications we have received. We had six fewer last year than the year before. But again, this year, we had ten at the January meeting. So we are on track, again, to meet or exceed the same number of articling applications year-over-year.

ARTICLING STUDENTS:
This next slide shows the number of articling students. As you can see from the slide, in 2017, as of the January meeting, we are up to eighty-four articling students. We have eight more applications for the April meeting. So, for a short period of time, until certain of the students write their May exams and get taken out of that calculation, we will be up to ninety-two articling students.

I think that is probably more than we have had for at least the past twenty-five years. So that is great news for us. Hopefully we can balance off the number of "old people", like myself, that are going to retire one of these days!

MEMBERSHIP STATISTICS:
Next, "Membership Statistics". I put this in my report every year. We are declining in all of the categories, except for the "Articling Students" category.

LICENSING APPLICATIONS:
It has leveled off a little bit in terms of the licensing applications, where we lost seven last year. Hopefully, we won't lose too many more this year.

As you know, at our luncheon yesterday, we swore in fourteen new members.
So that, too, will help to balance off the Retirements.

COMPLAINTS:
Next, "Complaints".

Complaints are never good news! The good news is that we only had ten complaints last year. So far this year, we are up to two. So hopefully we are on track to carry on with the low numbers we have had for the last couple of years. The average over the whole time period here, over the last seventeen years is seventeen. We have had a few spikes up and down, but I think we do quite well in handling our complaints.

That's about all I wanted to show you out of my Report, unless anyone has any questions...

QUESTIONS:

MR. CLARK: Good morning.
Bruce Clark, Ontario Land Surveyor, Alberta Land Surveyor, St. Albert, Alberta, Far West Regional Group. I am not sure that this question is appropriate for you. It may better be answered by Mark Tulloch. Do you know what the average articling time is?

MR. BUCK: It is about two-and-a-half years.

MR. CLARK: Still?

MR. BUCK: Yes. Technically, the articling time period is eighteen months.

MR. CLARK: Yes.

MR. BUCK: A fair number of people get a reduction from that, but the standard is eighteen months. And it is almost impossible to do that in eighteen months, given that you are out working, getting that experience requirement, every day, all day. So it is between two and two-and-a-half years on average.

MR. CLARK: Thank you.

MR. BUCK: Thank you.

MR. PURCELL: Thank you, Bill.

On behalf of Ronald MacDonald House, I would like to present you with a Certificate of Appreciation.

--- (Certificate of Appreciation/Donation to the Ronald McDonald House presented to Mr. Buck)

MR. PURCELL: It's hard to believe, but I skipped right by our Executive Director's Report. Blain Martin...

REPORT OF THE EXECUTIVE DIRECTOR/TREASURER 2017:

MR. BLAIN W. MARTIN, Executive Director/Treasurer: Good morning, everybody. I am going to keep it short today, with only five topics to cover with you.

First, I am going to talk about this conference a little bit. Second, I am going to talk about demographics. After all, no presentation is complete without my talking about demographics! Third, I am going to talk to you about the book. Fourth, I want to make a couple of comments about the Open Forum. And fifth, I want to talk about the staff.

There is a picture up on the screen, and it is a kind of an interesting picture. Maureen got this from Cindy Kliaman just a couple of days ago. As you can see, it is a mural that is on the side of a Royal Bank Branch in Toronto. It is kind of interesting that the Royal Bank is promoting our profession.

THE NATIONAL SURVEYORS' CONFERENCE:
Let me turn now to The National Surveyor's Conference held this week. First of all, thank you, Sue, for your comments in that regard. They are very much appreciated! I cannot tell you how much effort this whole conference has been. Tania, the President of ACLS, talked about it last night. For the last year, we have had monthly meetings; for the last month, we have had daily meetings.

We have had a tremendous number of people involved, including the various committees; and, of course, we have the fabulous delegates who have attended. In terms of our membership, we have about 500 members, 400 of whom attended our conference this year, which is an absolutely fabulous statistic!

That is 80 percent of the membership attending, and for that I would like to thank the membership...

DEMOGRAPHICS:
I have a couple of things I want to say in relation to demographics. Last year, at this time, I talked about the number of articling students -- and, of course, in terms of Bill's Report, he sort of projects ahead, given that he has the AERC numbers.

Last year at this time, I reported that we had seventy-one articling students –- which was a very gratifying number as far as I was concerned, given the overall decline in our membership, from 600 when I started to the current 500 that we have today.

I think we are going to see that decline in our membership level off, given the number of articling students we are seeing. In fact, I am happy to report that this year, instead of the seventy-one I reported last year, we have eighty-four articling students right now -- and that is after fourteen of the seventy-one from last year received their commissions. And, as Bill has already said, that number is going to go up. So that is a really good story.

THE BOOK:
Last year, I got to show you the picture you now see on the screen, the proposed cover of our book. This year, I get to show you the book itself! It is just a fabulous book. Everyone has seen it. I cannot thank the sponsors enough. As Dan said, $208,000 in sponsorship for the book! That absolutely stunned the publisher. When we talked about sponsorship, the publisher thought, "Well, maybe $16,000; maybe $20,000..."

He really didn't understand our profession and the passion we have. I am not going to dwell on the stories in there. They are the stories of many of us. But one thing the book is really going to help us with is the marketing of our profession to younger people. I think this is a fabulous tool that Charlie has created for us! There are still lots of copies of the book out in the hall. We really don't want to carry them back to Toronto.

So if you are one of those sponsors, please, pick up your four copies and carry them home for us! And if you're not one of the sponsors, buy as many as you can!

--- (Laughter)

THE OPEN FORUM:
Next, the Open Forum.
I can't say enough good things about the Open Forum! Our meeting this year has been very condensed --- It has been this very "inspirational" meeting! -- because it was held in conjunction with the other two organizations.

It was one with a focus on inspirational talks. We heard about the Disaster Recovery Projects, as Susan has already referenced; we had a talk from Natalie Panek, the "Space Cadet", as she called herself.

As I say, the focus was on inspirational talks, as opposed to having our committee chairs talking to us, telling us about what has gone on over the year. One of the things we insisted on keeping was the Open Forum, given the number of such good things that come out of it.

INVESTMENT PORTFOLIO:
Dan has talked about our Investments. As you are aware, those Investments are with Julie, something that arose from Bruce Clark's suggestion at an Open Forum a couple of years ago now. We can't thank you enough for that advice, Bruce!

Last year, we had Helmut Grander talk about the $50,000 we were spending on Visa. That, too, came out of an Open Forum. We changed it. We are going to recover that this year.

So needless to say, the ideas that come out of the Open Forum are just absolutely

great.

STAFF:
My last topic for today is Staff. You have my report. It is available on the table. All of the staff is highlighted in my report. This year, I did something different. I asked them to write about themselves and what they do at the office. As a result what you see in the report is a personal perspective from each of the staff members.

In my view, every single staff member in the office is absolutely fabulous. But I always like to highlight one each year, and this year, I want to highlight my friend Bill Buck.

Charlie says it best in our book when he says: "Bill is this quiet, bedrock sort of guy, who's at work every morning at 7, who seldom gets up from his desk, and who, when you need him for advice" --- And I need him for advice often! "-- when you need him for advice or perspective, or for just plain knowledge of the organization and its issues, is an indispensable and steadying resource."

I put this slide together last night after the party, so I didn't really get the exact spelling of Charlie's words!

But you understand the meaning, Bill! I simply can't thank you enough for making my job as easy as it is! You are an absolute joy to work with, and you truly have passion for the Office. Thank you very much.

MR. PURCELL: Thank you, Blain.

We have a Certificate of Appreciation for Blain, on behalf of Ronald MacDonald House.

MR. MARTIN: Thank you.

--- (Certificate of Appreciation/Donation to the Ronald McDonald House presented to Mr. Martin)

MR. PURCELL: At this point, I will call up Eric Ansell to give us a brief update on the Constitutional Challenge.

CONSTITUTIONAL CHALLENGE:
MR. ERIC L. ANSELL, Chair, Constitutional Challenge Task Force: Good morning, everyone.

I think I have given this report about five times already, given the number of times I have been stopped in the hallway and asked questions! I had intended to keep my report fairly short; however, it may in fact be a bit longer in the light of the

questions that have been asked of me over the last few days.

I am Chair of what we call the Constitutional Challenge Task Force, a Task Force established by Council to monitor and advise on the issues regarding the Constitutional Challenge.

I have given you updates in previous years, and my report today will be much the same as those of previous years, with the exception of speaking at greater length to the questions that have been asked of me, in addition to adding a little more in terms of the timelines with which we are dealing.

As I have said in previous years, it is still an ongoing court challenge and, as such, it would be inappropriate to talk in depth about some issues that have come up.
So if you ask an inappropriate question, you just won't get an answer!

We have been at this now for about four years, and while that timeline is not perhaps record breaking, it certainly will impact the overall Budget of the AOLS.
The root of this issue started in May of 2013, when an Application was made to the Superior Court of Justice in respect of a number of issues that affect other parties, including the Association, followed by subsequent applications and Motions.

The main issue arose from a Notice of Constitutional Question and a Notice of Application for the court to determine four questions of statutory interpretation.
In the Notice of Constitutional Question, the Applicant intended to question the constitutional validity of subsection 4(1) of the Surveys Act, posing the following question:

Does Subsection 4(1) of the Surveys Act frustrate parliament's purpose in the Copyright Act, so as to render the former ultra vires the Ontario Legislature?
Based on my own feeble mind and not completely understanding legal jargon, it more or less means that our Act actually goes beyond the powers that we have, given that the Copyright Act is Federal legislation.

The Notice actually asks four questions. They are listed here. (Referencing slide on screen)

And it is important to understand the questions that are being asked.

Of course, Subsection 4(1) of the Surveys Act talks about "field notes and the same, including Plans of Survey".

So the question is: Are Plans of Survey the same as Field Notes? The second Question is: "Does the requirement in S. 4(1) of the Surveys Act for a surveyor to exhibit and give copies of the same to any surveyor for a reasonable charge apply in relation to any original documents which are not personally made by the surveyor to whom the request is made?"

Subsection 29(3) of the Surveyors Act: “Does the word ‘client’ include a Surveyor who, pursuant to S. 4(1) of the Surveys Act, requests field notes from another surveyor?”

And the fourth Question: “Does the requirement of S. 4(1) of the Surveys Act for a Surveyor to exhibit or give copies of the same to any surveyor for a reasonable charge frustrate the Parliament’s purpose in the Copyright Act, so as to render the former ultra vires the Ontario Legislature?”

A lot of words there!

So I have put up a slide that reviews just what Subsection 4(1) of the Surveys Act is, as well as Subsection 29(3) –- and I will just read it, just so you have some context. Subsection 4(1) of the Surveys Act reads:

“Every surveyor shall make and preserve exact and regular field notes of all his or her surveys and shall keep a proper record and index of all such field notes and shall exhibit or give copies of the same to any surveyor for a reasonable charge.”
And then under Subsection 29(3) of the Surveyors Act, it speaks to the “Fees Mediation Committee, with the written consent of all parties to the dispute, may arbitrate a dispute in respect of a fee between a client and a member of the association or a holder of a certificate of authorization...”

And in that case, the decision of the Fees Mediation Committee is “final and binding on all parties to the dispute”. So this has been going on for four years, as I have said. And to help everybody understand why it has been going on for four years, I have a couple of slides that just show what has progressed over the last four years. I will quickly go through it.

It was way back in May of 2013 that we had the original Notice of Application. The Association was listed as a Respondent in that Application, so we were obligated to respond to certain questions.

Then in June of 2013, we had the Notice of Constitutional Question.
This Notice was the precursor to the Constitutional issue, but was submitted to the Association, directly to the Association -- which was not the correct venue.
The Notice included the Attorney General of Canada, the Attorney General of Ontario, and, of course, Counsel for the AOLS.

And we have already seen what the Question was. It was talking about whether our Act is ultra vires.

The Notice of Constitutional question was subsequently submitted to the Courts in November of 2013.

In July of 2013, we had an Amended Notice of Application, with the AOLS again named as a Respondent, and again we had to respond to the questions or statements being made in the Amended Notice.

I mentioned that the Notice of Constitutional Question was to be heard in November of 2013.

It has, of course, been put off. On May 5 of 2014 -- so a year later -- the original Application was returnable. “Returnable” simply means a thing to be returned, such as a Writ or an Order, on a certain date, or a date by which an Officer of the Court needs to give a report on his or her attempts to carry out the process.

After setting that new date, we had a Motion to Strike certain paragraphs in the Affidavits which the Association Heads submitted, and the Court was subsequently adjourned to November 12, 2014.

Of course, as in any court proceeding, Statements of Claim, Statements of Defense and various affidavits are submitted to the court.

The AOLS, as well as the Surveyor General, did in fact submit affidavits.
The Applicant made a motion to the court to have certain paragraphs, in whole or in part, of those affidavits struck.

Such a motion is then heard before a Master. A “Master” is a provincially appointed judicial official who has the authority to hear and determine certain matters in civil cases, including Motions, Pre-Trials, and Case Management Conferences.
We move on to October 22nd, 2014, when we have a Hearing for those Motions to Strike.

The Master hears the Motion to Strike, which was scheduled for just one day.
After arguing the preliminary issues with respect to whether the Master or the Applicant’s Court Judge should hear the Motion to Strike, the Hearing continued with the Master, and it proceeded for the entire day.

Unfortunately, the parties were only able to argue and determine less than half of the grouped items, with the Motion to Strike then being adjourned until July 8th and 9th of 2015, with those July dates then further adjourned until September 2nd, 2015.
The November 2014 Application date, returnable on the 14th, was adjourned until May 14th, and then adjourned yet again and rescheduled for June of 2016.

July of 2015 was the hearing in respect of the Motion to Strike. Parties attended the hearing on the Motion to Strike which was adjourned to July 8th and 9th of 2015 from October of 2014.

After just a partial day, the first day of the July Hearing, the hearing did not go ahead as scheduled, as the Master was subsequently not available on the July dates,

with the result that the hearing was adjourned to September of 2015 and January of 2016.

The Application Court date was adjourned yet again, this time to December 9th of 2015.

On January 13th, the parties attended before the Master and went through a number of the issues. Unfortunately, it was again the case that they couldn't get through all of the changes to the affidavits.

The Master then said he would receive Written Submissions, with the Attorney General of Ontario also being allowed to make Written Submissions, with the consequence of all of that being to move the Application Court date to January 28th of 2016.

Of course, as things are proceeding, that date will likely get changed yet again.
In July of 2016, the Decision of the Master was given and he did in fact say that some things should be struck from the affidavits, or perhaps moved into a Statement of Defence, rather than being in an affidavit.

But much of what was required was not struck. He then gave the parties 30 days to make submissions as to costs.

In September of 2016, after receiving and deciding on the Submissions for Costs, the Master ruled that the Decision on Costs would be reserved to the Judge hearing the main application.

In other words, the Master isn't going to award costs either way. He wants the judge who is actually hearing the application to make that decision.

In October of 2016, the Applicant filed a Notice of Motion for Leave to Appeal the Master's Decision.

In this case, the Applicant is obliged to file materials with respect to the motion, which will be heard at 10 a.m., in Toronto, on March 3rd, which just happens to be today.
So they are supposed to be hearing the motion today.

This is simply the Motion for Leave to Appeal. So it will be interesting to see what the results of that motion are.

The Applicant -- again, because he is the Applicant -- is obliged to arrange for further dates, and it looks like the actual application court date, going all the way back to the original Question of the Constitutional Challenge, will likely be some date in the Spring of 2018.

So there is the whole history of it: Why it has taken so long and why it has cost us the money it has.

I wouldn't hesitate to say there have probably been well over seventy-five documents exchanged back and forth, running to more than three thousand pages in all.

So it does cost us a fair bit of money to keep this up. But, certainly, if there are any questions about the financing of it, I think they are better directed to the Finance Councilor!

--- (Laughter)

And I think our esteemed President will suggest that questions be asked during the Open Forum. Thank you.

MR. PURCELL: Thank you, Eric.
Just as a small token of appreciation for your report, a donation to Ronald MacDonald House.

MR. ANSELL: Thank you.
--- (Certificate of Appreciation/Donation to the Ronald McDonald House presented to Mr. Ansell)

MR. PURCELL: Moving right along, we have a small report from Brian Maloney on ODCC.

ONTARIO DIGITAL CADASTRE CORPORATION REPORT:
MR. BRIAN MALONEY: Good morning, folks. Blain told me I have thirty seconds to do this! I told him I needed three hours! So I am going to try to split the Meeting here and we will move from there! Obviously, we have been at this thing for a long time now.

For the benefit of our out-of-province guests, this was something that was started about four or five years ago now.
It looks at new revenue streams for Surveyors and looks at trying to create a digital cadastre.

BOARD MEMBERS:
I put the Board Members up here.

--- (Referencing slide on screen)

I think it's important that you recognize these guys. I can tell you, we meet every Thursday morning, for typically an hour; sometimes longer. They are a diligent group and they are working very hard.

I know it doesn't seem like we are making a lot of progress, but we are. I will go through this presentation as quickly as I can.

VISION:
What you are seeing on the screen now is the original vision from four years ago that we shared with the membership.

I'm not going to read it. You can read it yourselves. I can tell you we are still on track to do that. But the game has changed. It has been an evolving piece of work that we have had.

We are still focusing on creating a digital cadastre and a new revenue stream. But the way we are going to do that is certainly changing.

Over the last year, we have had some discussions with Teranet. I must admit, they were minimal. Throughout the year, we actually decided to put that on hold. That is not to say that it is done. We still think there is an opportunity with Teranet. But the reality is that the opportunity with MPAC is significantly greater. We did meet with Council a couple of times.

OWNERSHIP:
As you may be aware, or should be aware, the ODCC is actually wholly owned by Council at this point in time. But Council is eager to transfer that off to business and get out of that game, and we did have some conversations about what that would look like and how we would move forward.

We have continued to deliver products to the Municipal Property Assessment Corporation and the Toronto Real Estate Board, which has actually put us in a positive cash-flow situation.

We actually have money in the bank for a change, instead of being in debt, as we have been for many years. So, we have finally turned the corner, which is a positive thing.

MPAC:
Last year I spoke about loading plans into MPAC Property Line Applications. There has been, and continues to be, some work in that regard. But it is something that, again, has not moved as quickly as we would have liked.

The "big news" is we did a pilot project in the fall for MPAC, demonstrating that we could in fact maintain a digital cadastre.

York Region was chosen. As well, there was some rectification of parcel fabric in another area of the province, where the parcel fabric was deemed to be not very good. Again, that was a very successful pilot. We demonstrated that we can

actually do this and move forward.

JOINT VENTURE:
Out of that came the notion of a joint venture, which I will speak more to as we move forward in the presentation.

We did do an online survey of our C. of A. Holders back about three or four months ago, and certainly we have a sense of continued support on that front.

REFERENCE PLANS:
Also, in terms of how Reference Plans would be dealt with, there is a desire for MPAC to only pay for those Reference Plans that actually have a change to the parcel fabric, as opposed to those that might improve the accuracy of the parcel fabric. So there are some ongoing conversations around that.

MNR:
Obviously, conversations with MNR, a major player in terms of the parcel fabric, are ongoing.

And then we did have a special meeting in the summer with the largest Subdivision Plan producers, to get their feedback and direction in terms of how we should move forward.

Also, we have now put a Business Plan in place.

GOVERNANCE:
The one thing I do want to talk to you about is governance, given the changes on that front.

Two years ago, we had a kind of mixed or blended model between the Co-Op that was originally proposed and some private ownership, in terms of moving forward. As you can see, I have put an X through the "Co-Op".

We have actually backed away from the notion of a Co-Op, for a number of reasons, with the main one being the fact that, as we are now moving towards this joint venture with MPAC, it just makes the governance way too complicated when it comes to decision-making processes.

So ODCC is going to be ultimately owned by up to forty owners. The reason we chose forty is that the Securities Act limits it at fifty, beyond which it requires that a Prospectus be prepared and issued.

We are only raising about $800,000 to move this thing forward, and to do a full-on Prospectus is about a million dollars.

It doesn't make a lot of sense to spend a million bucks to raise $800,000. So we

have kind of tried to duck around that, which is the reason we are sticking to forty owners.

We are still working out the details in terms of how that will happen. We had come up with this notion of "first-come/first-served".

We hope there will be lots of interest in terms of investing and moving this forward. We had a meeting with C. of A. Holders yesterday morning and there was some suggestion that we need to be a little bit more strategic around who the players are that will make this investment and move this process forward.

The notion is still that the ODCC is the face of surveyors and that it will represent surveyors in terms of gathering CAD files, et cetera, and moving this process forward.

In the short term, the Joint Venture is where the supply of the actual product will happen. The marketing will be done through the Joint Venture, and the profits will come back and be returned, obviously, to surveyors.

BUSINESS PLAN:
As I say, we did prepare a Business Plan, with the caveat being that it is based on our best knowledge at this time. I won't spend any more time on that.

In terms of assumptions we have made in the Business Plan, one was that the ODCC would actually have a 25 per cent equity in the Joint Venture. As one can expect, MPAC, as an example, is bringing a database forward for us to start with, something that is likely worth in excess of $150 million. So it would make sense that we are not going to be the total owners of this, given that we are not making the same investment at the starting gate.

PRICING:
We are prepared to establish, and have established, a price in terms of paying surveyors for their files.

We are looking at $250 for a CAD file for a Subdivision Plan, plus an additional $10 per lot; $75 for CAD files for Reference Plans that result in changes to the parcel fabric; and $10 per parcel that is created on that.

In terms of aggregate numbers, it works out, based on the numbers we have seen over the last few years, to about a million dollars a year in new revenue for surveyors.

We think there is certainly some value in that! It is not going to make you rich, but it is a new revenue stream and one that you haven't had in the past.

As well, we will be contributing 75 per cent of the profits back through those same

contributing surveyors. So, not only are you going to get paid for your plan at the outset, obviously, but, if we are successful in marketing and selling new products and services from this, which we certainly expect to be, then you will see a share of that as well.

We made an assumption that we are going to have 80 per cent of the plans that we are getting from surveyors. So 80 per cent of the plans entering the Registry system that result in parcel changes, we are expecting to get CAD files on.

We have a marketing job here and, with the help of all the folks out in this room, and those who aren't, we will make this happen.

If we don't hit that 80 percent level, we have a problem. Ideally, we would like to be a lot higher, and I hope that we will be.

Obviously, there are some risks, not the least of which is Teranet's intervention. Clearly -- and, Al, nothing against you. But clearly, this is not something that Teranet wants to see happen, given that we will be competing with them head-to-head.

And I can assure you, they are taking steps to do what they can to prevent this from moving forward. We still think we are on solid ground. We have put a mitigation plan around all of these risks, and we are moving forward.

The second largest risk is that of an insufficient participation rate on the part of surveyors.

We really need to work on this one, because this only works and really becomes commercially viable if we have a very, very high percentage of participation rate with surveyors.

JOINT VENTURE:
In respect of the Joint Venture, we are moving towards acceptable terms towards achieving minimal risk. We are moving down that road. We have been having some of those conversations, and they are going the right direction. So we are in pretty good shape in that regard.

We actually received a signed Letter of Intent from MPAC this week. So this is "real". We are not faking this time! We have been working on this hard, and it looks like it is going to move forward.

INVESTMENT:
In terms of investment, based on the conversations we had with C. of A. Holders yesterday, we think we are going to make this thing fly.

COMMERCIAL REVENUE:

Obviously, in terms of commercial revenue, we know that Teranet will likely compete pretty hard against us as we try to move this venture forward. But we are going to continue to make that work.

INTELLECTUAL PROPERTY:
The last one is "Breaches in Intellectual Property". Our plan is to be very clear in terms of Intellectual Property rights. We aren't looking to take ownership of CAD files. We are really using those specifically to build a digital cadastre.

It will be through a very specific License Agreement with surveyors. But in return, we are going to also be able to get a product back to surveyors, and we need our Surveyors to protect the intellectual property of that product.

BUSINESS PLAN REVIEW:
A real quick overview of the Business Plan. We become profitable in Year 2. The first year, obviously, there are some significant investments to get this thing up and running: legal, et cetera. We actually see a complete Return on Investment in five years, and an approximately 25 percent Return on Investment annually beyond that point in time.

I already mentioned the return for surveyors. I mentioned the ownership opportunity, with forty investors being sought. We are looking for $20,000 from each, for a sum of $800,000.

A good point for this group is to highlight the fact that we have had conversations and that we intend to repay the AOLS for the moneys it has invested in ODCC to this point in time, along with interest thereon.

That is something Council did not ask for. Council, actually, had written this off a year ago and said: "Thanks. It's gone. We made the investment."

However, with the removal of the Co-Op scenario, we thought it was only fair, given that not all surveyors will be in a position to participate, that we actually repay that money.

Some of that money –- and I think it is a little bit north of $140,000 that has been invested over the last several years –- will go back to the Association, based on the money we have raised.

We also have Angel Investors. I think we have seven or eight, to the tune of sixty-some thousand dollars that was invested. Our intention is to repay back those Angel Investors with the investment at the front-end.

And then, obviously, the remaining money will be used in getting legal agreements in place and getting this venture operational and moving forward.

SURVEYOR PARTICIPATION:
In terms of surveyor participation, obviously, we would like to get your CAD files, pay you for them, and share some profits with you.

What we are really looking for, as well, is access to the parcel fabric for surveyors, in terms of aiding with the integration.

I don't think you should underestimate the value that will accrue to your firm as a result of having that product, and especially so as we improve the accuracy of that product.

As a starting point, for you doing your surveys, we really believe there is high value in that. Obviously, as well, there will be an opportunity to add value and generate new products and services on top of that.

There will be royalties expected, of course, if you're doing that, which only makes sense, all of which will go back to the Joint Venture and ultimately be shared back with surveyors.

So if you're selling a product that is based on somebody else's survey, clearly there should be some revenue returning. There still is some potential in terms of the re-sale of plans.

I am not going to spend a lot of time on that. That has been a slow piece. We are really struggling with where that lies, without trying to compete with others that are in that market as well as some of our membership that are doing that.

There is also potential that we will be able to buy additional products from surveyors to upgrade the accuracy.

That really depends on the profitability of the Joint Venture. But assuming we are profitable, we would like to be able to spend some money on actually improving the accuracy as well as the digital cadastre itself as we move forward.

INTELLECTUAL PROPERTY PROTECTION:
The last piece, and again an important piece, is Intellectual Property Protection of the Surveyor.

This is actually going to establish a value for a CAD file that doesn't exist today. Although some firms will sell them, a lot of survey firms give their CAD files to municipalities as a requirement for development, without charge.

From our perspective, we see this as a valuable piece that should have a charge. By us establishing a price on that, it does allow you to then make an argument that the intellectual property should be protected.

Perhaps municipalities should be coming to ODCC and buying that product, as opposed to getting it free of charge. But, that is a conversation yet to be had. Whether it is an MFIPPA kind of argument in terms of putting a commercial value on it, it certainly shouldn't be given away. So we think this is a positive step as well.

POTENTIAL WAY FORWARD:
Next, "Potential Way Forward". We are going to move forward with the ownership opportunity. We hope to have that happen within the next few weeks.
There will be something coming out in that regard.

I encourage you to check your inboxes in that regard. Even in respect of the meeting yesterday, we tried to advertise through e-mail to C. of A. Holders; however, we did not get as good a turnout as we would have liked.

We are going to enter into a Services Agreement with iLOOKABOUT and MPAC in the short term, to start moving this forward, because we know it is going to take some time to negotiate the Joint Venture and put that in place.

We would like to start operations this coming spring. So this is imminent.
Then the transfer of ownership has to happen prior to the signing of the Joint Venture Agreement.

Council has made it clear that they don't want to be signing the Joint Venture Agreement in advance of that; that they want to push it off. So the intention is to get out there and transfer ownership to those forty new owners and then negotiate the Terms of the Joint Venture Agreement, and away we go!

I will stop at that point and invite any questions there may be...

MR. PURCELL: I think we hold any questions for the Open Forum ---

MR. MALONEY: Okay. All right. Thank you very much. I appreciate it.

MR. PURCELL: Thank you, Brian. Again, on behalf of the Association, we have a Certificate of Appreciation to present to you...

--- (Certificate of Appreciation/Donation to the Ronald McDonald House presented to Mr. Maloney)

MR. MALONEY: Thank you.

MR. PURCELL: At this point, I will call on Wilson Phillips to come up and say a few words on Professional Surveyors Canada.

PROFESSIONAL SURVEYORS CANADA:

MR. WILSON PHILLIPS: Hello everybody. Thank you for inviting me to your meeting. It has been a wonderful meeting. I am from Professional Surveyors Canada. I am from Manitoba. We have our offices here in Ottawa. We offer services in English and French.

I am going to go through just some of the things we have been working on and specifically detail some of the issues. Every region of the country is different, with different issues that they are addressing. Obviously, in Ontario, there are some regions that are doing better and some that aren't doing as well.

But generally you would describe it as different from Alberta. We represent land surveyors across Canada on a national level, on national issues. We often get calls from associations or individuals from across Canada asking why we don't do this or that; but we really pick our fights in terms of trying to change the mindset of the public and governments about surveyors.

Surveyors are some of the best trained people in Canada to offer advice. They know about the legal aspects. They know about their actual practical surveying aspects. However, the dialogue that we have doesn't seem to resonate with the public and government agencies. You are very lucky to have Sue and other members in government. They have the ear of the government and can explain complex matters.

No doubt all of you have been frustrated at some time in your career in trying to explain to a lawyer exactly what the right answer is. You already know what the answer is, and you are trying to explain it to somebody who doesn't understand all of the aspects of legal surveying. You are the one doing all the work, and they are the ones taking all the credit.

So what we try to do is to change the narrative in terms of what we are trying to say and how we are trying to say it. If any of you were at the meeting -- which I am sure you were -- you saw that little snippet about the "David Thompson" discussion, following which they showed the video produced by the Hudson's Bay Company. It was only thirty seconds long, but it was very inspirational.

That was a commercial, produced by a private company, to sell an idea. And why did you, when you were watching it, feel a connection to that? Because it was done by marketing people.

They show a guy climbing a mountain, and Rick Hanson comes in at the end. You feel that inspiration! You feel a sense of solidarity with your fellow Canadians. That is marketing! That is inspiration!

It has the ability to break through the malaise in the public's mind and, more importantly, to reach government Ministers and government agencies, to speak to them about the importance and value of surveying, about how you can be part of the

solution and that it is not an adversarial situation.

Today, I am going to go through with you some of the aspects of what we are doing, just very, very quickly, with an opportunity for questions at the end of my remarks. Brian's words to you earlier brought to mind the presentation we heard yesterday on GeoFoncier.

Those of you who had the translation and saw that presentation from France yesterday will see a different business model in terms of how things look.
And if you didn't get a chance to listen to that presentation, I encourage you seek out the translation and listen to it.

It is how surveyors lead. They are intimately connected into the system as a beneficial partner, not in an adversarial role, for the benefit of all of France.
And who gains from that is the public.

You have the experts, individuals who actually know what they are doing, doing this work and not trying to explain it to somebody who doesn't know it.
I have gone a little bit off topic, here, because Brian kind of spurred my memory in that regard.

At PSC, we publish Quarterly Reports, with another one coming in April. I encourage you to go online to our new website and read these Quarterly Reports. They provide a general overview of some of the work we are doing.

We also have a Liability Insurance Program, similar to the one you have in Ontario, for the rest of Canada. So we run that program as well, including Loss Control Seminars, trying to mitigate risk for our members, et cetera.

In addition, we are involved in direct advocacy with government, though more at the Federal level. And we have been pushing a lot of stuff related to Acts. This past year saw a couple of major Acts going through parliament, one of which was Bill C-46, the Pipeline Safety Act, including its secondary Regulations.

Also, there was Bill S-233, which became S-229, the Underground Infrastructure Safety Enhancement Act.What a mouthful that is!
Most of you will have already read the Position Paper on that, which came out in December and which we promoted to government and government agencies in terms of outlining some of the basic concepts at play, one of which is that where underground infrastructure is being put in place, it should be buried at least three feet deep, a metre deep.

There is no reason to bury something at a level where somebody is going to hit it with a shovel. Another simple concept is that where you are burying infrastructure, the area involved should be surveyed by a Professional Surveyor at the time of installation, thus ensuring utmost accuracy. Why wouldn't one do that?

In a conversation I had with a member of parliament in this regard, he said: "Well, what does this cost, Wilson?" and I said: "It's a rounding error. You are at point-00000001 of the installation cost."

He said: "That's crazy!" and I said: "Yeah! Why don't they do it?" And the answer, of course, is that there is no mechanism set up to do it.

When you prepare a survey for a subdivision, it is your client that pays for that survey. You produce the Subdivision Plan and it is then filed with the Registry. Everyone has access to the Registry. But the client actually paid for that. Utility companies across Canada bury infrastructure during development phases, including in new subdivisions, and no surveying takes place when that is done. Why? Because there is no mechanism for it.

So what we are talking about is bringing in federal funds through Infrastructure Programs, working with Laval and other universities, to try to get a system in place where that would become the norm. And who benefits from that? The lowest unit cost for that Survey is at the time of installation. The public benefits the most.

Currently, the "One-Call" systems across Canada all suck. And why do they suck? Because you phone "One-Call" and "One-Call" phones hydro, gas and telecommunication... Basically, it's a phone hub.

There are no liability mitigation measures prompting these entities to share their data – not like in the digital cadastre system. There is no way for them to share their data.

Again, I've gone a little bit off topic. But that's what we are doing on the direct advocacy front. And this affects you. It affects every surveyor in Canada. It is a very important aspect of your work.

When we are promoting any new idea, we look at it from the perspective of what is in the best interest of the public. My job as a surveyor, as a Professional Surveyor, is to look out for the general public first. If I derive a benefit or if surveyors across Canada derive a benefit, that's great -- because I am in the business of promoting surveyors. But the first goal is: How do we, as a group of professionals, serve the public? How do we meet the trust the public has bestowed on us? That is one issue that, in Alberta, in B.C., in Ontario, is very important to Canadians. They don't necessarily appreciate its importance until their 9-1-1 Service gets hit, or a gas line gets hit.

For example, in a storm such as they have just experienced in New Brunswick, where you have to start replacing infrastructure, where pipes start to freeze, and so on and so forth, the Emergency Responders can react that much more quickly when they know exactly where the infrastructure that requires repair is located, as

opposed to having to pull out a paper plan and trying to figure out where the problem is.

These are the important issues, issues that we can talk to governments about. We are part of the solution. There will always be people who are part of the problem. But we are trying to be part of the solution.

We started an Advertising Program last year. These were banner ads that we placed on CBC News, BBC News, Yahoo, Google, among other platforms. We worked with a marketing company here in Ottawa called Acart, and they have been very helpful to us.

We are talking in the language that the public wants to hear and see. We talk about "land surveyors", not "land surveying". While that may seem like a minor distinction, it is not in fact. If you have a conversation with people about themselves, you will attract people to the conversation. When we talk about land surveying or anything like that, to the public, it is an abstract concept.

When you see those CPA ads on television where the lady is flying around in the helicopter and then at night she is going home and kissing her child, that is an effective ad. She is portrayed as looking at her computer screen and doing tax calculations, and the reason for that is that the viewing public would disconnect from that. It is a CPA ad. What does a CPA Ad have to do with a woman flying around in a helicopter!? But you will remember it. Having viewed that ad, you will have a positive thought in your mind about CPAs. That is what marketing people do.

We need to tell our story.

We are really good at the historical stuff. But we aren't very good at telling our story, at communicating to the public and to government what it is we do. I am getting an indication that we are running out of time. So that covers some of what we do.

I obviously don't have sufficient time to run through all of the slides setting out what we're doing and why we are doing it. Suffice it to say that there is a lot of stuff that is layered and tied together.

A lot of the associations across Canada are what we call "all-in" associations; that is to say, all of their members pay $200 to Professional Surveyors Canada, and the reason they are happy to do so is that they believe in what I am telling you. They believe that we are all in this together, that we are all in it to help the public. One person can't float, while the other person rows the boat! Right? I encourage you to go "all-in". For one thing, it reduces the total cost.

We have a lot of members in Ontario –- I believe the number is 146 -- paying $250.

If you go “all-in”, we can reduce those fees to $200, leaving the membership with a net benefit. And everybody is rowing the boat together!

There will always be some, whether it is a fee for an association or a fee for Professional Surveyors Canada, that don’t want to do something. But that doesn’t mean it is not important for the public, that it is not important for your profession. It is what I do, and I do so, happily, because I am passionate about what I do and passionate about my profession.

I encourage all of you to have that same passion and to believe in Professional Surveyors Canada and where we are going. You don’t have to imagine what we are going to do. We have already done a ton!

You can go on the website, our new website, and see what we are doing, and it is my hope that you will find in what you see the inspiration that we are trying to promote in you.

Thank you very much for your time. I appreciate it.

MR. PURCELL: Thank you, Wilson.
Again, we have a Certificate of Appreciation to present to you in recognition of your efforts and those of the Professional Surveyors Canada Organization on our behalf.

--- (Certificate of Appreciation/Donation to the Ronald McDonald House presented to Mr. Phillips)

MR. PHILLIPS: Thank you.

MR. PURCELL: Thank you. Wilson.

Bear with me for five minutes and then we will break for coffee. I would like to call Chris Oyler to the stage, just for a second. Chris prepared that small video we had running/cycling at the AGM. I am not sure that everybody saw it and so we are going to try to cycle it through our upcoming Coffee Break. We have another video that we are going to show you just after the break, as well.
The floor is yours, Chris.

GEOMATICS RECRUITMENT AND LIAISON COMMITTEE REPORT:
MR. OYLER: Thank you very much.
I am very pleased to be able to speak to you today as a member of the Geomatics Recruitment and Liaison Committee (GRLC). I am just one member who is trying to grow our profession, given the changing demographics that Blain constantly reminds us of and the shift that we are experiencing in our profession. We are all well aware of it.
The GRLC is involved in a great initiative and arguably the most important

initiative we have taken as an association in our entire history, and, of course, I am speaking of the roll-out of the SHSM Program, or the "Specialist High Skills Major" Program, the Surveying Certification Program.

At this time, I want to acknowledge the hard work that Maureen Mountjoy has done in this regard with the Richmond Green Secondary School. This past September, we were pleased to announce that this whole program has been rolled out to many schools across York Board of Education high schools, and this fall, we are excited to announce a province-wide roll-out of this program.

I was tasked with part of the marketing. To that end, we prepared two brochures, a career brochure and an SHSM brochure, both of which are being handed out to students at career fairs and functions similar to this throughout the year.

I encourage each and every one of you to take a look at the hard work of your committee, as evidenced in the material available on the table outside the meeting room.

Pick up a copy of the material and share it with a student. Go out there and meet the students in your local high schools and get the interest going. We have put this program in place, and now we rely on the membership to ensure its success.

At the pinnacle of this marketing initiative was the creation of the animated video that we had running throughout the NSC Meeting, and you are going to witness it now.

I am really pleased with the product and hope that you, in turn, will share it with many young people, perhaps generating the same amount of interest and inspiration that I felt seven years ago when I earned my commission. Thank you very much. Enjoy the video.

--- (The Marketing Video followed)

MR. PURCELL: That is awesome!
We are going to take a coffee break at this time.
Just a reminder, we do have the book on sale at the back, if anybody is looking to buy a copy.

Also, I remind you that any motions being brought forward should be in writing and passed to Penny to write up for you, including the names of the mover and a seconder. We will reconvene at 11 o'clock. Thanks.

--- Coffee Break

MR. PURCELL: We are ready to resume. Before getting back to the business of the day, I have one announcement to make, and that is to let you know that David and

Charlotte Thompson have their dogsled double-parked out front and are soon to depart, and are in fact departing as we speak.

A round of applause, please, for our actors. It was wonderful to have them here this week in the roles of David and Charlotte Thompson!
--- (Applause)

Thank you.

JACK BARNES AWARD:
Next we have the Jack Barnes Award recipient, the Chris Fox video. Like the earlier video, this is quite awesome and quite inspirational.

MR. PURCELL: We have Chris Fox in the room.
Chris, if you would stand up and let everyone know who you are...

--- (Whereupon Chris Fox stood and was recognized by the membership)

MR. PURCELL: That was very well done. Very well done, indeed! That was the Jack Barnes Award recipient.

OPEN FORUM:
We will now go on to the Open Forum. As mentioned earlier, all motions must have a mover and a seconder. AOLS Staff members Julia and Penny are here to facilitate getting any motions or questions printed and up on the screen prior to any vote. Voting will be by a show of hands.

You may speak on any topic you wish, at any time, with the exception that once a motion has been presented. I will limit discussion to the subject of the motion.
If a motion presented fails to receive a seconder, it will be dropped from the discussion.

I remind you that the proceedings are being recorded. If you wish to speak, please proceed to a microphone and be recognized by myself, the Chair, and at that time give your name and town or affiliation.

The Open Forum will conclude by approximately 11:45, 12 o'clock. Somewhere around that time. The floor is now open...

MR. BUISMAN: Jeff Buisman, from Guelph. First of all, as someone who was recently on Council, I want to pass along my thanks to Council for the great work they continue to do on our behalf. It is especially great to see the Financial Statements looking so robust.

I could go on. But suffice to say that Council is doing a great job! I will address my question or/or comment to Murray, our President. There is a comment in your report

about “sniffing” around for an alternative education system, one similar to what we had with Erindale College.

Reflecting on that a bit and seeing the great success with the articling numbers, the number of people enrolled in the law classes lately and the success we are having at York, it seems like we are making good progress on the education front.

I acknowledge the fact that the program at Ryerson is not really growing right now. But there is good news inasmuch as York now has its accreditation. Not all is perfect. There is still work to do insofar as the York program is concerned. We have a recent graduate from the York program now working in our office. He is now licensed. Based on feedback from him and reflecting on the education situation generally, I am left with the feeling that we have come a long way since the dropping of Erindale.

As I say, things are not perfect; there are still other improvements that can be made. All that said, I encourage Council to continue working on the York relationship. I just don’t want this “sniffing around” to harm our relationship with York. That was not so much a question as a comment for Council to consider. Thank you.

MR. PURCELL: Thank you. In making the comment that you have referenced, I had in mind ensuring that we continue to always have good education programs and good educational institutions with which to work. We don’t want to get caught in that “Erindale” thing that sort of blew up a few years back. There was really nothing else to that comment, other than the fact that we just want to protect our education programs.

Council talked this week about the idea of working towards a better relationship with York University, to open ourselves up in terms of further discussions with York. The “talking” relationship between our Association and York has not been as good as it could be.

Some of that may be our fault; some of that may be York’s fault. I am not really sure, one way or the other. But now that we have Maureen Mountjoy on the Advisory Board, we can look forward to that situation improving in the days ahead. Thank you for your comment.

MR. ARMENAKIS: Costas Armenakis, York University. Just for your information, in addition to the Geomatics Engineering Program at York, we have started a Geomatics Science Program this past year. Also, I can assure the membership that we are committed to working with the AOLs. We have demonstrated that in the past, and we continue to demonstrate that going forward.

If there are any issues with York, we stand ready to have a dialogue with AOLS. I am not aware of any at the moment; however, I would be very happy to discuss with the membership and/or with Council any issues that anyone feels exist between

York and the AOLS.
Thank you.

MR. PURCELL: Thank you, Costas.

MR. KRCMAR: Good morning, everyone. Tom Krcmar, Krcmar Surveyors, Toronto. Thank you for all of your work this year. The Conference has been awesome!

I would like to discuss with you the mandating of survey plans to be scanned by surveyors and any thought process that has been put together by the Association for surveyors to start scanning their files and making them more available to surveyors and the public. Any ideas in that regard?

Perhaps making it a little more of a provincial-wide sort of process. We are going in a direction where everything should be scanned anyway.

MR. PURCELL: You are talking a By-Law?

MR. KRCMAR: A By-Law; mandating it; talking about it...

MR. PURCELL: At this point, we are having a difficult time working with the text-delineated Provincial-Wide Surveys Index. As of this time, we haven't talked at any length about the scanning aspect of it.

MR. KRCMAR: And that is why I want to talk about it. I think there should be a discussion within Council to see whether that is something that needs to be the next step, or at least something that needs to be talked about as something that could happen in the next five years.

MR. PURCELL: Very well. We can certainly put that on the Agenda.

MR. KRCMAR: Thank you.
MR. PURCELL: Thank you.

MR. YOUNG: Joseph Young, Thornhill, Ontario. Mr. President, I, too, would like to speak to the York University Program.

I am on the Committee with Maureen and Costas. I am Chairman of the Geomatics Engineering Advisory Committee at York University. I think the university has come a long way with their program.

We hire a number of their graduates, and they are incredibly competent; and with Izaak's help, and with the articling surveyor's help, they get the rest of the education they need.
Also, I think there is a great opportunity for our Association to put more effort into

working on the Surveying Science Degree that is coming out. It is going to be a great source of surveyors and high-end technicians.

As far as a back-up plan is concerned, I agree that we need one. But there is UNB, there is Calgary, there is Waterloo, all of which are putting out a number of graduates.

I think we are in good shape insofar as the question of back-up universities is concerned; however, I do feel that we need to put some real focus on helping build and grow the York University Program.

Thank you.

MR. PURCELL: Thank you for your comments. As I mentioned, we did discuss that at Council earlier this week, and certainly it is on our agenda for future discussion.

MR. GRANDER: Helmut Grander, Toronto. I have a comment, or a thought, perhaps, and it is in respect of Brian's presentation.

I am still a little bit concerned about supplying the reference plans that create new parcels. When we create the reference plan and deposit it, it has not created a new parcel; it is "in process". So until the parcel is split and new ownership is attached, it is a new parcel.

I, for one, would be terribly embarrassed if I were to supply a reference plan that ended up in two parcels, with the one owner then getting two assessments. How do we get around that?

The other issue is that of legal repercussions, which is an issue I brought forward when this discussion was first initiated; that is to say: What are my legal repercussions if I supply something without my client's consent?
And if I recall correctly, the answer at that time from the representative from MPAC was: "Well, we have the legal authority to demand this information, or to collect this information."

MR. MALONEY: Brian Maloney from North Gower. Good question, Helmut. And in fact, we have struggled more than a little bit with how to deal with reference plans.

You are absolutely correct. The reference plan, itself, is purely a descriptive document and doesn't actually change the title.

In terms of the "Assessment" side, MPAC receives the Land Transfer Tax Affidavit, which is the trigger, at that point in time, to create the Assessment Parcel. At that point in time, we know the sale or transfer has taken place. So that is how they will

actually deal with that particular piece.

In terms of putting in the reference plan, our intention is to put it in on a separate layer. Essentially, it will be held in abeyance until a transaction takes place, and then it moves forward. So I don't think we have a problem from that perspective.

In terms of "client responsibility", the reference plan becomes a public document as soon as it is deposited with the Land Registry. So I don't think we are doing anything in terms of giving any information away that we shouldn't be giving away.

On the other side of the coin, one of the things we talked about with our group of C of A Holders related to the matter of intellectual property and the concern about a pre-registered or pre-deposited version of the plan because we are trying to get ahead of the curve in terms of bringing the CAD file in.

Our intention is to only make that available until it is deposited or registered in the Land Registry system; to only make that available to those who have a statutory need and are already in the pre-approval stage in terms of a subdivision process. So that would include utility companies, among others; those that actually get it regardless.

They are getting a paper copy today. So we aren't doing anything that your client would be concerned about, I don't think.

MR. PURCELL: Thank you, Brian.

UNIDENTIFIED SPEAKER): I don't have a Motion. I just have a couple of comments I want to make, the first of which relates to the geospatial data. I am wondering whether all of the membership is aware that in 2014, there was a forensic scan done, right across Canada, of the value of geospatial data to the country of Canada, as a result of which it was determined that it is worth over 1 percent of GDP. That is what senior members of government wake up to. So everyone in this room should feel very proud that we are a part of generating over 1 percent of GDP through geospatial data.

My second piece has to do with the utilities. I doubt there is anybody in the room who hasn't run across problems and conflicts with utilities and putting monuments in or having them removed by utilities -- and I encourage everybody to continue that pilgrimage, that fight, to ensure that utility companies are putting in the utilities at the correct depths, at the correct offsets to boundaries.

Everybody knows what the minimum offsets are, at three feet, or a metre. In the event that you get, say, an 8-inch gas line, you are into a three metre hand-dig offset for other such impediments.

I think this is an issue that is going to come up in the future for private land owners,

where utilities have been allowed, say, inside a highway or in a corridor and they are closer than one metre and you are sterilizing private land. We need to work to encourage the Utility companies to behave and to follow the designs that have been provided to them.

And just one more small comment on the "Utility" piece. Any utility putting infrastructure in the ground, as well as the public in general, is supposed to be aware of "One Call".

Provincial ministries and some federal bodies are exempt from that. For example, the Ministry of Transportation is exempt from the "One Call" legislation. One has to contact MTO in order to identify where utilities are in any given corridor.
We have nine different types of utility infrastructures, including electrical conduits and fiber optics.

We are not part of "One Call". You have to contact MTO to ensure that you get those located. Thank you very much.

MR. PURCELL: Thank you for that comment.
I wasn't aware of that, myself!

MR. COLLETTE: Hello. Justin Collette, from Brockville, Ontario, now studying at UNB Fredericton, Third Year Geomatics Engineering and currently the Student President at the School.

At the outset, I want to take this opportunity to congratulate the organizers on staging a great event. I really appreciate having had the opportunity of attending.
I also want to congratulate the organizers on the promotional material that has been made available to us. I love seeing that!

Something we are discussing at the school, as students looking forward to being involved in the profession, is an initiative that runs along the lines of what PSC is doing and what AOLS is doing to create ground roots, knowledge of surveying.

For next February, there is this student initiative to create the National Geomatics Competition, which would see all the geomatics universities and colleges come for a weekend consulting competition in Fredericton.

This is basically to impact three levels: networking of the students; the promotion of the departments; and the promotion of Professional Associations. I thank you for giving me the time to make the membership aware of this initiative, and I thank you for your support.

MR. PURCELL: Thank you for your comments.

MR. MATTHEWS: Michael Matthews, Kingston. I am the Chair of the Public

Awareness Committee. I am really excited, actually, with the way things are coming together. We have just seen two excellent videos. Today is the first I have seen the second of the two. Congratulations on that production. We can certainly market that one.

On the work that PSC is doing. I extend kudos to Wilson and his group. We do need our members' assistance. We need what we are doing with monument protection. We need local members going out and making local presentations. So I am asking for everyone's support in that regard.

As we roll this out across Ontario, to high schools, et cetera, there is going to be a need for presentations, and for that I would ask for everyone's support. Thank you.

MR. PURCELL: Thank you, Michael.

MR. KOWALENKO: Wally Kowalenko, Toronto. Mr. President, if I'm not mistaken, you made a remark earlier that you or someone would be summarizing the costs of the Constitutional Challenge. I am concerned that you might miss the opportunity to brief us in that regard, given that we are all eager to adjourn the meeting!

--- (Laughter/Applause)

Could we have that information, if you wouldn't mind...

MR. DZALDOV: I am unsure as to whether the question is about future costs or is about what the costs were this past year?

MR. KOWALENKO: What I am looking for is a running total. We are getting very good reports on the number of legal issues that are coming up -- and it is a nice long list! It would be nice to put an approximate cost/running total beside each. Or an estimate, if you can't be more precise.

MR. DZALDOV: I neglected to identify myself earlier. I am Dan Dzaldov, from Vaughan. I don't have, off the top of my head, the running costs. I do know, however, that for this past year, it was approximately $20,000. Off the top of my head, I think previous to that, the costs ran to about $150,000. But I'm sure we can get that number and provide that information.
MR. PURCELL: Thank you, Dan.

--- (A Short Pause: No further questions coming from the Floor)
Tough crowd!

--- (Laughter)

--- (A Short Pause: No further questions coming from the Floor)

We had a late night last night, I guess... It's almost 11:30. If there is nothing else, we will close off on questions from the floor. I thank you for all for all of your questions and/or statements through the Open Forum. That was great!

ACKNOWLEDGEMENT AND INTRODUCTION OF OUT-OF-TOWN GUESTS:
At this point, I want to thank our out-of-town guests for attending our meeting. It was a pleasure to host you, here in Ottawa. I hope you have enjoyed your stay and that we have provided you with some fruitful learning experiences and inspirational moments.

COMMENDATIONS TO OUTGOING PRESIDENT, ON BEHALF OF THE DELEGATES:
At this point in our meeting, it is the Ontario Association's tradition to invite the most senior member of the group to say a few words on behalf of our delegates. Ladies and Gentlemen, Mr. Ron Johns, from British Columbia.

MR. JOHNS: Good morning, ladies and gentlemen-- and Murray! I am quite convinced that Murray didn't want me to do this today! I asked him last night where the meeting was and he said: "It's somewhere down on the first floor." So I went down to the first floor this morning. But Murray didn't realize I was a surveyor and, as such, was able to find the correct room!
--- (Laughter)

So here I am.

I have the dubious honour of saying a few kind words about Murray, congratulating him as he steps down from his term as President.

I first met Murray in British Columbia, and the first thing he did was to try to impress me by dropping names. He said: "You know, I used to live beside John Candy. He was my neighbour. I used to see him at the grocery store. He was right in my neighbourhood!" But you know what, Murray: Who really cares!

--- (Laughter)

Who the heck is "John Candy" anyway!? Geeze! But I know that he is in fact a very loyal guy, and especially so when it comes to his hockey team.

We were in New Brunswick and the guest speaker was slagging the Leafs, and somebody had to actually restrain Murray when he said, in a loud voice: "I'm going to come over the table at you!"

Another thing to note about Murray is that he is kind of a closet cowboy. When we were in Alberta, he was presented with a cowboy hat, and one would have thought,

when he got that thing on, he was off to the Rodeo. He had all the delegates sign it. He probably has it hanging in his office as some kind of trophy!

But if you see a tall guy in a cowboy hat in downtown Toronto, that'll be Murray! And yet a further thing that impressed me about Murray goes to the fact that when I was talking to him on the last occasion that we met prior to today's meeting, he came up to a fellow by the name of Mike Fretwell and said: "Hi Mike. How ya doin'?"

I overheard that and I asked Murray afterwards how it was that he remembered the name of this individual, given that it had been nine months since we had been in Alberta, to which he somewhat sheepishly said: "Well, you know, I did have a rather long "meeting" with him in the Hospitality Suite. In fact, we shut it down!" He has this propensity for coming early to the hospitality suites and staying late! --- (Laughter)

For sure! And that's how he was able to remember the name! But on a kinder note -- and I did say that I would say a "few kind words". It has been a great pleasure for me to travel across the country with Murray and his wife Roselle.

I can assure you that Murray has presented your Association well in his travels to our Sister Associations, at the Business Meetings, at the Presidents' Forums, and in all social settings. Murray always offered Ontario's perspective on all occasions and in all meetings, in addition to providing helpful input or words of wisdom.

Murray has a sincere interest in the well-being of the profession and his enthusiasm and friendly demeanour has made him a welcome guest in every province. My wife and I have become good friends with Murray and his wife. The hospitality they have shown this week has been second to none.

Murray, I know I speak for all the delegates in expressing how sorry we are to see you "step off the Tour".

On behalf of the Association of B.C. Land Surveyors and as the representative of the travelling delegates here today, I wish you and Roselle all the best in your future endeavours.

Thank you for your valuable contribution to land surveying in Ontario and in Canada.

MR. PURCELL: Thank you very much. Thank you.

Best wishes for a successful meeting in Victoria next month; and to the rest of you, my very best wishes for a successful finale on your ten years as President!
It has been a pleasure and an education to spend time with all of you.
AGM OPERATING TASK FORCE:

At this point, I would like to recognize our AGM Operating Task Force, which has done an absolutely fantastic job under the competent lead of Ed Herweyer. At the same time, I want to thank and recognize all of the AGM Operating Task Force Member sfor their excellent efforts on our behalf. I will ask you to please stand and remain standing in recognition of the AGM Operating Task Force and Staff:

Once again, we have the Convention Chair, Ed Herweyer; Parliamentarian, Jack Young; Exhibitors, Dan Robinson and Steve Tremblais; Executive Director, Blain Martin; Meeting Coordinator/Registration, Lena Kassabian; Registration, Julia Savitch; Book Sales, Penny Anderson; Hospitality Suite, Kate Sonier; Accompanied Persons Program, Tanis Browning-Shelp; Sue McCutcheon and Beth Herweyer; Committee Members, Paul Sheehy, Jamie Leslie, Ron Denis, Dave Wiley, and Andy Shelp. Thank you all.

ANNUAL GENERAL MEETING COMMITTEE CHAIR REPORT:
Ed Herweyer is this year's amazing Chair of the Annual General Meeting Committee. I have never had to deal with something on this level before, but I must say that Ed and his Team's efforts and support has really made a huge difference in terms of the success of this Meeting.

This event was a bit of a different animal, inasmuch as we had three Associations stretching in three Agenda directions, with Ed and company in the middle.
Thank you, Ed, for all of your help on the AGM Committee. Ed, do you have a few minutes to provide somewhat of a Report?

MR. HERWEYER: I will keep this briefer than my notes, in the interest of moving this process along. Thank you for your kind words, Murray.

Good morning. Thank you for coming to this Conference. Without your interest and curiosity, we would not have experienced the same level of buzz that we have seen around this place. I am pleased to have acted as your Chair for this Conference, and I am happy to say that that we are almost done!

--- (Laughter)

That is "honesty"! I am not going to sing James Brown's "It Feels Good" -- but it "feels good". The National Surveyors Conference can only be described as a new adventure involving, as it has, all of the Associations, with representation from across the country, from P.E.I. to the Yukon.

It is pretty amazing, and your participation is very much appreciated. It is not a good thing to throw a party and find that nobody shows up! But that is not the case here. In addition to our Meeting, we have Meetings being held by ACLS and by the Québec Association. We work well as a group.

I am going to stick with a line that I enjoyed hearing -- though I won't acknowledge

this to Blain too quickly -- and that is that "it has been pretty awesome, actually!" The meetings started weekly -- I think about a year ago; maybe earlier -- and then they became daily. A survey lasted three or four months, it seemed. But we survived it!

We pushed; we pulled; we moved things in a direction to create the Meeting that we all have experienced. Did it all work out according to plan? I'm not going to say. We have acknowledged some of the groups that worked on this year's AGM. We are all familiar with the concept that "it takes a village to accomplish certain things", and certainly we can say that it took a village to pull this AGM off.

I think I have probably worn out my commentary on thanking people -- but I will say it again: Our sincere thanks to all who helped, to all who inspired us in getting to this point. Your efforts and hard work are truly appreciated. We could not have done it without all of your very welcome input.

Before closing, I have to offer a special "Thank You" to a few people whose hard work, dedication and direction made this whole undertaking the success that it has been, and I specifically have in mind Lena and Julia; and from the CanPlan Group, Patricia and Lea.

I am not at all sure I would have survived this process without their leadership and expertise in putting meetings like this together. It is a different beast altogether! And who knows, we may do it again in a hundred years, in fifty years. What do you think, Murray!?--Fifty years from now...? We'll see you there!

MR. PURCELL: I'll be there!
--- (Laughter)

MR. HERWEYER: As a parting thought, let me say how thankful I am personally for the success of these Meetings; but let me say, too, how very humbled I am by the process and, once again, how grateful I am to all of those involved in making this Conference the success it has been and how grateful and appreciative we all are for the outstanding participation on the part of the general Membership. Thank you all very much indeed!

MR. PURCELL: A job well done! Next year, Al Haywood will take the reins from Ed as the Chair of the 2018 AGM.

We look forward to hosting you next year in Niagara Falls for the 126th Anniversary of the Association. Al is not here today, but past President Dasha Page would like to say something on his behalf... Is Dasha in the room...?
--- (Dasha Page not available)

Maybe not.
CLOSING REMARKS BY OUTGOING PRESIDENT MURRAY PURCELL:

During my time on Council, and especially during my term as President, I have had the pleasure and privilege of working with and getting to know better the AOLS staff.

You have heard this from me before, but I cannot say it enough about the support we get from our AOLS Staff, and I want to take this opportunity before you to acknowledge and recognize their efforts on behalf of our Association.

The entire Staff pulled together to make this Meeting the success it has been.
At this time, I will ask those members of Staff in the room to stand and be recognized, and they are: Blain Martin, Executive Director; Bill Buck, Registrar; Maureen Mountjoy, Deputy Registrar; Lena Kassabian, Office Manager; Julia Savitch, Program Manager; Penny Anderson, Member Services Coordinator and Webmaster; Joyce Tenefrancia, Administrative Officer; Vladimir Oppenheim, Bookkeeper/Accountant and Comptroller; Tim Hartley, Survey Review Manager; Al Worobec, Survey Review Field Survey Examiner; Sheila Lavina, Survey Review Administrative Officer; and Herman Bernardo, Survey Review Plan/Field Support Clerk.

Please join me in thanking them, not only for their hard work throughout the year but for everything they do on our behalf. Thanks!

We're almost there! Just a couple of quick announcements.

2017 POSTER WINNERS:
I neglected earlier to provide the results of the 2017 Poster Session Event for 2017.

Fifth Place went to Salim Morrissey (ph), from Ryerson, with a gift of $500; Fourth Place went to Julian B.G. Ming (ph), from York University, with a gift of $750; Third Place went to Shoron Satar (ph), from Ryerson, with a gift of $1,000; Second Place went to Radi Persod (ph), from York, with a gift of $1,500; and First Place went to John Agri (ph), from York, with a gift of $2,000.

Congratulations from the AOLS Education Foundation.

TRIBUTES TO BLAIN MARTIN:
This last little bit is just something that has to be done! Notwithstanding the terrific exposure we have seen come out of this year's Event, it has to be said that it was an incredibly difficult one to organize, taking a toll on a lot of people. But it has to be said that this guy right here (identifying Blain Martin) has been "the bomb"! He has been great!

At one point in this overall process, I was thinking that what we should do is to somehow acknowledge Blain's efforts on our behalf at the first Council Meeting of the new Council, coming up in March. But then I got to talking to Sue MacGregor

earlier this week, and it was decided that we would take a different approach insofar as acknowledging and recognizing Blain's hard work on our behalf. At this time, I will ask Blain to come forward...

--- (Blain Martin comes forward for presentation of gift)

MR. MARTIN: It's likely a bottle of Scotch!

MR. PURCELL: Blain, on behalf of Council, we want to voice our appreciation for all of your hard work over this past year. I must say that had we made this presentation at a Council meeting, the contents of the "bottle" would be gone in a matter of minutes!

Given that Blain is going on vacation next week, this is obviously the best time to make this presentation. It may be that the contents of the bottle are gone in a matter of minutes, but it will be at his discretion! Thank you very much, Blain.

MR. MARTIN: You are very welcome. Thank you, Murray, and thank you, all. I did say it was "likely a bottle of Scotch", and it is! Thank you, Murray. You have been an absolute pleasure to work with.

MR. PURCELL: Thank you.
That completes our Agenda for today.

CLOSING CEREMONIES:
Ladies and Gentlemen, would you kindly stand for the removal of the Standard Measure...
--- (Audience stands)

I will ask Ed Herweyer to remove the Standard Measure on behalf of David and Charlotte Thompson...

--- (The Standard Measure is removed)

The 2017 Annual General Meeting of the Association of Ontario Land Surveyors is now concluded. Thank you very much, everyone.

--- (Applause)
--- Whereupon the Annual General Meeting Concluded
at 11:50 a.m.

PHOTOGRAPHS

2016/2017 Council

Back Row: Peter Lamb, Al Jeraj, Jeff Fee, Jeff Buisman, Bill Buck, Blain Martin, Andy Mantha, Travis Hartwick

Front Row: Patricia Meehan, Dan Dzaldov, T. Murray Purcell, J. Russell Hogan, Susan MacGregor

Sergeant-at-Arms, “David Thompson” (Francis Kenny) and his wife “Charlotte Small” (Emélie Perron-Clow)

New OLS Members

Back, left to right: James Dorland, Kevin Wahba, Waldemar Golinski, John Gauthier, Rob Leiper, Greg MacDonald
Front, left to right: Roger Grose, Shajieeshane Rajakulendran, Michael Haines, Maryna Hanna, Luke Wilcox, Gavin P. T.Seaman, Farrokh Assaie-Ardakany

Sergeant-At-Arms, “David Thompson” and his wife “Charlotte Small”, presenting the Standard Measure at the Opening Ceremonies

(left to right) Presentation of "Our Reason for Being" with Tania Bigstone (ACLS President), Murray Purcell (AOLS President) and Sophie Morin (OAGQ President)

Keynote speaker: Natalie Panek, aerospace engineer at MacDonald, Dettwiler and Associates Ltd. (MDA), presented "Revolutionizing Women in Technology"

Dr. Brian Ballantyne, leading the presentation, "Contribution of Surveyors to the Development of Canada"

ACLS, AOLS, OAGQ delegates attending the presentation
"The French Surveyors' Portal GeoFoncier"

President Murray Purcell (left) presenting a Citation to Gavin Lawrence

President Purcell (right) presented Charles Wilkins, the author of Great Lengths, A Celebration of the Surveyors of Ontario, with the President's Award.

President Purcell (left) presenting a citation to Travis Hartwick for his services as a member of Council, President and Past-President of council

President Purcell (right) presenting a Fellowship Award to Michael E. Marlatt in recognition of his substantial contribution to the status of the surveying profession in Ontario.

Denis Hains presenter, “Hydrography, Underwater Archeology & Collaboration = Success!”

Mary-Lynn Dickson presenter, “The United Nations Convention on the Law of the Sea (UNCLOS) and Canada’s Submission”

Tony Brown presenter, “Overcoming Tragedy: A Surveyor’s Response to Fort McMurray and Lac Megantic”

The President's Dinner and Dance, featuring "Replay: A Sixties Invasion"

Doug and Colleen Sutherland in the forefront.

Brian Maloney introducing the incoming President, Russ Hogan.

AOLS Registrar, Bill Buck swearing in the new President, Russ Hogan.

Outgoing President Murray Purcell (left) presenting the
chain of office to the Incoming President Russ Hogan.

Incoming President Russ Hogan (right) presenting the
Past President's Gavel to Murray Purcell

Vicki Hogan (right) presenting a gift to the outgoing President's wife Roselle Purcell

President Murray Purcell (right) with Incoming President Russ Hogan (left) wearing the chain of office

Surveyor General's Report
2016 – 2017

Susan F. MacGregor, OLS, Surveyor General
sue.macgregor@ontario.ca
Mapping and Information Resources Branch
Ministry of Natural Resources and Forestry

The Ministry of Natural Resources and Forestry (MNRF) continues to achieve positive results on several pan-government initiatives including climate change, business growth, digital government and the modernization of public service delivery. MNRF priorities include supporting forestry, guiding land use planning, managing aggregates, leading conservation, strengthening biodiversity and minimizing the impact of invasive species.

The Mapping and Information Resources Branch (MIRB) is an essential partner in the management of Ontario's natural resources, enabling resource management decisions that are supported by the best possible advice, data and information through leadership in surveying, geomatics and information management.

Accomplishments
The Office of the Survey General (OSG) includes two units: Crown Land Surveys and Parcel Mapping and Georeferencing.
OSG provides professional legal surveying, mapping and georeferencing advice and services to a number of clients including:

- Ministry of Natural Resources and Forestry (MNRF)
- Ministry of Indigenous Relations and Reconciliation (MIRR)
- Ministry of Northern Development and Mines (MNDM)
- Ministry of Municipal Affairs (MMA)
- Ministry of the Attorney General (MAG)
- Municipalities
- Surveying and mapping industry

Survey and Mapping Work
- Reviewing and approving Crown Location Plans of Survey
- Providing professional survey advice and supporting the MNRF in court and tribunals
- Supporting First Nations land negotiations by mapping and reviewing land claim areas
- Reviewing Reserve Boundary Confirmation Plans
- Preparing Regulation Plans for planning areas, local services boards and provincial parks
- Maintaining Crown parcel and other cadastral and administrative data including the

geographic township and lot fabric improved datasets

In 2016, OSG

- Provided advice on land issues within 33 First Nation reserves and communities
- Responded to over 2,000 requests for comments and/ or cadastral survey opinions to MNRF staff, other ministries, surveyors and lawyers
- Commented on 42 Land Titles Applications and six Boundaries Act Applications
- Received and reviewed 216 Crown Locations
- Processed over 925 requests for survey plans and records
- Completed 12 Perimeter Survey Instructions and prepared over 15 mining claim descriptions
- Prepared 21 Provincial Park Plans
- Scanned nearly 13,000 vital records bringing the total of digital records to 120,000
- Issued 12 contracts with a total value of $285,000

For more information e-mail: rob.martin@ontario.ca or visit our website: http://ontario.ca/page/office-surveyor-general

Progress on multi-year projects:

- Municipal Survey Decision #884 issued, now under appeal
- Work with the Ministry of Government and Consumer Services (MGCS), MAG and the survey community to:
- Address concerns relating to “beaches” in front of registered plans of subdivisions
- Provide a strategy to clarify issues and reduce complaints through better understanding of existing legislative requirements within the Surveys Act

Participate with MIRR on 15 files including:

- Discussions on the Treaty 3 flooding claims potentially impacting over 50 Reserves
- Wikwemikong Islands Claim in Lake Huron
- Algonquin Land Claim
- Mississaugi Highway Flooding Claim
- Parry Island First Nation (Wasauksing)
- Work with MMA on the proposed “Growing the Greenbelt” legislation by providing regulation plans to describe areas which are proposed to be added or removed from the existing area.
- Survey support related to the introduction of proposed legislative amendments to Bill 39, the Aggregate Resources and Mining Modernization Act, which will enable licensed prospectors to register claims by selecting pre-set cells from an online grid reference frame that covers the province. If passed, the regulation governing surveying of mining claims will be updated to reflect modern survey practices.
- Progress on the Vital Records Project. Ontario covers over one million hectares and almost 87% of the province is unpatented Crown land. OSG is responsible for administering the surveys on these lands and preserving survey documents. These records, some dating back to the mid-1730s, are kept in a climate controlled room. The OSG continues to digitally scan these records to curtail further deterioration and allow future generations to access, use and disseminate these important records.
- Supporting MNRF’s regional operations with survey and land tenure training.

Geodetic Activities
The COSINE (COntrol Survey INformation Exchange) database is the official source for provincial, federal, and municipal control survey information in Ontario. Recent changes ensure COSINE Online better meets Accessibility for Ontarians with Disabilities Act (AODA) requirements, eliminated the need for user accounts and offers improved symbology.

More than 120 federal, provincial, municipal and other agencies contribute to COSINE. The municipalities of Stouffville, Peterborough, and Oshawa added 80 new horizontal control stations and vertical benchmarks to COSINE. Ministry of Transportation also contributed projects for highways near Arnprior, Dryden, Cornwall, Eganville, Haliburton, Manitoulin and the North Shore areas, Mattawa, Muskoka, Ottawa, Prescott, Sault Ste. Marie, Thunder Bay, Vaughan, Vermilion Bay, and Wawa which added 1,200 new horizontal control stations and vertical benchmarks.

The Height Modernization Working Group recommended the adoption of the new vertical datum Canadian Geodetic Vertical Datum 2013 (CGVD2013) over a five year period.

To support the adoption of CGVD2013, approximately 20,000 heights rigorously computed by the Canadian Geodetic Survey for first and second order benchmarks were loaded to COSINE. In addition, nine older vertical control projects associated with the Ontario Basic Mapping (OBM) program were reviewed and re-loaded. This resulted in the review of over 500 benchmarks and their vertical elevations being re-computed or confirmed in COSINE in relation to CGVD28. These projects will later be re-computed and re-loaded to CGVD2013.

In 2015, OSG staff developed a Geodetic Strategy in consultation with our partners to guide and focus MNRF's geodetic activities for the next five to seven years:

- Horizontal and vertical datums and height modernization
- Physical standards (precise EDM calibration baselines and GPS/ GNSS basenets)
- Provincial standards and specifications documents
- Geodetic software and database
- Web presence
- Relationships with partners and stakeholders
- Future partnerships, trends and special projects

While the bulk of this year's work focused on preparing vertical networks in anticipation of Height Modernization, progress was made on an improved web presence, increased feedback from partners on monument status and preparation for re-observation of Electronic Distance Measurement (EDM) baselines at Belleville, London, Conestoga and Shirley's Bay. Values will be posted to COSINE upon completion. Work continues to update the COSINE legacy software.

Geodetic staff attended the annual Canadian Geodetic Reference System Committee

(CGRSC) meeting in Ottawa. The CGRSC includes geodetic representatives from each of the provinces and the Canadian Geodetic Survey of Natural Resources Canada.

For more information e-mail: morgan.goadsby@ontario.ca
Both the COSINE On-Line Ontario view and Toronto view are available on our Geodesy website: https://www.ontario.ca/page/geodesy

Geographic Names:
The Ontario Geographic Names Board met three times and considered 42 names cases resulting in three new names, two name changes and two name corrections. The remaining cases were either denied or deferred.

With the assistance of MNRF staff, the Board continues to look for new opportunities to engage communities, businesses and Ontarians about geographic names through MNRF's social media channels.

To comment on current names proposals visit our web page: (http://ontario.ca/page/geographic-names or follow #HaveYourSay on Twitter and Facebook.

Geographic Names staff handled over 600 naming requests, including one request involving over 4,000 names for a research project.

MNRF's database contains more than 57,000 official names for water and land based geographic features. To find official names on a map visit our website (http://ontario.ca/page/geographic-names) and click on the link "Find official names on a map".

Geographic Names staff represented Ontario at the annual Geographic Names Board of Canada (GNBC) meeting in Regina, Saskatchewan. The Geographic Names Board of Canada includes representatives from federal and provincial naming authorities and has naming authority over pan- Canadian names, offshore and underwater features.

Work continues to inventory MNRF's extensive historical records, including information on more than 200,000 geographic names, maps and correspondence files dating back many generations.

For more information e-mail: morgan.goadsby@ontario.ca or visit our http://ontario.ca/page/geographic-names

Foundation Geospatial Data
The Mapping and Information Resources Branch delivers professional surveying, geomatics and information services to MNRF, other ministries and Ontarians. The branch provides leadership to capture, create and maintain foundation geospatial data for Ontario including:

- Roads
- Water
- Utilities
- Wetlands
- Elevation data
- High-resolution imagery

Much of this data is available for direct download from the Land Information Ontario (LIO) website: http://ontario.ca/lio

Use the interactive Make a Topographic Maps (https://www.ontario.ca/page/topographic-maps) application to view the best available data and imagery for Ontario.

For more information e-mail: lio@ontario.ca

Ontario Road Network
The Ontario Road Network (ORN) contains information on more than 277,000 kilometres (kms) of roads across the province and is maintained by all three levels of government.

In 2016, geometry and attributes were added for more than 2,500 kms of new roads. The ORN is used to update Canada's National Road Network, Statistics Canada Road Network and to improve the 2016 census geography.

For more information e-mail: lio@ontario.ca

Ontario Parcel
The Ontario Parcel is a province-wide, standardized database that contains over 9.75 million assessment, ownership and Crown land parcels. Parcel boundaries, assigned civic addresses, Assessment Roll Numbers and Property Identification Numbers are also available.

In 2016, over 33,800 assessment parcels and 36,800 ownership parcels were added, deleted or modified.

For more information e-mail: carla.jordan@ontario.ca

Ontario Imagery
Land Information Ontario coordinates partnerships to acquire current high- resolution imagery for the province.

The partnership approach provides significant cost savings to all parties. Partners typically pay less than 20 percent of the total cost of acquiring the imagery.

A number of surveying firms took advantage of a subscription option available to private sector organizations. Organizations contribute a minimum $1,000 contribution to an acquisition and can select imagery on an as needed basis for up to

three years after the imagery is delivered. The imagery is multi-spectral with a resolution of 20 centimetre (cm). Ground control is established for each project area that results in a horizontal accuracy of 50 cm "on the ground". Stereo data is also available to partners at no additional cost.

These products are available for purchase:
- Southwestern Ontario (2015)
- Eastern Ontario (2014)
- South Central Ontario (2013)
- Central Ontario (2016) (available spring 2017)

The 2017 project partners are finalizing plans to acquire imagery for over 20,000 kms in Northwest Ontario. Partnership opportunities are still available.

Elevation data generated from these imagery projects will include a 40 cm digital surface model point cloud and a 2 metre (m) raster digital elevation model. Both of those products will be available as open data.

As new imagery becomes available, it can be viewed on the Make a Topographic Map application (https://www.ontario.ca/page/topographic-maps).
For more information e-mail: imagery@ontario.ca or visit our website: http://ontario.ca/lio

Strategic Directions
As baby boomers continue to retire from the survey and mapping industry, our organization has not been immune to staffing change. Significant effort has been spent planning, re-organizing, hiring and training to ensure mapping and surveying staff are available to fulfill our mandate.

The Ontario Parcel agreement between MNRF, the Municipal Property Assessment Corporation (MPAC) and Teranet Enterprises Inc., to create and maintain a standardized digital parcel database for Ontario, will expire in May 2017. MNRF continues to consult with Ontario ministries to determine their need for parcel data in the future.
Strategic changes are under review around Ontario's foundation geospatial data. MNRF is in discussion with the federal government on potential changes to support roads and elevation data. MNRF recently collaborated with the Ministry of Agriculture and Rural Affairs over the collection of LiDAR data for portions of Southern Ontario. While targeted for soils mapping, this data has useful applications within government, business and the public. The data will ultimately be available through as Open Data (https://www.ontario.ca/page/sharing-government-data). This project could form the basis for a wider and more strategic program for imagery and elevation data acquisition.

Susan F. MacGregor
O.L.S Surveyor General
susan.macgregor@ontario.ca

PRESIDENT'S REPORT
Murray T. Purcell, OLS, OLIP

The goal for 2015 was to keep things as simple as possible at Council; focus on the We began the 2016 year with our usual Strategic Planning session. This year we attempted a fresh approach to this session with the intention of saving money by hiring a new facilitator. The event was not as successful as previous years, however there were a series of observations, issues and challenges brought forth by the team which did derive some priorities moving forward. Issues and challenges included the need for a revision to regulations, the erosion of professional boundaries, relations with stakeholders (especially public municipalities), branding, demographics, and the role of the AOLS.

The primary goal for 2016 was to remain fiscally responsible in light of anticipated future legal costs resulting from the Constitutional Challenge and Discipline proceedings. The secondary goal was to continue to provide strong AOLS support to our various committees and task forces and to try to bring closure to some of those continuously burning issues. The third goal was to provide an Annual General Meeting and venue to support our 125th anniversary (and Canada's 150th birthday) in the form of a marketing opportunity to raise attention to our profession.

Constitutional Challenge and Discipline Costs
In spite of the fact that these costs did not transpire this year, they remain a very real concern moving forward. I am pleased with the result our thrifty year and the support from the membership that indicates a fearless attitude to stand firm on our objectives.

Old AOLS Issues
There are a series of issues, which continue to burn within AOLS Council, Committees and Task Forces.

The question of how to approach the concern of "sketches vs. plans of survey" has resulted in very in-depth discussions and continues to be problematic in terms of shutting down grey areas while understanding that there may be a need for new less strict products to serve the public. The Standards Committee continues in their attempt to resolve this.

While our demographics remain a concern I feel that we are about to turn a corner in this regard. We are currently investigating the topic of "how many surveyors do we need to continue to perform our duties and protect the public?" We continue to see a large number of retirements, however the articling students and new commissions are also increasing. The concern I see moving forward is the 76% over 50. That represents 382 of the 505 members.

The results from our Certificate of Registration Task Force survey indicate that the life of this designation has some significant support from the membership. In my mind, this is positive news for the AOLS home and I hope the Task Force continues their hard work to investigate and develop a strong action plan to assist C of R's moving forward. This will involve hard work from the C of R community as well as the support from cadastral family members.

The province wide survey records index (PWSRI) survey monkey also acquired positive support from the membership and the task force continues to work towards its inception.

Council continues to discuss future changes to regulations. There are several areas of our legislation where changes should be considered. As we all know, these changes within government are not swift and therefore there is a need to provide a strong and thorough request. ODCC, PWSRI, the Constitutional Challenge and Copyright all potentially affect our legislation. While Council recognizes the need for changes we tread carefully to ensure we provide a complete request to the Government of Ontario.

The Geomatics Recruitment & Liaison Committee along with Public Awareness Committee have continued their great work on getting the message to schools and the public of our importance to the community and society itself, and the interesting and satisfying lifestyle of a surveyor. AERC has also continued its great work with reviewing applications and assisting students within the articling process.

The Continuing Education Committee continues their hard work in developing strong educational sessions for us all to improve our skill sets. The fact that our Complaints Committee files have substantially decreased is a strong indication that the system is working. For most of us we have completed the first of our three year term and I encourage everyone to keep on track and stay consistent within the program.

New AOLS Issues

This year a series of new issues were brought to the forefront, which are exciting.

Through discussions on legislation and regulation changes your Council Executive were introduced to a Government Relations specialist. This gentleman and his team assist organizations and companies with introductions to politicians, federally and provincially. It was felt that our first order of business required some acknowledgment to government of who we are and what we stand for. Talks have gone well and we hope to continue this intention in the upcoming year.

Council and various members within AOLS have been exploring/sniffing at the idea of attempting to establish a proper exclusive learning institution, similar to the former Erindale College. This exercise is in its infancy however the thought seemed to be around researching Universities outside the Greater Toronto Area.

Many members, throughout the year, have sent emails or talked with myself, or AOLS staff, on various topics and issues that I appreciated, and hopefully we responded to formally to all. Each message was taken seriously and in some instances generated positive ideas moving forward. It was brought forward at the 2016 AGM that we had $50,000 in Visa charges. This year we have initiated a 3% credit card surcharge to offset those fees. In addition, we now offer the ability to pay "on-line". Members brought up the exorbitant increase in Service Ontario service charges (Bulletin 2015-03) as well as the consideration to close various Service Ontario locations including three, which maintained Land Registry Offices. A letter was carefully prepared and submitted to Honorable Minister Marie-France Lalonde, Minister of Government and Consumer Services voicing our concerns. The Ministry has reconsidered the closure of offices at this time. The issue of proper monumentation before signatures of the Surveyors Certificates has hopefully lead to a clear and concise understanding and AOLS policy regarding statute law by the membership. The need for new innovative products to better serve the public while remaining consistent with our Acts and Regulations continues to be a frustration however the Standards Committee as well as our Legislation reform should be able to address this in future. Professional Surveyors Canada continues to vie for an AOLS "all in" membership to unify efforts on many levels. Collaboration is always good and I continue to encourage everyone to allow PSC to prove its benefits.

Marketing Opportunity

The celebration we experience this week is only the beginning to what I hope evolves into a massive marketing program for AOLS and hopefully our profession in general. Canada's 150th year of Confederation, coupled with our 125th year as an Association, and our sharing The 2017 National Surveyors Conference with ACLS and OAGQ represents a huge backdrop for exposure nationally and internationally. Marketers are in place and only time will tell whether the upcoming year of promotion will result in a positive attraction of our profession. Regardless, I am very proud of the efforts and hard work that has gone into providing this event by all three organizations and our AGM Planning Committee.

Also within our year of initial marketing opportunities is the release of our new book "Great Lengths- A celebration of Surveyors in Ontario". Our author Charlie Wilkins has provided an extremely fun and exciting read into our way of life. The story is intended to hit the high schools and libraries across Canada with the intention of educating and promoting our wonderful occupation. Thank you to everyone who contributed stories, pictures, time, and sponsorship.

I am pleased to say that your 2016 Council, Committees and Task Forces have assisted in at least moving all of these items and issues forward. None stood still for the entire year, and many have an opportunity for completion in the near future.

Across the Country

While travelling across the country there were all sorts of issues of interest brought to light.

- In BC, discussions were about centered on the British Columbia Institute of Technology (BCIT) and support of land surveying accreditations to become a BCLS.
- In Alberta, talk focused on the introduction of the Hybrid Cadastre a coordinate only survey.
- In Saskatchewan, there was consideration to take a run at Teranet for copyright infringement.
- In Manitoba, the AGM produced 32 motions to update their Association By-Laws
- Quebec is considering a name change from arpenteur-géomètre" (land surveyor) to Géomètre Expert (land expert).
- The New Brunswick Association was considering moving under their province's P.Eng umbrella to assist with administration
- Nova Scotia land surveyors have assisted their province to deny the Teranet model.
- Newfoundland has created a By-Law named Land Gazette, which is their first ever, land registry system.
- Prince Edward Island has administration woes for their less than a dozen active members.
- Professional Surveyors Canada is struggling with gaining the attention of Ontario and Quebec memberships for marketing funds.
- And ACLS continues to build its Geo-Ed learning portal and build on the Canadian Board of Examiners for Professional Surveyors.

Attending the provincial meetings, and brain storming each other's Association issues, often brings a different perspective and provides alternative ideas to bring back to Council.

In closing I wish to say it has been an honor to serve as president. I want to thank Council, Blain Martin, Executive Director and his staff, and of course the membership for all of your tremendous support and enthusiasm over the course of the year.

Thank You,
Murray Purcell,
AOLS President 2016

EXECUTIVE DIRECTOR'S REPORT
2016
Blain Martin, OLS, CLS, PMP, MBA

The Executive Director is the senior staff officer of the Association, responsible to the President and Council of the Association. In addition to formal roles as Secretary to Council and Treasurer of the Association, the Executive Director Implements decisions of Council, promotes the welfare and image of the Association, promotes liaison between all segments of the Association and other organizations, government bodies and the public and ensures the efficient day-to-day operation of the Association offices.

This report will cover the period from January 1st 2016 to December 31st 2016 under the general headings of Administration, Strategic Planning, Membership, Government Relations and Public Relations.

Administration

The Association's staff complement for 2016 included a total of 12 staff members (including 5 Ontario Land Surveyors). In addition, we have 2 Ontario Land Surveyors on contract to assist the Survey Review Department (SRD) with the Peer Review Program. This past July marked my 7th anniversary in the position of Executive Director. I have enjoyed the role immensely.

During 2016 there was one change to the staff compliment. Maryellen did not return from maternity leave and Joyce was hired as her replacement. Joyce has turned out to be a fabulous addition to the AOLS staff. The complete staff list is as follows:

Blain Martin, OLS	Executive Director
Bill Buck, OLS	Registrar
Maureen Mountjoy, OLS	Deputy Registrar
Lena Kassabian	Office Manager
Julia Savitch	Program Manager
Penny Anderson	Member Services Coordinator, Webmaster
Joyce Tenefrancia	Administrative Officer
Vladimir Oppenheim	Bookkeeper / Accountant / Controller
Tim Hartley, OLS	Survey Review – Manager
Al Worobec, OLS	Survey Review – Field Survey Examiner
Sheila Lavina	Survey Review – Administration Officer
Herman Bernardo	Survey Review – Survey Review Department Examiner Assistant

As I did in the past, I would like to provide background on each member of the staff and what their current responsibilities are.

Blain Martin has been Executive Director since July of 2009. Like Maureen (a classmate), Blain is a graduate of the first class ('76) of the Survey Science program at Erindale College, University of Toronto (UofT). Subsequent to this, he continued his education and received a Master of Engineering Degree from UofT and an MBA from the Queen's School of Business.

Blain's career straddles both the Cadastral and the Geographic Information Management sides of the Association, which brings a unique perspective to the Executive Director's position. He is striving to achieve his primary goal of the betterment of the profession by getting involved in projects that protect the public, enhance the perception of surveyors by the public, bring in new members, and develop a collaborative approach between existing members.

Blain subscribes to the African proverb that says, “If you want to go fast, go alone; if you want to go far, go together!” Blain believes a collaborative approach of “going together” is tremendously important for the betterment of the profession and our overall success will only be achieved by everyone working together.

During the course of the year Blain worked on two major projects that reflect his view on collaboration. The first project is the creation of the Historical Book, “Great Lengths”. This has turned out to be a fabulous endeavour which is widely supported by the profession. The other project entails working with other Executive Directors to manage the joint meeting in March of 2017. This meeting has been in the planning stages for two years and should be a fabulous endeavour.

This year my report is a little different in that I have asked each staff member to describe their responsibilities. I want to thank all staff for providing me the following content.

Bill Buck joined the AOLS as Registrar in August 2000. Bill is a graduate of the University of Toronto Civil Engineering (Survey Option) class of 1969. Along with being an Ontario Land Surveyor he is a Canada Lands Surveyor and a member of the Association of Professional Engineers of Ontario.

His principle duties include supporting the Academic and Experience Requirements Committee and the Complaints Committee by preparing their agendas and minutes and ensuring that all correspondence emanating from these committees is processed expeditiously.

During 2016 Bill supported the AERC with the processing of 59 academic evaluations and 31 articling applications as well as assisting with examinations, the annual lecture course, and presiding over the Convocation luncheon. He also prepared the agendas and minutes and processed the files for 10 Complaints Committee meetings and 10 new complaint files.

Bill also participated in two discipline hearings, dealt with several referrals from the Survey Review Department, provided administrative assistance to the Fees

Mediation and Registration Committees, participated in the Professional Standards Steering Committee and responded to numerous inquiries from both members and the public. He also attends Council meetings, participates as an observer at CBEPS Board meetings, acts as liaison to the Office of the Fairness Commissioner and conducts Registrar's Investigations as required.

Maureen Mountjoy is a graduate of the first class ('76) of the Survey Science program at Erindale College, University of Toronto. In 1978, she was the second woman to become an Ontario Land Surveyor. She has been the AOLS Deputy Registrar and the Editor of the Ontario Professional Surveyor magazine since the fall of 2000.

She is also the Secretary and Chief Administrative Officer of the AOLS Educational Foundation and works closely with the Colleges and Universities whose students benefit from the awards generated from the Foundation. Maureen is a non-voting member of the Academic and Experience Requirements Committee (AERC), a member of the Public Awareness Committee (PAC), the Geomatics Recruitment and Liaison Committee (GRLC) and the University and College Students Liaison Committee (UCSLC). She attends many trade shows and career fairs to promote our profession and works closely with faculty and students in the Geomatics program at York University. She is the AOLS representative on the York University Geomatics Engineering/Geomatics Science Advisory Committee.

Last year, Maureen worked with John Negru from Richmond Green Secondary School (RGSS) to develop teacher and student resource material for the Specialist High Skills Major (SHSM) "Introduction to Surveying" course, which was first launched at RGSS. The goal of the GRLC is to promote this course province-wide. This year Maureen will be busy working with the SHSM lead at the York Region District School Board to present a hands-on workshop to technology teachers who have an interest in teaching the Introduction to surveying course at their schools.

Lena Kassabian has been with the AOLS since August 2005. As Office Manager, she ensures the AOLS office is running smoothly and the staff and members' expectations are met in a timely manner.

Lena is deeply involved with the AERC. She is responsible for processing evaluations and articling applications for students seeking their designation as an Ontario Land Surveyor. She meets with prospective candidates and engages them in the process in a positive fashion and ensures that all applicants receive the necessary materials. She takes great joy in helping local and foreign candidates achieve their goals.

Lena also scouts out locations for Annual General Meetings, Council Meetings, AERC events, the Geomatics Picnic and other meetings and seminars. She negotiates contracts for these events and organizes them.

Lena is also the key organizer of the Associations' Annual General Meeting.

Julia Savitch has been with the AOLS since July 2011 as Program Manager. She has a Bachelor of Business Administration from the Schulich School of Business and is currently very close to completing her MBA from the same school.

Her responsibilities include working with Continuing Education Committee to develop courses for our members and managing CPD; Website Committee; AGM Planning & Operating Committees, and all the commissions of the association. She also tracks the implementation of our annual Strategic Plan.

Julia is the editor of AOLS In Sight e-newsletter and the organizer of our monthly webinars. She also manages our social media presence on LinkedIn and Facebook.

Julia enjoys working with our great volunteers - committee and task force members, Regional Group Executives, Council, - as well as enabling communication and information sharing between various stakeholders of the AOLS.

Julia would like to encourage all the OLS members to participate in continuing education activities on a regular basis throughout their CPD cycles – and their careers, and to remember to submit their CPD activities as they go. She also welcomes suggestions from all members for newsletter, webinar and seminar content and encourages them to get involved in AOLS social media outlets.

Penny Anderson has been with the AOLS since June 2012 as the Member Services Coordinator and Webmaster. She is certified in Web Design and Development from Sheridan College and is currently working on her Information Systems Management Certification at Ryerson University.

Her role involves managing the Membership Database, Scheduling Membership Dues, and updating website content. Penny is the channel for Members' information changes, REACH Bulletin Distributions and assistance to Members on how to navigate the website and setting up membership accounts online.

Penny also provides support to the Executive Director in generating demographic reports and assists in taking the minutes of Council meetings.

Since joining AOLS, Penny has also pursued further education at Ryerson University to obtain a Certificate in Information Systems Management. If you decide to visit Penny at the office, you may also meet her forty pound, four-legged companion, Barkley, who occasionally resides under her desk. On some of their days-off, she and Barkley volunteer at the Humane Societies and SPCAs.

Joyce Tenefrancia is the Receptionist and Administrative Assistant. She joined AOLS on June 20, 2016. Joyce is your first point of contact with the association. She is the AOLS Administrative Officer at reception, answering the telephone, checking and responding to emails, opening the mail, and generally meeting and greeting those who come into the office.

She supports almost all the AOLS staff, and various committees, specifically the AERC and Complaints Committee. Daily, she acts as service conduit for a variety of stakeholders. The OLS membership and extended community is important to her.

If you don't know which staff member you should be contacting, contact Joyce and she will send you in the right direction!

Vladimir Oppenheim has been with the AOLS since 2010 as our Bookkeeper / Accountant / Controller. He is responsible for financial wellbeing; for all processes of recording accounting information, analyzing its components & producing monthly financial statements for a management. All these steps are vital for us not only in order to know our current financial performance, but also necessary for forecasting future activities and making them financially feasible.

Vladimir also does all Year end procedures including preparation of various tables, schedules & reports needed for auditors in preparation for annual Financial Statements. As we want to manage our funds wisely and gain interest on investments, we have a number of investment portfolios. Recording of accrual interest revenue is done by Vladimir based on quarterly financial reports and adjusted in annual financial statements.

Liability Insurance, although handled by Insurance broker is getting into our accounting system since we are contributing yearly to Claim Reserve Fund. We are also involved in the whole the process as we receive premiums paid by members prior to paying the portion to Insurance broker.

Other current operation handled by Vladimir include among others payroll, reconciliations with banks & government bodies & preparation of annual reports for Revenue Canada.

Tim Hartley joined the Association Offices as the Manager of the Survey Review Department (SRD) in early September of 2013. Tim is a graduate of the '79 class of the Survey Science program at Erindale College, University of Toronto (UofT). Tim brings a wealth of experience from his many years in private practice and from his involvement in Association activities.

Tim manages the Office remotely using current communications tools such as Skype and GoToMeeting. During his tenure as manager Tim has visited all the regional groups and always emphasizes the educational importance of the SRD.

Tim, the SRD staff and the consultants at the Survey Review Department are constantly trying to improve the operation of the department. More of the correspondence with the membership is being done electronically. Each issue of the Professional Surveyor now has an article written by either Tim, Doug Reitsma, Drew Annable or Al Worobec about the review process or how to eliminate reoccurring surveying problems that have come to light. A review is somewhat

subjective but the consultants constantly check each other's work to try and eliminate any bias.

Al Worobec joined the Association Offices as the Field Survey Examiner of the Survey Review Department (SRD) in early January of 2014. Al is a graduate of the '84 class of the Survey Science program at Erindale College, University of Toronto (UofT). Al brings a wealth of experience from his many years in private practice and from his involvement in Association activities, most recently as the 2009 President.

Sheila Lavina has been with the AOLS since March 2010 and has worked as the Administration Officer. In September of 2014 she transferred to the role of SRD Administrative Officer. Since she has moved to the department, changes were made and implemented to the administrative process. SRD requests are now emailed to firms ensuring prompt and cost-efficient delivery. Sheila acts as the liaison between the SRD and the participating firms. Other duties consist of ordering and maintaining supplies, coordinating meetings and assists in planning day-to-day operations. Sheila's main responsibility is to make sure activities between the firms and SRD are organized and completed within the time allotted.

Sheila works closely with the consultants within the Survey Review Department. She is dedicated to serving our AOLS members as well as the members of the public. Part of her dedication is ensuring that all meetings of Council and Committees are scheduled and reminders are sent out prior to each meeting. This has really helped with ensuring that all participants regularly attend scheduled meetings.

Herman Bernardo has been with the AOLS since November 2010 as the Survey Review Department Examiner Assistant. His responsibilities include coordinating deposited plans by OLS / Firms received from Land Registry Offices, as well as reviewing Comprehensive Reviews supporting documentation for missing material.

Herman assists the Field Survey Examiner with field examinations, so he is often out in the field, working in the fresh air all over Ontario. He also fulfills the logistic needs for the field operations.

He is also our go-to person whenever something needs to be assembled, disassembled, moved or fixed in the office.

In addition to the two items mentioned previously, I want to highlight a few of the staff accomplishments over the year.

Bill, Maureen and Lena have been here the longest and each of them contributes incredibly to the operation of the office. They provide role models of dedication to all staff.

Julia and Penny have each provided services to the members in ways that continue to

increase our efficiency and enhance our communication. When I first took on this job, Council was quite insistent that communication should be sent to the members on a regular basis and I struggled with that. My "communication" seemed to consist of intermittent emails about topics that were important. Julia was hired in 2011 and took on the role of sending the newsletter every second week. Since the fall of 2011 not one issue of the newsletter has been missed and many surveyors have told me that the content is marvelous.

This year Julia has continues with the monthly webinars as another communication vehicle. We have had one each month and the feedback on each was very positive. We use Survey Monkey to assess that feedback and everyone that responds says they want to attend the next one. Julia administers the Survey Monkey Questionnaires and the results of all are available on our website.

Penny is instrumental in operating our website and with Julia's help they interact with a web developer on a continuous basis. This platform has become a great source of information for our members and for the public. Penny also works tirelessly on the internal database. This database is really the life blood of the whole organization. In my view the data base has never been in better shape than it is now and this is thanks to Penny's work.

There is one other staff member that I want to highlight just as I did last year and that is Tim Hartley. Many of you know that Tim has been one of my best friends for as long as I can remember and I must say that it continues to be a pure joy to work with him. This is not only personally rewarding but I also see him making many positive changes in the Survey Review Department that will help with the communication to the members and will encourage high quality survey work across the province. While still addressing those few firms that do sub-standard work, the department's main focus will be education.

The thought advanced by one of the staff members about the Association being a Community continues to be reflected in the depth of the relationships that we have with each other. Those relationships are both positive and rewarding for the most part.

As I incorporated all of the AOLS staff comments for this report I realized that my report is very similar to my last year's report. I believe that this is because we have a stable, effective and efficient staff at the AOLS office. Along with that, they are a staff that makes it enjoyable to come to work every day!!

Strategic Planning

This year Strategic Planning was not as effective because we tried to use a process that was not as rigorous as we used in the past. That said our plan from the previous year was so solid that we simply continued along the lines in the 2015 plan. We continued with the process of tracking the various initiatives and progress was

monitored monthly by the Executive Committee.

In 2017 the Strategic Plan process will revert back to our rigorous system with Peter Richardson, (my Queen's MBA Strategy Professor) taking the lead on the process.

Membership

AOLS committee work is a very valuable tool for membership communication. Members have participated in many committees this year and several members who have never been involved in Association matters have volunteered for Committee work. This indicates an increased engagement by the members in our profession.

The Geomatics Picnic took place at the Nottawassaga Inn with well over 100 members and guests in attendance. Once again it was a success

Membership numbers continue to be a concern with the aging of our membership. This appears to be a continued trend in our sister organizations and in society generally with the aging of the baby boomers.

We still have our membership in decline and an aging membership. It is my belief that this does create tremendous opportunity for new surveyors to become members of our Association. The aging population statistics combined with the salary studies that indicate that surveyors are generally are well paid indicates that surveying is an attractive opportunity for young people looking for a profession.

Our committees have been doing some great work in attracting new people and this is indicated by the number of articling students in the system. In 2016 we have had 14 new surveyors and yet the number of articling students has increased from 71 at this time last year to 84 currently in the system. I take this as a very good sign for our future.

Across Canada there are some organizations with aging surveyors but others have turned the corner with many more young people joining their ranks. The overall numbers up to February 9, 2017 are as shown below.

Demographics - February 9, 2017										
Age	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Cad**	**CofR**
Art Stu	38	45	49	50	51	68	71	84		
20 - 29	5	6	3	3	6	8	5	7	7	
30 - 39	40	32	26	31	31	36	37	38	37	1
40 - 49	189	162	143	130	112	99	86	78	75	3
50 - 59	237	244	247	242	238	229	212	209	189	20
60 - 69	117	128	137	139	136	139	138	126	116	10
70 - 79	46	46	48	41	38	39	34	36	35	1
80 +	5	8	6	9	8	9	10	11	11	
Total	**639**	**626**	**610**	**595**	**569**	**559**	**522**	**505**	**470**	**35**
Percentage Over 50	63%	68%	72%	72%	74%	74%	75%	76%		
Prcentage over 60	26%	29%	31%	32%	32%	33%	35%	34%		
Percentage change in Art Stu numbers since 2010	18%	29%	32%	34%	79%	87%	121%			
Percentage change in total numbers since 2010	-2%	-5%	-7%	-11%	-13%	-18%	-21%			

Government Relations

Several meetings occurred throughout the year with the Ministry of Citizenship and Immigration in connection with the Fair Access to the Regulated Professions Act, 2006.

The Association met with Service Ontario concerning the submission of Digital Plans into the Registry system of Ontario. A Digital Plan Task force with AOLS members and Service Ontario Members has been created to move this forward.

Public Relations

The Public Awareness Committee oversees most of the Association's activities in public relations. In addition to preparing brochures and articles, the Committee provides support to the membership and hosts promotional activities at trade fairs, conferences and career fairs.

In 2016 the Committee once again attended education career days, as well as conferences hosted by the Ontario Good Roads Association, URISA and TREB. Media advertising rounds out the Committee's activities to ensure continued exposure of the benefits and resources of the Association to the Ontario public. The Public Awareness Committee and Deputy Registrar, Maureen Mountjoy are to be commended for the effort they put into this very demanding task.

Issues of the Ontario Professional Surveyor publication are available on our website in "book form" with hot links imbedded for the various advertisers.

We continue active involvement with the Ontario Professional Regulators' Policy Network. This is a forum which allows discussion of common issues facing all

Ontario regulators and utilities as well as the opportunity for each of us to meet each other to promote our own values and responsibilities and find common solutions to issues.

For the first time this year, we submitted a question on transparency of various proceedings that other organizations use. We did get several responses and there is a wide variance on how different organizations handle complaints, discipline and court proceedings.

Executive Director's Meetings

We continue to be very active on the national front in seeking solutions to strengthening our profession as a whole. Last May most of the other Provincial Executive Directors and I met for a sixth time in Alberta to advance closer cooperation between surveying associations. This was the sixth annual face-to-face meeting for the Executive Directors and one of the primary purposes is to exchange best practices.

I would like to thank President Murray and all of Council for their help over the past year. Along with that, I especially want to thank all the staff at 1043 and all committee members for their continued efforts and work toward the betterment of our Association and profession.

Blain Martin, OLS, CLS, PMP, MBA
Executive Director
Association of Ontario Land Surveyors

REGISTRAR'S REPORT
For the year 2016
William D. Buck, OLS, CLS, P. Eng.

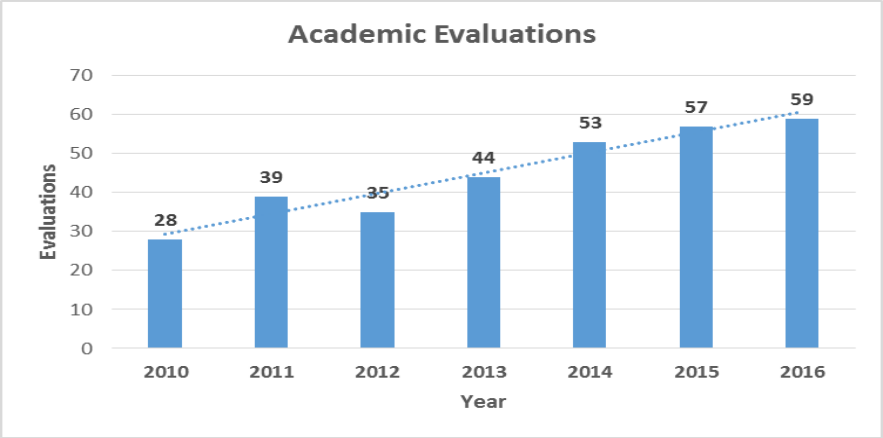
The Registrar is appointed by Council under Section 3.(8) of the *Surveyors Act* and is responsible for overseeing the statutory responsibilities of the Association of Ontario Land Surveyors.

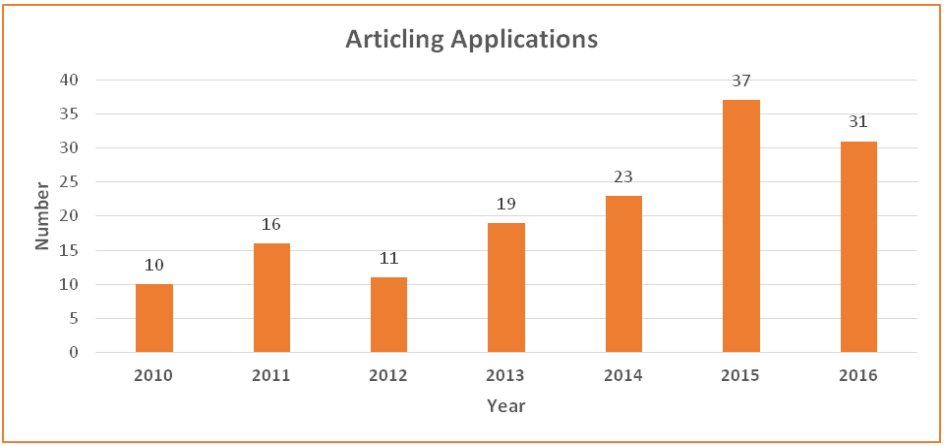
The Registrar's activities are concentrated primarily in the areas of Academic and Experience Requirements, Public Inquiries, Licences, Certificates of Registration, Certificates of Authorization, Complaints and Discipline.

Academic and Experience and Requirements Committee (AERC)

The Registrar is not a voting member of the Academic and Experience Requirements Committee, but carries out its administrative activities, including preparation of the agendas and minutes for each meeting. On behalf of the Committee, the Registrar also responds to requests for information regarding academic evaluations, requirements for membership, articling, monitoring, and examinations. Deputy Registrar Maureen Mountjoy also assists in coordinating the activities of the Committee, in consultation with the Registrar and the AERC Chair, ensuring that all relevant issues are brought to the Committee's attention. In 2016, the Registrar also presented four articling information sessions, assisted with the statutes, oral and written professional examinations, organized and participated in the annual Professional Lecture course, and participated in the swearing-in of 10 new Ontario Land Surveyors.

Thirty-one (31) new students entered into articles during 2016, compared to thirty-seven (37) in 2015, and three (3) student's articles expired or were cancelled. As of January 30th, 2017 there were eighty-four (84) articling students, an increase of thirteen (13) over this date last year, and the most we have had since 1993. Eleven of the current articling students are females. The implementation of the new articling system removed the requirement for work reports and one- on-one monitoring and allows the Academic and Experience Requirements Committee members to track student progress using our web-based Learning Management system. The Statutes examination is now fully on-line and is available throughout the year and may be written in a remote location if more convenient for the student. The Academic and Experience Requirements Committee also approved fifty-nine (59) academic evaluations during 2016, two (2) more than last year. The number of evaluations has increased by more than 100% over the past 5 years. Twenty-one (21) of the 2016 evaluations (36%) were internationally educated applicants, which is nine (9) more that in 2015 and five (5) were female applicants. The following charts provide a graphical illustration of these statistics.





Educational Services

The Registrar responds to inquiries from both the membership and the public. Many requests for information are satisfied during the initial contact, but others require research and written responses after appropriate discussions with other surveyors, staff and occasionally Council. No individual Educational Services file were opened in 2016, however numerous inquiries were dealt with without opening files. Typical issues included: non-OLS activity in cadastral surveying, right-of-entry inquiries from the public, concerns from the public regarding lack of response from members for various reasons, and requests from the public to assist in encouraging members to honour their business and/or financial responsibilities. It is often possible to resolve issues at this level and avoid a formal written complaint, which by statute, must be directed to the Complaints Committee.

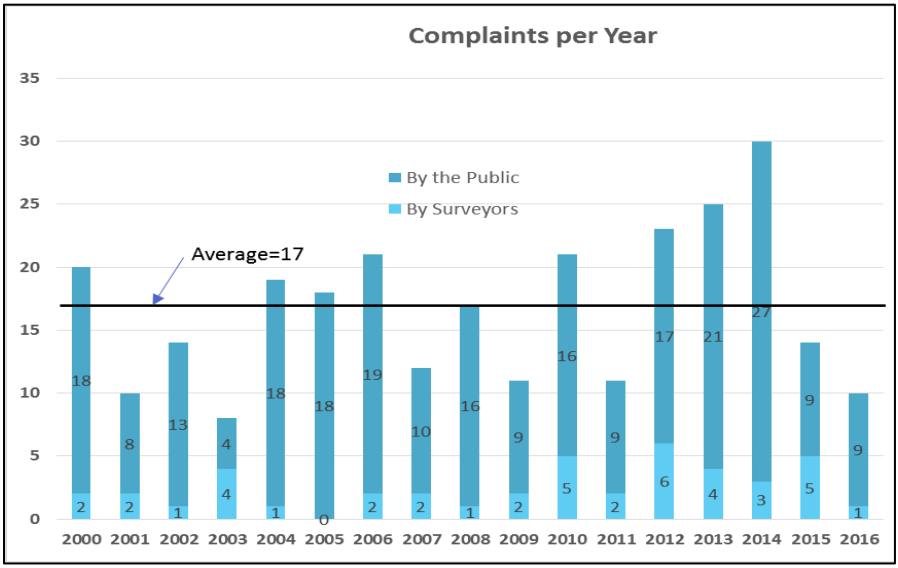
Compensation Fund

No applications to the Compensation Fund was received during 2016. The Compensation Fund is set out under *Section 33* of the *Surveyors Act.* Council established a Compensation Fund Committee in 1998, and delegated its powers pursuant to Section 33 (10) of the *Surveyors Act* to this Committee, made up of the Executive Director, Registrar and Finance Councilor, for any application up to $5,000.

Complaints Committee

Formal complaints regarding the actions or conduct of a member of the Association must be filed in writing with the Registrar. The Registrar acknowledges receipt of the complaint and notifies the member who is the subject of the complaint. The member is provided with a copy of the complaint letter and materials and is given at least two weeks to provide an explanation and supporting documentation in response. The member's response is provided to the complainant, who is also allowed two weeks to make any further response, and the member is also provided with the complainant's second response and allowed to make a final submission. The Registrar compiles all of the information submitted by both the complainant and the surveyor and presents the file, without comment, to the Complaints Committee in a timely fashion. The Registrar also acts as the recording secretary of the Complaints Committee and distributes all correspondence and decisions resulting from the Committee meetings. The Registrar is not a member of the Committee and attends meetings at the request of the Committee to provide information and administrative support. This committee makes extensive use of their secure area of the AOLS website for the exchange of information and committee meetings are held using Go To Meeting, allowing members from all areas of the province to easily participate.

Ten (10) new complaint files were opened in 2016, compared to fourteen (14) in 2015. The Committee held nine (9) teleconference meetings during 2016 and one face to face meeting. Nine (9) of the ten complaints originated from members of the public, and one (1) from an Association member. The Committee issued sixteen (16) final and twelve (12) interim decisions during 2016. Interim decisions usually request specific action on the part of the surveyor. If the surveyor complies, the interim decision becomes final and no further action is required. If the surveyor does not comply, the Committee must reconsider the matter and determine an appropriate course of action. Of the twenty-eight (28) decisions issued in 2016, two (2) referred members to AOLS Council for further action. Two files were referred to the Complaints Review Councilor at the request of the complainants. The following chart shows the total number of complaints per year from 2000 to 2016, the average number over that period being 17 per year.



Discipline Committee

Two discipline hearings were commenced 2016. One hearing was concluded during the first day when the panel accepted a joint submission submitted by both parties.

The second hearing began in January 2016 and following several days of hearings in which the member's motions to dismiss on procedural grounds were heard, the panel issued a decision that it wished to proceed with hearing the merits of the case before ruling on these motions. The member requested a Judicial Review of this decision, which was heard in Divisional Court on January 5, 2017. A three judge panel held that the decision was valid and that the discipline hearing should continue. Tentative dates have been established to continue the hearing in June 2017.

The Complaints Committee referred one member to Council in 2016 as he had refused to cooperate with the committee's interim decision. Council was able to resolve the issue through correspondence with the member's employer without referring the member to the Discipline Committee.

Registrar's Investigations

Section 30 of the Surveyors Act allows the Registrar to undertake an investigation where the Registrar believes that there are reasonable and probable grounds that a member of the Association has committed an act of professional misconduct or incompetence, or that there is cause to refuse to issue, or to suspend or revoke a Certificate of Authorization. No Registrar's Investigations were initiated during 2016.

Registration Committee

The Registration Committee is a statutory committee, created under Section 9 of the Surveyors Act, having a Statutory Power of Decision that allows it to hold a hearing under the Statutory Powers Procedure Act. When the Registrar proposes to revoke or refuse to issue a licence, Certificate of Registration or Certificate of Authorization, or proposes to issue one of these subject to conditions, the member or applicant may appeal to the Registration Committee, who must then hold a formal hearing. No hearings were held during 2016.

A secondary function of this committee requires that it approve applications from members who wish to be in charge of more than one survey office, as is required by our Standards of Practice. During 2016 the committee approved one such application.

Survey Review Department Referrals

During the past year, several firms were referred to the Registrar from the Survey Review Department pursuant to Regulation 1026, S.40(8), subsequent to a Comprehensive Review. Most referred files are closed after the firms provide satisfactory explanations and/or implement remedial procedures to address the concerns identified in the review report. Some may undergo a follow up review to assess progress in addressing the concerns. No members were referred to the Complaints Committee during 2016 as a result of Survey Review Department referrals to the Registrar.

Licences, Certificates of Registration and Certificates of Authorization

The Registrar is responsible for the issuance and renewals of Licences, Certificates of Registration and Certificates of Authorization (C of A). During 2016 twelve (12) new licences and several new or revised Certificates of Authorization were issued. As detailed in the Statistics section below, there has been a decrease of 4.7% in the number of professional members and a decrease of 5.8% in the number of Certificates of Authorization since the end of 2015.

Elections and By-Laws

The Registrar oversees the distribution and counting of ballots for voting on By-laws, Regulations and elections to Council. There were no new By-laws or Regulations requiring votes during 2016, and all new Council positions for 2017 were filled by acclamation.

For the 2017 Council, Vice-President Russ Hogan was acclaimed as President and councilor Dan Dzaldov was acclaimed as Vice-President. Former president Eric Ansell was acclaimed as Senior Councilor to fill the vacancy left by Dan Dzaldov,

and Gavin Lawrence and Trevor McNeil were acclaimed as Junior Councilors. Senior Councilors Jeff Fee and Wikar Bhatti did not pursue the position of Vice-President and have retired from Council.

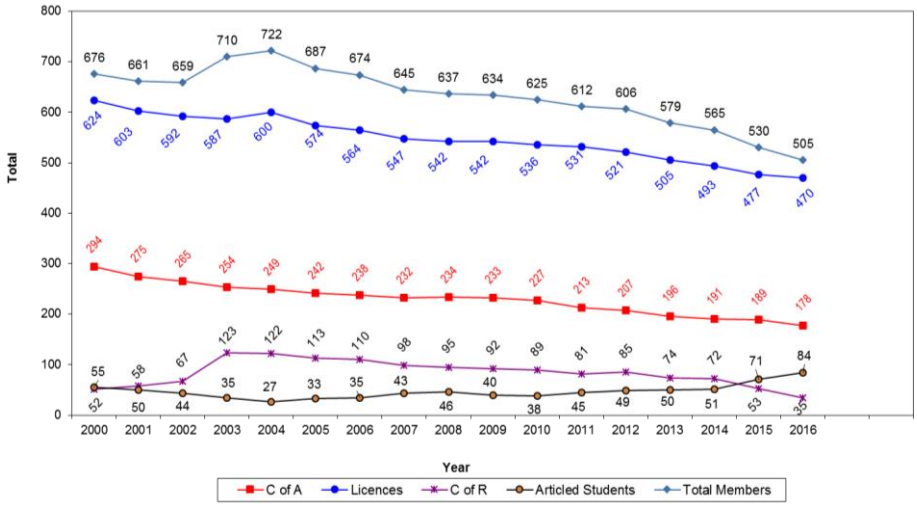
Statistics

Below are some relevant statistics of the Association, current to January 31, 2017.

	As of Jan. 31, 2017	**Last Year**	**Change**	**% Change**
Total Membership	505	530	-25	-4.7%
Licences	470	477	-7	-1.5%
▪ Certificates of Registration	35	53	-11	-5.8%
▪ Certificates of Authorization	178	189	-2	-1%
Members who have passed away since the last AGM	14	12		
Retired Members	204	173	+31	+17.9%
Newly commissioned members since the last AGM	13	15	-2	-13%
Articling Students	84	71	+13	+18%
Associate Members	124	88	+ 36	+40.9%

The chart below illustrates the trends in our membership over the past 16 years, during which we have seen a decline of 24.7% in the number of licensed members. Total membership during this period has decreased by 171 a drop of 25.3%. The number of Certificates of Authorization has declined from 294 in 2000 to 178 as of January 31, 2017, a drop of 39.5%. The number of articling students has risen steadily from a low of 27 in 2004 to the current number of 84, an increase of 211%.

AOLS Statistics - 2000 to 2016



SURVEY REVIEW DEPARTMENT MANAGER'S REPORT
AGM 2017
Tim Hartley, OLS

The Survey Review Department (SRD) operates under the Inspection Program of the Surveyors Act, Regulation 1026, Section (40). The department is totally funded by the sales of the $16 Plan Submission Form Sticker. Sales from 2009 to 2015 were fairly consistent at about 34,000 stickers per year. This past year we sold 38,340 which is still only 63% of the approximately 61,000 sold per year in the late 1990's. The drop in sales is due to the introduction of title insurance resulting in much fewer requests for Surveyor's Real Property Reports.

The Department's budget for 2016 was $540,000, we had a revenue of $620,000. Out of this we pay the salaries of an administrative officer (Sheila Lavina), an assistant examiner (Herman Bernardo), an OLS manager (Tim Hartley), a part time OLS field examiner (Alan Worobec), two OLS Comprehensive Review consultants (Doug Reitsma and Drew Annable), all office expenses and an allocation for use of the facilities and general administration. Of the four OLS's involved three have been on council and two are past presidents.

In 2016 we opened up 62 Comprehensive Reviews. For the past 3 years we averaged 43 Reviews per year, in 2017 we will open about 50. Of the 62 firms we

reviewed we did:

9 in Southwestern Ontario
5 in Hamilton
10 in Northeastern Ontario
10 in the Georgian Bay area
17 in the South Central area
8 in Eastern Ontario
3 in the Kawartha-Haliburton area

These 62 firms equated to 131 field site examinations. As well as the Comprehensive Reviews we completed approximately 240 Systematic Reviews.

We at the Survey Review Department are constantly trying to improve the operation of the department. More of the correspondence with the membership is being done electronically. Each issue of the Ontario Professional Surveyor now has an article written by either Tim Hartley, Doug Reitsma, Drew Annable or Al Worobec about the review process or how to eliminate reoccurring surveying problems that have come to light. I know a review is somewhat subjective, we constantly check each other's work to try and eliminate any bias and to ensure that the department has an educational focus.

Tim Hartley, OLS
Manager - Survey Review Department
Association of Ontario Land Surveyors

INAUGRAL SPEECH
INCOMING PRESIDENT
J. Russell Hogan, OLS, OLIP

Brian, thank you for the kind words of introduction. It is wonderful to be able to have someone who I not only consider a close friend but who has also been a mentor to me throughout my career. I couldn't be more honoured to have you here as part of this evening. It means a lot to me.

I would like to start by thanking my good friend President Murray Purcell for his dedication and commitment to the AOLS and the leadership he has provided over the years especially this past year as our President.

I will do my very best to live up to the high standard you have set, and Murray, as I have done in the past I will continue to look to you for guidance and support in the coming year.

It is truly an honour and a privilege to be asked to serve as the President of the Association of Ontario Land Surveyors. And I would like to thank those who encouraged me to get involved with Council in the first place and everyone who has supported my continued involvement as Vice President and now as President– your ongoing support is greatly appreciated.

I want to take just a moment to encourage everyone here to get involved in your Association. Let's face it, the survey profession across Canada is pretty small and all of our organizations rely on the efforts of volunteers to get things done. Being on Council requires some time commitment but I know that if you ask anyone who has been there, the reward is far greater than the sacrifice.

So here we are at the National Surveyors' Conference, a conference jointly organized by the Association of Ontario Land Surveyors (AOLS), the Association of Canada Lands Surveyors (ACLS), and the Ordre des arpenteurs-géomètres du Québec (OAGQ) to celebrate the contributions of the surveying profession to the development of our country.

I want to congratulate and thank all of those involved in pulling this together as well as all of the presenters– it has been truly inspiring.

I think we would all agree that we need to promote and grow our profession. We need to continue to raise awareness of the profession and the employment opportunities in surveying in order to get students to pursue a career in surveying.

This conference has provided an excellent opportunity to showcase and market the surveying profession to students looking for a future career.
Before I sit down there are a few people I would like to acknowledge for their efforts and dedication to the Association.

First there are those folks who are leaving Council: Past President Travis Hartwick and Senior Councilors Jeff Fee and Wikar Bhatti. Your engagement and thoughtful insights both during and outside of Council meetings helped me appreciate the diverse perspectives of our members.

Second are all of the AOLS staff who work tirelessly in carrying out the administrative and legislated duties of the Association. Blain, Bill, Maureen, Tim, Lena, Penny, Julia, Vladimir, Sheila, Joyce, Herman and Al. Thank you all for your dedication and efforts.

Finally, I must thank my wife, Vicki. Without her support I may never have become a surveyor, and without her support I would not be able to take on this role.

Thank you.

ARCHIVAL AND HISTORICAL COMMITTEE
Annual Report 2016
Gord Good, O.L.S. (Ret.), Chair

The Committee is composed of Gordon Good, Chair, James Hill, Past Chair, Ross Burton, Past Chair and Manager of our Ottawa Branch, Doug Sutherland, Rental Director, Don Anderson, Photographer, Peter Morton, Vicky and Doug Culbert, caretakers of the Monument Garden, Kent Campbell, Don MacMillan, Bruce McMurchy, Blain Martin, Office Liaison, Al Jeraj, Commissioner, Jeff Fee, Assistant Commissioner.

Throughout this year the Committee dedicated a lot of time relating to the AGM in 2017. The organization was contracted out to a private party as the Quebec Land Surveyors and the Canada Land Surveyors agreed to have a joint celebration to commemorate our Quasquicentennial celebration and the Sesquicentennial celebration of Canada.

Kent Campbell dedicated many hours to obtaining a copy of Champlain's Astrolabe for display at the 2017 AGM as well as obtaining a copy of Thompson's Map of Canada. A great source of information was obtained by Kent which will have an influence on future directions of how the Committee handles artefacts. This development will take time so you will have to read the 2017 report for full details. What a credit it is for you to have Kent on your Committee.

Don MacMillan had to step away from the Committee as his professional responsibilities had increased and finding time to give proper attention to projects could not be salvaged. He promised that any future change regarding some spare time will prompt his return.

In November we were fortunate to have a visit from Bruce McMurchy and he suffered the usual fate of most visitors by being voted in as a member. Bruce is a fine addition as his time served on council makes his presence most valuable.

A Committee Chair recognizes opportunities and in November it was my proud duty to parade James L. Hill around the committee table and introduce a member with 20 years of service. I had the honour in presenting Jim with an OLS commemorative lapel pin. Al Jeraj, our Commissioner, presented Jim with a framed Certificate of Excellence for 20 years of service.

The Committee were hoping to have Ross Burton, our Ottawa correspondent, show up at our AGM in 2017 so we could publicly awarded him for service of 18 years to the Association. Try as we may we could not sway him to take his feet out of the sand, put down that cold one and join us in Canada. As you scroll through our display of artefacts on the web site you can thank one man for cataloguing and

organizing the display. We recently called on Ross to look after some details of donated artefacts which was completed with his standard perfection. It is now Committee "common law" there is only one way for Ross to retire.

Twenty and Eighteen years can be said so fast, but few people have the dedication, the fortitude, the dogma, to give of their skills in a voluntary position. Personally I think it is a credo of surveyors, you perform your duties without prejudice which makes you prime prospects as volunteers. Congratulations to all.

Don Anderson continues to collect memorabilia from any surveyor who has stuff lying around just waiting for a new home. Just contact our Committee through the office or personally and the information will be duly forwarded.

Doug Sutherland has been busy this year in contact with the museum in Ottawa as they expressed interest in borrowing wooden markers obtained from the original survey of Manitoulin Island. Doug manages all the loan agreements on behalf of the Association and just finished upgrading the certificates. I further believe he is the only person who knows where all our artefacts are actually stored.

Peter told us, all as witnesses, that he was only going to work 20 hours a week so he could have more fun with us. Well we all knew how that was going to work out. They forgot to tell him that the 20 hours agreed to was on top of his regular hours. I didn't know a cell phone could be used to find such information! Peter is another asset that you should be proud to know.

Whenever Charles Wilkins was in the building he was invited to have lunch with the Committee and with Vicky's reports and Charles dining with us we were kept up to date on how your book "Great Lengths" was proceeding.

Early in our year we had the fortune of a teleconferencing call from Susan McGregor our own Surveyor General. Susan presented an outline of the responsibilities her office used to perform and the present duties. The present work load was explained in some detail to expand our understanding of the changes that have occurred. A short question period followed much to our enjoyment.

The Monument Garden in Goderich "Hortum Monumenta" was an exceptional success with several buses stopping for a view. Vicky and Doug started a guest book which registered more than 300 visitors. How can we as professionals thank people like Vicky and Doug? They participate in meetings, never hesitate, indeed, are first to step forward to help. Both volunteer in Goderich and get involved in Huron County activities.

This year the Committee visited the Postal Museum in Toronto at 260 Adelaide Street East. It was here we learned how to write a letter to ourselves with a quill pen made from a goose "bird" feather, to dry the ink with sand, and have it mailed to us with a City of Toronto date stamp of "MR. 6 1834". Paper was an expensive item in the old days so we also learned how to fold our writing paper into an envelope and

sealed with wax.

Maintenance of the W.C. Yates Project is a continuing process. Gord, under the guidance of Penny, has made some corrections to the program, and eventually it will become more functional. It has been accessed several times to copy biographical sketches of especially older Provincial and Deputy Land Surveyors to assist historians doing research. The data base is not available to the public and all requests come through to Gord. In forwarding any information a copy is included to our Executive Director, Blain, to keep him in the know of how the data base is being used. Again I reiterate there is a lot of information on this accumulation of computerized information and search engines shorten the search criteria. Information can be obtained in minutes instead of hours and indeed maybe days of searching. This year an additional 12 surveyors were added into the Provincial Land Surveyors list.

I want to thank the staff at 1043 which help us become an efficient Committee. Thank you Lena, for thinking of our needs before we know them. Thank you Maureen, for always having the correct historical references. Thank you Julia, for helping us prepare articles for the Bi-weekly. Thank you Sheila for reminding us of our meetings. Thank you Joyce, your search for lost surveyors has helped finalize at least 12 “lost” surveyors in the W.C. Yates Project. Thank you Penny, you are unofficially attached to our committee and your contributions are essential. Finally, I have to thank Blain, he is shrewd, but does it so innocently, but when needed he always has a pat for your back.

These are just some of our fun topics of interest.

Gordon Good,
Chair

RSSM LLP
CHARTERED PROFESSIONAL ACCOUNTANTS

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INDEPENDENT AUDITORS' REPORT

To the members of the Association of Ontario Land Surveyors,

We have audited the accompanying financial statements of the Association of Ontario Land Surveyors, which comprise the statement of financial position as at December 31, 2016 and the statements of operations, changes in fund balances 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 accounting standards for not-for-profit organizations, 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.

Auditor's 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 auditor's 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 auditor considers 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 my audit opinion.

Opinion

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Association of Ontario Land Surveyors as at December 31, 2015 and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

RSSM LLP

Toronto, Ontario
February 23, 2017

RSSM LLP
Licensed Public Accountants

ASSOCIATION OF ONTARIO LAND SURVEYORS
STATEMENT OF FINANCIAL POSITION
AS AT DECEMBER 31, 2016

	General Operating Fund	Liability Insurance Fund	Claims Reserve Fund	York Project Fund	Compen-sation Fund	Total 2016	Total 2015
	$	$	$	$	$	$	$
ASSETS							
CURRENT							
Cash	771,286	10,827	669,243	34,078	-	1,485,434	1,207,430
Investments (note 2)	426,886	1,107,639	1,048,522	-	150,000	2,733,047	2,538,664
Accounts receivable	12,326	-	-	-	-	12,326	8,303
HST recoverable	-	-	-	3,614	-	3,614	-
Inventory	12,171	-	-	-	-	12,171	12,413
Prepaid expenses	250,937	-	-	-	-	250,937	154,972
	1,473,606	1,118,466	1,717,765	37,692	150,000	4,497,529	3,921,782
CAPITAL ASSETS (note 3)	128,484	-	-	-	-	128,484	127,660
TOTAL ASSETS	**1,602,090**	**1,118,466**	**1,717,765**	**37,692**	**150,000**	**4,626,013**	**4,049,442**
LIABILITIES							
CURRENT							
Accounts payable and accrued liabilities	142,369	-	-	-	-	142,369	156,929
HST payable	55,636	-	-	-	-	55,636	21,252
Deferred revenue (note 5)	1,126,430	-	-	-	-	1,126,430	664,859
	1,324,435	-	-	-	-	1,324,435	843,040
FUND BALANCES							
Invested in capital assets	128,484	-	-	-	-	128,484	127,659
Discipline reserve	2,678	-	-	-	-	2,678	2,775
Externally restricted	-	1,118,466	1,717,765	37,692	150,000	3,023,923	3,016,879
Unrestricted	145,449	-	-	-	-	145,449	56,858
Building reserve	1,044	-	-	-	-	1,044	2,231
	277,655	1,118,466	1,717,765	37,692	150,000	3,301,578	3,206,402
TOTAL LIABILITIES AND FUND BALANCES	**1,602,090**	**1,118,466**	**1,717,765**	**37,692**	**150,000**	**4,626,013**	**4,049,442**

COMMITMENTS (NOTE 4)

APPROVED ON BEHALF OF THE COUNCIL:

_____ _____

Executive Director and Treasurer Finance Councillor

ASSOCIATION OF ONTARIO LAND SURVEYORS
STATEMENT OF OPERATIONS
YEAR ENDED DECEMBER 31, 2016

	General Operating Fund			Restricted Funds					
	Budget 2016 (Note 7)	Actual 2016	Actual 2015	Liability Reserve Fund	Claims Reserve Fund	York Project Fund	Compen-sation Fund	Total 2016	Total 2015
	$	$	$	$	$	$	$	$	$
REVENUE									
Fees and licences	1,288,400	1,308,014	1,113,541	-	-	-	-	-	-
Survey Review Department	540,000	529,832	509,752	-	-	-	-	-	-
Survey Review Index	39,000	32,113	28,300	-	-	-	-	-	-
Investment income (loss)	10,000	42,821	(4,759)	146,312	-	-	14,070	160,382	(5,768)
Cost-related activities	281,000	312,109	298,921	-	-	-	-	-	-
Continuing education	7,500	75,262	92,712	-	-	-	-	-	-
Internship program	-	-	1,491	-	-	-	-	-	-
Insurance premiums	-	-	-	1,464,861	550,000	-	-	2,014,861	2,005,489
Consulting income	-	-	-	-	-	-	-	-	285,007
Other income	7,000	5,879	6,877	1,500	-	-	-	1,500	1,500
	2,172,900	2,306,030	2,046,835	1,612,673	550,000	-	14,070	2,176,743	2,286,228
EXPENSES									
Salaries, benefits and consultants	655,900	678,097	644,969	48,000	-	22,839	-	70,839	280,299
Office and general	141,300	120,878	124,540	243	-	4,963	-	5,206	19,979
Survey Review Department	510,800	529,832	509,752	-	-	-	-	-	-
Survey Records Index	39,000	42,000	39,001	-	-	-	-	-	-
Building	53,300	45,611	42,536	-	-	-	-	-	-
Discipline expenses	50,000	235,097	150,748	-	-	-	-	-	-
Constitutional challenge	100,000	23,495	54,114	-	-	-	-	-	-
Cost-related activities	261,000	303,337	261,068	-	-	-	-	-	-
Governance commission	152,300	52,362	63,815	-	-	-	-	-	-
Professional standards and practice commission	5,100	13,493	23,290	-	-	-	-	-	-
Outreach and professional education commission	51,000	44,531	37,882	-	-	-	-	-	-
Member services and other commission	40,400	21,929	52,880	-	-	-	-	-	-
Continuing education	9,000	75,262	92,712	-	-	-	-	-	-
Insurance premium	-	-	-	1,427,090	-	-	-	1,427,090	1,421,465
Claims against the fund	-	-	-	-	652,494	-	-	652,494	534,532
Credit card charges	-	46,044	44,341	-	-	-	-	-	-
	2,069,100	2,231,968	2,141,648	1,475,333	652,494	27,802	-	2,155,629	2,256,275
EXCESS OF REVENUE OVER EXPENSES (EXPENSES OVER REVENUE)	**103,800**	**74,062**	**(94,813)**	**137,340**	**(102,494)**	**(27,802)**	**14,070**	**21,114**	**29,953**

ASSOCIATION OF ONTARIO LAND SURVEYORS
STATEMENT OF CHANGES IN FUND BALANCES
YEAR ENDED DECEMBER 31, 2016

	General Operating Fund				Restricted Funds					
	Unrestricted	Invested in Capital Assets	Discipline Reserve	Building Reserve	Liability Reserve Fund	Claims Reserve Fund	York Project Fund	Compen-sation Fund	Total 2016	Total 2015
	$	$	$	$	$	$	$	$	$	$
Fund balances at the beginning of year	56,858	127,659	2,775	2,231	981,126	1,820,259	65,494	150,000	3,206,402	3,271,262
Excess of revenue over expenses (expenses over revenue)	317,696	(8,537)	(235,097)	-	137,340	(102,494)	(27,802)	14,070	95,176	(64,860)
Investment in capital assets	(5,175)	9,362	-	(4,187)	-	-	-	-	-	-
Intrafund transfers (note 8)	(238,000)	-	235,000	3,000	-	-	-	-	-	-
Interfund transfers (note 8)	14,070	-	-	-	-	-	-	(14,070)	-	-
FUND BALANCES AT THE END OF YEAR	**145,449**	**128,484**	**2,678**	**1,044**	**1,118,466**	**1,717,765**	**37,692**	**150,000**	**3,301,578**	**3,206,402**

ASSOCIATION OF ONTARIO LAND SURVEYORS
STATEMENT OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2016

	General Operating Fund		Restricted Funds					
	2016	2015	Liability Reserve Fund	Claims Reserve Fund	York Project Fund	Compen-sation Fund	Total 2016	Total 2015
	$	$	$	$	$	$	$	$
OPERATING ACTIVITIES								
Cash collected from members, customers and other sources	2,720,758	2,161,823	1,466,361	550,000	-	-	2,016,361	2,291,996
Investment income	13,042	28,273	17,177	-	-	3,605	20,782	233,294
Cash paid to suppliers and employees	(2,299,330)	(2,095,436)	(1,475,333)	(652,494)	(31,416)	-	(2,159,243)	(2,422,790)
	434,470	94,660	8,205	(102,494)	(31,416)	3,605	(122,100)	102,500
INVESTING ACTIVITIES								
(Increase) decrease in investments	(24,361)	(56,433)	(11,108)	-	-	10,465	(643)	(195,679)
Purchase of capital assets	(9,362)	(18,011)	-	-	-	-	-	-
	(33,723)	(74,444)	(11,108)	-	-	10,465	(643)	(195,679)
NET INCREASE (DECREASE) IN CASH	400,747	20,216	(2,903)	(102,494)	(31,416)	14,070	(122,743)	(93,179)
Cash position at the beginning of the year	356,469	325,407	13,730	771,737	65,494	-	850,961	954,986
Interfund transfers	14,070	10,846	-	-	-	(14,070)	(14,070)	(10,846)
CASH POSITION AT THE END OF THE YEAR	**771,286**	**356,469**	**10,827**	**669,243**	**34,078**	-	**714,148**	**850,961**

ASSOCIATION OF ONTARIO LAND SURVEYORS
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2016

PURPOSE OF THE ORGANIZATION

The Association of Ontario Land Surveyors (the "Association") is an organization whose principal object is to regulate the practice of professional land surveying in Ontario and to govern its members and holders of certificates of authorization in order that the public may be served and protected. The Association is a corporation without share capital created under the laws of the Province of Ontario. It is not subject to either federal or provincial income taxes.

1. SIGNIFICANT ACCOUNTING POLICIES

These financial statements have been prepared in accordance with Canadian accounting standards for not-for-profit organizations.

a) Fund Accounting

The Association follows the restricted fund method of accounting for contributions. Unrestricted contributions related to general operations are recognized as revenue in the General Operating Fund in the year in which the related expenses are incurred. Restricted contributions are recognized as revenue in the appropriate restricted fund in the year received.

Revenues and expenses related to program delivery and administrative activities are reported in the General Operating Fund.

The Liability Insurance Fund has been established to cover the costs of administering the professional liability master insurance policies. Member firms are covered by master policies with the Novex Insurance Company. The Association's deductibles under these policies are paid out of the Claims Reserve Fund.

The Surveyors Act requires the Association to maintain the Compensation Fund to relieve or mitigate loss sustained by any person as a consequence of the dishonesty or incompetence of any member of the Association in the practice of professional land surveying.

The Association entered into a contract with York University to assist the University with a project that will develop and implement a systematic approach to Competency-Based Assessment of the internationally educated land surveyors who enter York University's Geomatics Engineering program, based on the Competency Continuum developed by the Association. Revenues and expenses related to this project are reported in the York Project Fund.

b) Revenue Recognition

Revenue for the Survey Review Department, the Survey Records Index and Continuing Education are recorded as deferred contributions and are recognized as revenue of the General Operating Fund in the year in which the related expenses are incurred.

Fees and licences are recognized into income in the period to which they relate.

Revenue from cost-related activities is recognized as revenue in the General Operating
Fund in the year in which the goods are sold or when the services are rendered.

Unrestricted investment income is recognized as revenue in the General Operating Fund when it is earned. Restricted investment income accrued on the restricted funds is recognized in the fund balances as it is earned.

c) Capital Assets

Capital assets are recorded at cost less accumulated amortization. Amortization is provided on a straight-line basis at the following annual rates:

Land and building	1/30
Furniture and fixtures	1/10
Computer equipment	1/3

If there is an indication that the capital assets may be impaired, an impairment test is performed that compares carrying amount to net recoverable amount, which is normally determined by estimating the sales less direct costs on an undiscounted basis over the remaining life of the asset. There were no impairment indicators in 2016.

d) Donated Services

The work of the Association is dependent on the voluntary services of many members. Since these services are not normally purchased by the Association and because of the difficulty of determining their fair value, donated services are not recognized in these financial statements.

e) Inventory

Inventory is recorded at the lower of cost and net realizable value, with cost being determined on a specific item basis.

f) Collections

The Association has a collection of historical artefacts and a library of books and publications. No value is placed on these collections in these financial statements.

g) Management Estimates

The preparation of financial statements in conformity with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the year. Significant areas requiring the use of management estimates include amortization of capital assets, long-lived asset impairment assessments, and allocation of administration expenses to various departments within the Association. Actual results could differ from those estimates.

h) Financial Instruments

The Association initially measures its financial assets and financial liabilities at fair value, except for non-arm's length transactions. The Association subsequently measures all its financial assets and financial liabilities at amortized cost, except for investments, which the Association elected to measure at fair value. Changes in fair value are recognized in the statement of operations.

Financial assets measured at amortized cost include cash and accounts receivable.

Financial liabilities measured at amortized cost include accounts payable and accrued liabilities and insurance premium refund payable.

Financial instruments that will be subsequently measured at amortized cost are adjusted by the transaction costs that are directly attributable to their origination, issuance or assumption. Transaction costs for financial instruments that will be subsequently measured at fair value are recognized in the statement of operations in the period they are incurred.

2. INVESTMENTS

	Fair Value	
	2016	**2015**
Guaranteed investment certificates (GICs)	$ 828,182	$ 850, 592
Bonds	447, 400	416, 373
Equity	1,457,465	1,271,699
	2,733,047	**2,538,664**

The GICs and bonds mature from April 2018 to January 2026, and earn interest at rates between 2.55% and 5.0% (2015 - 2.55% and 5.0%).

3. CAPITAL ASSETS

	Cost	Accumulated Amortization	2015 Net Book Value	2014 Net Book Value
Building	$577,077	$(462,093)	$111,984	$111,473
Furniture and fixtures	228,601	(219,030)	9,571	13,782
Computer Equipment	88,872	(84,943)	3,929	2,405
	894,550	**(766,066)**	**128,484**	**127,660**

Amortization expense for the year was $8,537 (2015 - $11,403), of which $7,887 (2015 - $7,403) is included in office and general expense and $4,000 (2015 - $4,000) is included in the Survey Review Department expenses.

4. LEASE COMMITMENTS

The Association is committed under the terms of its non-cancellable equipment leases to make payment of $1,080 in 2017

5. DEFERRED REVENUE

Deferred revenue relates to amounts collected in advance and is recognized into income in the period in which the related expenses are incurred or when the service is rendered.

	2015	Funds Received	Revenue Recognized	2016
Fees and licences	$266,162	$1,398,232	$1,308.014	$356,380
Survey Review Department	232,562	619,990	529,832	322,720
Survey Review Index	-	32,113	32,113	-
Cost-related activities	45,609	418,053	312,109	151,553
Continuing education	71,980	74,843	75,262	71,561
Internship program	36,546	-	-	36,546
	664,859	**2,718,901**	**2,257,330**	**1,126,430**

6. FINANCIAL INSTRUMENTS

The significant financial risks to which the Association is exposed are credit risk, liquidity risk and market risk.

Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The Association is subject to credit risk in respect of its accounts receivable, but has historically suffered very few bad debts.

Liquidity risk

Liquidity risk is the risk that the Association will encounter difficulty in meeting obligations associated with financial liabilities. The Association is exposed to liquidity risk arising primarily from the accounts payable. The Association expects to meet these obligations as they come due by generating sufficient cash flow from operations.

Market risk

Market risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk is comprised of currency risk, interest rate risk and other price risk.

Currency risk

Currency risk is the risk that the fair value or cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The company does not use derivative instruments to reduce its exposure to foreign currency risk.

As at December 31, 2016, the balance sheet includes $501,251 (2015 - $61,399) of cash and investments investments, denominated in foreign currency and converted into Canadian dollars.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Association has investments in bonds and GICs yielding fixed interest rates. Changes in the market yield rate can cause fluctuations in the fair value of the investments. The Association does not use derivative financial instruments to alter the effects of this risk.

Other price risk

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices other than those arising from interest rate risk or currency risk, whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market. The Association is exposed to other price risk through its investments in marketable securities invested in equity securities traded in an active market.

7. BUDGET

The budget figures are presented for comparison purposes only. They are unaudited and have been reclassified to conform with these financial statements.

8. TRANSFERS

During the year, the Association's Council internally restricted $235,000 (2015 - $150,000) and $3,000 (2015 - $20,000) to be used for discipline related matters and major building repairs, respectively. Transfers of this amount were made from the unrestricted fund balance to the discipline reserve and building reserve funds within the General Operating Fund. The internally restricted amount is not available for unrestricted purposes without approval of the Council.

In 2007, the Council passed a motion to allow the Compensation Fund to accumulate to a maximum of $150,000. Accordingly, in the year ended December 31, 2016, $14,070 was transferred from the General Operating Fund to the Compensation Fund (2015 - $2,251 transferred from General Operating Fund).

9. ALLOCATION OF EXPENSES

	2016 **$**	**2015** **$**
Salaries, benefits and consultants:		
Survey Review Department	27,600	27,600
Survey Records Index	3,000	3,000
Office and general:		
Survey Review Department	16,200	16,200
Building:		
Survey Review Department	14,700	14,700
Amortization:		
Survey Review Department	650	4,000

Association of Ontario Land Surveyors – Budget 2016

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SUMMARY OF REVENUE AND EXPENSES

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
REVENUE:			
FEES AND LICENSES (from pg.2)	$1,288,400	$1,302,269	$1,362,150
SRD REVENUE (from pg 5)	$540,000	$529,832	$575,000
SURVEY RECORDS INDEX (from pg.6)	$39,000	$32,113	$39,000
CONVENIENCE FEE ON CREDIT CARD CHARGES	$0	$5,745	$40,000
COST-RELATED ACTIVITIES (from pg.2)	$281,000	$312,109	$491,200
CONTINUING EDUCATION (from pg. 5)	$7,500	$75,262	$12,500
DISCIPLINE RESERVE FUND (from pg. 6)	$50,000	$7,570	$50,000
INTERNSHIP PROGRAM (from pg. 6)	$0	$0	$0
York University Project	$0	$0	$0
OTHER INCOME (from pg.2)	$17,000	$62,770	$9,000
PUBLIC AWARENESS COST RECOVERY		$0	
TOTAL REVENUE	$2,222,900	$2,327,669	$2,578,850
TOTAL REVENUE Excluding SRD	$1,682,900	$1,797,837	$2,003,850
EXPENSES:			
SALARIES, BENEFITS AND CONSULTANTS (from pg.4)	$655,900	$678,097	$671,400
OFFICE ADMINISTRATION (from pg.4)	$219,300	$136,487	$250,400
SURVEY REVIEW DEPARTMENT (from pg.5)	$510,800	$529,832	$540,000
SURVEY RECORDS INDEX (from pg.6)	$39,000	$42,000	$39,000
BUILDING (from pg.4)	$53,300	$45,611	$53,800
DISCIPLINE RESERVE FUND (from pg.6)	$100,000	$242,666	$200,000
COMMITTIES & RELATED EXPENSES (from pg.3)	$239,300	$132,255	$253,550
COST RELATED (from pg.2)	$261,000	$303,337	$463,200
LEGISLATIVE CHANGES, STANDARDS/TECH GUIDELINES		$127	
CONTINUING EDUCATION (from pg. 5)	$8,000	$75,193	$12,000
CREDIT CARD CHARGES	$0	$46,044	$40,000
INTERNSHIP PROGRAM (from pg. 6)	$0	$0	$0
AMORTIZATION (from pg.4)	$22,000	$7,887	$8,000
TOTAL EXPENSES	$2,108,600	$2,239,537	$2,531,350
TOTAL EXPENSES Excluding SRD	$1,597,800	$1,709,705	$1,991,350
NET REVENUE OR (EXPENSES)	$114,300	$88,132	$47,500
NET REVENUE OR (EXPENSES) Excluding SRD	$85,100	$88,131	$12,500

GENERAL REVENUE AND COST RELATED INCOME (EXPENSE)

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
FEES AND LICENSES:			
OLS (Licensed) FEES (Note "B" below)	$940,000	$938,833	$978,500
OLS (Registered) FEES (Note "B" below)	$33,750	$29,313	$27,125
CERTIFICATE OF AUTHORIZATION (Note "B" below)	$275,000	$271,625	$280,675
ASSOCIATE MEMBERS FEES (Articled Students, Retired & Associates)	$39,650	$62,498	$75,850
TOTAL FEE AND LICENSES (Carried to Summary pg.1)	$1,288,400	$1,302,269	$1,362,150
OTHER INCOME:			
MISCELLANEOUS REVENUE		$343	
INTEREST ON INVESTMENTS	$10,000	$56,891	$3,000
OTHER (Follow-up reviews,interest, charged back)	$7,000	$5,536	$6,000
TOTAL OTHER INCOME (Carried to Summary pg.1)	$17,000	$62,770	$9,000
COST RELATED INCOME (EXPENSE):			
REVENUE:			
EXAMS, LECTURES, EVALUATIONS	$50,000	$65,398	$70,000
SURVEY LAW COURSES			
PUBLICATIONS & MATERIALS	$1,000	$1,426	$1,200
ONTARIO PROFESSIONAL SURVEYOR MAGAZINE	$50,000	$45,370	$50,000
BOOK - HISTORY OF ASSOCIATION (FOR AGM 2017)			$150,000
ANNUAL GENERAL MEETING	$180,000	$199,315	$220,000
TOTAL REVENUE (Carried to Summary pg.1)	$281,000	$312,109	$491,200
EXPENSES:			
EXAMS, LECTURES, EVALUATIONS	$40,000	$61,193	$55,000
PUBLICATIONS & MATERIALS	$1,000	$1,092	$1,200
BOOK - HISTORY OF ASSOCIATION		$0	$150,000
ONTARIO PROFESSIONAL SURVEYOR MAGAZINE	$60,000	$54,377	$55,000
MEMBERSHIPS & SUBSCRIPTIONS		$1,786	$2,000
ANNUAL GENERAL MEETING	$160,000	$184,889	$200,000
TOTAL EXPENSES (Carried to Summary pg.1)	$261,000	$303,337	$463,200
TOTAL COST RELATED REVENUE(EXPENSES)	$20,000	$8,771	$28,000

NOTE "A"

As per Council motion there will be no administration fee allocation until the Compensation Fund exceeds $150,000.00

NOTE "B"	FEE	2015	2016	2017
LICENSED MEMBERS	$2,060.00	515	471	475
REGISTERED MEMBERS	$775.00	85	38	35
CERTIFICATE OF AUTHORIZATION @ $ 1,030 PER FIRM	$1,030.00	215	193	190
CERTIFICATE OF AUTHORIZATION + $515 PER ADD'L CADASTRAL MEMI	$515.00	168	160	165
ARTICLED STUDENT	$310.00	41	48	85
ASSOCIATE MEMBER	$210.00	135	210	150
RETIRED ASSOCIATES	$90.00	145	195	200

COMMITTEE AND RELATED EXPENSES

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
STATUTORY & RELATED COMMITTEE EXPENSES:			
COUNCIL MEETINGS	$50,000	$39,343	$60,000
COUNCIL/REGIONAL GROUPS	$2,000	$2,919	$4,000
COUNCIL APPROVED PROJECT FUNDING	$75,300		$92,500
COUNCIL SPECIAL PROVISION-INTRODUCTION TO SURVEYING	$9,700	$9,700	
SURVEYORS NEEDED ? - DAVE HORWOOD	$5,000		$5,000
COUNCIL APPROVED COPYRIGHT ENFORCEMENT FUND		$0	
PRACTICE MANUAL UPDATE		$0	
PROVINCE WIDE SRI	$0	$3,681	$2,500
COUNCIL APPROVED AERC STRATEGIC INITIATIVES PROJECT	$0	$0	
MEMBERS SURVEY COST		$0	
AERC COMMITTEE	$10,000	$9,440	$10,000
AERC SUMMER MEETINGS			
UNIVERSITY & COLLEGES STUDENT LIAISON COMMITTEE	$4,000	$2,225	$2,000
COMPLAINTS	$1,000	$5,247	$200
DISCIPLINE	$500	$565	$1,000
REGISTRATION COMMITTEE	$100	$0	$100
EXECUTIVE COMMITTEE	$0	$399	$200
FEES SCHEDULE			
FEES MEDIATION	$100	$0	$100
NOMINATIONS	$100		$100
PRESIDENTIAL EXPENSES	$30,000	$15,591	$30,000
PUBLICATIONS(Annual Report, etc.)	$5,000	$3,229	$5,000
CBEPS REGISTRATION			
PSC DUES & COMMITTEES (Note "C" below)			
ARCHIVES & HISTORICAL	$2,000	$1,944	$2,000
AGM PLANNING COMMITTEE	$1,000	$185	$500
AGM OPERATING TASK FORCE	$200	$0	$200
GOVERNMENT RELATIONS COMMITTEE			$0
ADVOCACY BUSINESS CASE TASK FORCE COMMITTEE			
AWARDS & CITATIONS	$1,500	$145	$500
FINANCE COMMITTEE	$200	$35	$100
FUTURE COMMITTEE			
GOVERNANCE COMMITTEE			
PEER REVIEW TASK FORCE		$0	
LAND USE PLANNING COMMITTEE			
MONUMENTATION TASK FORCE	$100		$100
MUNICIPAL LIASON COMMITTEE			
PROF. DEVELOPMENT TASK FORCE			
CONTINUING EDUCATION COMMITTEE	$1,000	$68	$250
PROFESSIONAL INTEGRATION COMM			
PROFESSIONAL STANDARDS COMMITTEE	$2,000	$3,742	$2,500
DIGITAL PLAN SUBMISSION TASK FORCE	$500	$0	$100
INSURANCE ADVISORY COMMITTEE	$500	$593	$500
SRD COMMITTEE	$500	$131	$100
STRATEGIC PLAN COMMITTEE (Includes Committee Chair and Council Meeting)	$0	$206	$0
CADASTRE LIAISON TASK FORCE			
TECHNICAL EDUCATION COMMITTEE			
UNDERGROUND UTILITIES COMMITTEE	$500		$500
GEOMATIC REQRUITMENT LIAISON COMMITTEE	$6,000	$3,275	$8,000
SURVEY RECORD MANAGEMENT SYSTEM TASK FORCE - SRMS	$0		$0
WEBSITE MAINTENANCE COMMITTEE	$500	$0	$500
PUBLIC AWARENESS	$30,000	$29,591	$25,000
TOTAL (Carried to Summary pg.1)	$239,300	$132,255	$253,550

OFFICE ADMINISTRATION AND BUILDING EXPENSES

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
OFFICE ADMINISTRATION EXPENSES:			
AUDIT & ACCOUNTING	$13,000	$12,500	$13,000
BANK CHARGES	$3,500	$2,227	$2,500
COMPUTERS (Maintenance, Software, Supplies)	$20,000	$16,268	$40,000
SOFTWARE SUBSCRIPTIONS	$5,000	$6,114	$7,500
CITRIX WEB EXPENSES		$2,129	$2,500
INSURANCE - (Media, Dir/Off)	$19,000	$11,493	$18,000
COPIER LEASING & MAINTENANCE	$18,000	$16,144	$18,000
GENERAL LEGAL CHARGES	$0	$13,488	$15,000
LEGAL- CONSTITUTIONAL CHALLENGE	$100,000	$23,495	$85,000
INTERNET ACCESS	$2,000	$1,584	$1,500
WEBSITE MAINTENANCE & DEVELOPMENT	$20,000	$3,920	$20,000
WEBSITE HOSTING	$1,500	$3,644	$4,000
OFFICE SUPPLIES & EXPENSES	$7,000	$7,410	$7,500
POSTAGE & COURIER	$5,000	$2,270	$6,000
STAFF SEARCH	$0	$7,200	$0
STATIONARY & PRINTING	$3,000	$2,625	$3,000
TELEPHONE	$6,000	$7,173	$7,000
EXECUTIVE DIRECTOR'S EXPENSES	$7,500	$5,450	$7,500
REGISTRAR'S EXPENSES	$2,000	$1,078	$1,600
DEPUTY REGISTRAR'S EXPENSES	$3,000	$6,473	$7,000
Less Allocation to SRD	($16,200)	($16,200)	($16,200)
TOTAL (Carried to Summary pg.1)	$219,300	$136,487	$250,400

SALARIES, BENEFITS AND CONSULTANTS:

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
SALARIES, BENEFITS AND CONSULTANTS:			
SALARIES	$587,500	$609,125	$600,000
BENEFITS & PENSIONS	$95,000	$94,779	$98,000
STAFF TRAINING	$1,000	$1,793	$1,000
CONSULTANTS, OFFICE OVERLOAD	$0	$0	$0
LESS ALLOCATION TO SRD	($27,600)	($27,600)	($27,600)
TOTAL (Carried to Summary pg.1)	$655,900	$678,097	$671,400
BUILDING EXPENSES:			
UTILITIES	$20,000	$22,645	$20,000
INDOOR MAINTENANCE	$10,000	$11,217	$10,000
V.B.V. OUTDOOR MAINTENANCE	$9,000	$6,600	$9,000
PROPERTY TAX	$7,000	$7,004	$7,500
RENOVATION & REPAIR	$10,000	$1,690	$10,000
INSURANCE-(Commercial General)	$12,000	$11,155	$12,000
Less Allocation to SRD	($14,700)	($14,700)	($14,700)
TOTAL (Carried to Summary pg.1)	$53,300	$45,611	$53,800
AMORTIZATION:			
AMORTIZATION	$31,000	$8,537	$12,000
Less Allocation to SRD	($9,000)	($650)	($4,000)
TOTAL (Carried to Summary pg.1)	$22,000	$7,887	$8,000

SURVEY REVIEW DEPARTMENT

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
INCOME:			
PLAN SUBMISSION REVENUE	$540,000	$519,122	$575,000
SRD -REVENUE - OTHER		$10,710	
TOTAL REVENUE	$540,000	$529,832	$575,000
EXPENSES:			
OFFICE SUPPLIES	$4,500	$4,207	$4,500
POSTAGE & COURIER	$18,000	$16,397	$16,000
STATIONARY & PRINTING	$3,000	$12,580	$3,500
TELEPHONE	$7,000	$6,949	$7,500
COMPUTERS (Maintenance, Software, Supplies)	$6,000	$6,556	$6,000
COPIER	$1,000	905.26	$1,000
SALARIES	$228,000	$232,024	$248,000
BENEFITS & PENSIONS	$35,000	$35,343	$40,000
CONSULTANTS	$120,000	$130,357	$125,000
MANAGER'S EXPENSES & TRAVEL	$10,000	$11,871	$12,000
EXAMINERS' EXPENSE & TRAVEL	$27,000	$29,691	$30,000
AMORTIZATION	$9,000	$650	$4,200
ALLOCATION OF FACILITIES	$14,700	$14,700	$14,700
ALLOCATION OF GRL ADMIN (Lena)	$27,600	$27,600	$27,600
TOTAL EXPENSES (Carried to Summary pg. 1)	$510,800	$529,832	$540,000
NET INCOME OR (EXPENSE)	$0	$0	$35,000
SRD had an accumulated surplus of *$322,719.33* as of December 31, 2016			

CONTINUING EDUCATION

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
REVENUE			
CONTINUING EDUCATION - REVENUE/REVENUE ADJUSTMENT		$419	
SEMINARS (non-ols participants, meals & incidentals)		$65,598	
INTEGRATED SURVEYS			
PROJECT MANAGEMENT			
GEODETIC PICNIC	$7,500	$9,245	$12,500
TOTAL REVENUE (Carried to Summary Pg. 1)	$7,500	$75,262	$12,500
EXPENSES			
PARTY CHIEF SEMINARS		$0	
GEODETIC PICNIC	$8,000	$7,283	$6,000
SPECIAL PROJECTS/TRACKING SYSTEM DEVELOPMENT			
CONTINUING EDUCATION SUBSCRIPTIONS	$0	$2,587	$3,500
MEASUREMENT ADJUSTMENT SEMINAR		$43,190	
LEADERSHIP EXCELLENCE SEMINAR		$17,133	
CONTINUING EDUCATION WEBINARS	$0	$5,000	$2,500
INTERNET DATABASE			
LESS CARRY FORWARD FROM RESERVES			
TOTAL EXPENSES (Carried to Summary Pg. 1)	$8,000	$75,193	$12,000
NET INCOME OR (EXPENSE)	$0	$69	-$4,500
The Continuing Education Fund had an accumulated surplus of *$71,560.66* as of December 31, 2016			

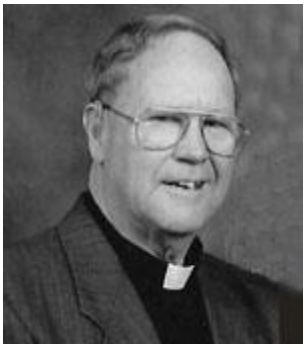
DISCIPLINE RESERVE FUND

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
REVENUE			
CARRY FORWARD FROM PREVIOUS YEAR			
DISCIPLINE COST RECOVERY	$50,000	$7,570	$50,000
TOTAL REVENUE	$50,000	$7,570	$50,000
EXPENSES			
REGISTRAR'S INVESTIGATION	$10,000	$0	$10,000
HEARING 1	$0	$0	$0
HEARING 2	$90,000	$229,164	$190,000
HEARING 3			
HEARING 4		$13,493	
HEARING 6		$0	
HEARING 7			
HEARING 8		$9	
TOTAL EXPENSES	$100,000	$242,666	$200,000
NET INCOME OR (EXPENSE)	-$50,000	-$235,097	-$150,000
Surplus Budget as of Dec 31, 2011 $42,647.74			

SURVEY RECORDS INDEX

	2016 BUDGET	2016 ACTUAL	2017 BUDGET
REVENUE:			
SURVEY RECORDS INDEX FEES	$39,000	$32,113	$39,000
TRANSFER FROM SURPLUS			
TOTAL REVENUE	$39,000	$32,113	$39,000
EXPENSES:			
ADMINISTRATION	$3,000	$3,000	$3,000
CONSULTANTS/CUSTODIAL FEES/DB MGR	$36,000	$39,000	$36,000
POSTAGE & COURIER/PRINTING & DUPLICATION		$0	
COMMUNICATIONS			
MISC. COMMITTEE EXPENSES		$0	
2008 CONTRACT			
TOTAL EXPENSES (Carried to Summary Pg. 1)	$39,000	$42,000	$39,000
NET REVENUE OR (EXPENSE) (Note below)	$0	-$9,888	$0

Rev. Canon John Turton Pilling, OLS# 901
August 18, 1931 – May 24, 2008



Our beloved husband, father, grandfather and friend passed away suddenly on Saturday, May 24, 2008.

John was born and raised in Toronto, ON. After a happy courtship he married Bernice Jaggs with whom he enjoyed fifty-one sweet years of friendship and love. Bernice has lost her dearest friend. John apprenticed and was licensed as an Ontario Land Surveyor before being called to serve in the ministry. He valued the experience of the apprenticeship system for it stood him in good stead in his ministry.

In 1957, John and Bernice began a westward trek. He first moved to Winnipeg, MB to enter St. John's Seminary. Upon graduation John faithfully served our Lord in the Anglican Church at St. Matthew's Cathedral, Brandon, MB, St. Mary's, Virden, MB, St. Matthew's, Regina, SK, The Diocese of Qu'Appelle as Diocesan Archdeacon, St. Stephen's, Swift Current, SK, St. Andrew's, Calgary and as Pastoral Assistant at The Cathedral, Calgary. John also diligently served the church as Diocesan Registrar and Archivist. He was made a Canon of the Diocese of Calgary in 2007.

John was a gifted artist with an exceptional eye for colour and a love for nature that he captured with brush and paint. John's emotional and spiritually significant watercolours touched the heart, soul and spirit while captivating the eye.John was an active member of the Calgary Sketch Club for many years. He also painted with the Monday Afternoon Group of the Centennial Art Gallery.

John's faith was a living faith and his love of God was evident to all who encountered him. He cherished those with whom he was able to visit with his pastoral ministries. John found great joy in ministering to the Dinka Christian community. He was presented with the first humanitarian award by the Canadian Nigerian Association and was made an honourary member.

John and Bernice were blessed with loving children and grandchildren, David and Wendy, and their children, Matthew, Jamie and Christina; Anne and John McKee, and their children, Madeline, Eveline and Jack; Mary and Brian Simmonds, and their children, Benjamin and Breanne; and special family Maureen and the late Allan Harvey, Treena and the late Jerry Waldner, Jordan, Callan, Bonny, and Bill. John is also survived by his two sisters, Joyce (Bryan) Lusk and Jane (Bob) Gaul and their families.

In living memory of Canon John Pilling, a tree will be planted at Fish Creek Provincial Park by McInnis & Holloway Funeral Homes of Calgary, Alberta.

Murray William Robinson, OLS# 745
October 15, 1925 – January 28, 2014

Murray Robinson in his 89th year at Hospice Huntsville on January 28, 2014. Murray was born in London, Ontario on October 15, 1925.

Beloved husband to Joyce Norma Margaret Robinson (nee Nicholson) of Gravenhurst. Loving father to Eric Robinson and Erin Carty (Dan). Beloved brother to Dr. Donald Robinson (Jeannie).
Cherished grandfather to Michael, Andrew and Hannah and great grandfather to Kaelyn and Calvin.

Murray served in the Canadian Air Forces in World War II.He was an Ontario Land Surveyor and upon retiring from the Ministry of Transportation, Go Transit and the T. T. C., Murray enjoyed traveling and spending time with his family at their cottage on Lake Rosseau in Muskoka. In keeping with Mr. Robinson's wishes, cremation has taken place.

Douglas Hugh Black OLS# 729
January 3, 1927- September 29, 2015

Douglas passed away on September 29, 2015 in his eighty eighth year at his Scarborough, Ontario residence. His immediate family attended the cremation ceremony.

Douglas is predeceased by wife Josephine and daughter Brenda. He is survived by three sons, Peter, Geoffrey and Patrick.

He began his career in the 1960's, focusing primarily in Toronto. His his work has taken him all over Ontario. He has helped bring many faces into the surveying profession.

He passed away peacefully at home. He will be missed by all.

Submitted by Mr. Peter Black

Desmond Blair, OLS# 658
February 11, 1923 – June 16, 2014

It is with sadness that we announce the peaceful passing of Desmond Blair, B.A.Sc., P.Eng. on Monday, June 16, 2014. He will be lovingly remembered by his wife Patricia, his children Brian, Anne, John and Drew, his 14 grandchildren and 2 great- grandchildren and his sister, Wynn.

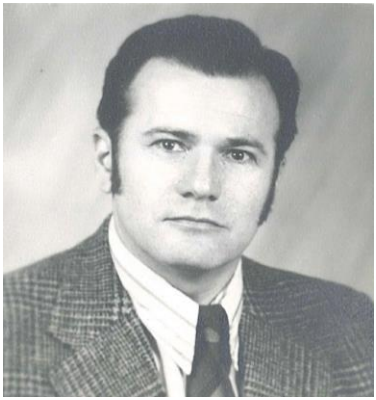
Des was born in White Abbey, Northern Ireland, the fifth of six siblings. The family immigrated to Canada in 1925.

Des lived his early years on Langford Avenue along the Danforth. He graduated a civil engineer from University of Toronto in 1946 and married Patricia Givens, the love of his life, in 1948. The couple lived in Thunder Bay and Sudbury before returning to Toronto in 1952 to raise a family.

Des spent many years in the construction industry, including two years in the mid-50's building a radar defense system in northern Ontario, before going on his own as a successful entrepreneur.

Published in the Toronto Star from June 20 to June 21, 2014

Walter Sawicki, OLS# 833
May 16, 1924 – May 29, 2015



Peacefully on Friday May 29, 2015 at St. Michael's Hospital at the age of 91. Beloved husband of Lily. Loving father of Mark and Raymond (Lisa). Proud grandpa of Julia, Charlotte and Emily. Will be missed by his sister Zenia and other family and friends. Visitation will be held at McDougall & Brown Funeral Home "Scarborough Chapel", 2900 Kingston Rd., on Saturday, June 6th from 2-4 p.m. A funeral service will be held in the Chapel at 4 p.m.

Published in the Toronto Star on June 3, 2015

Guido Papa, OLS# 1345
March 22, 1946 – March 17, 2016

Guido Papa is a family man through and through. Guido worked incessantly his entire life for the betterment of his wife, children and grandchildren and those whose lives he touched.

The first child of Cosimo Papa and Francesca Vettese, and brother to Mario. Guido grew up in Italy and completed his *Geometra* designation and commenced a program in civil Engineering at the university of Rome (Sapienza) before immigrating to Canada on August 20, 1966 at the age of 20.

While working in the field of land surveying, he completed the requisite courses and examinations to the professional designation of Ontario Land Surveyor on November 19, 1973. Countless monuments bearing his OLS# 1345 currently demarcate property boundaries across Southern Ontario and will continue to do so for decades to come.

Guido's Passport Photo upon entry to Canada

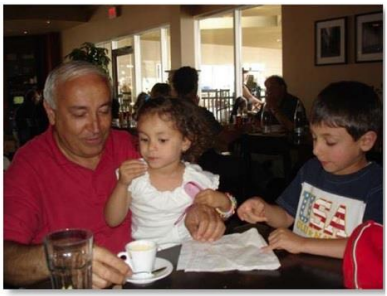
In Canada, and through the established network of immigrants from the same place of origin, he met his wife of almost 45 years, Maria. In addition to being a devout wife and mother, she was also a key figure in supporting the private surveying practices that Guido established.

In 1978, the firm of Fazio and Papa Limited was established with the late Diego Fazio. Subsequently, the firm of Guido Papa Surveying Ltd. was established in 1984 and continued on until his retirement in 2015 due to illness, rather than lack of will or desire to continue his lifelong and steadfast dedication to his work.

Guido and Maria raised three sons: Fabian (Luciana); Robert (Laura) and Valerio (Lara). Guido also enjoyed the early years of his grandchildren, Michael and Julia (Fabian and Luciana).

The family of Guido and Maria Papa
(Valerio, Fabian, Maria, Guido and Robert)

Guido at work
(Early training for Michael)



Guido and his grandchildren, Julia and Michael.

Guido in his garden at home.
A source of organic food and immense pride.

Submitted by Mr. Fabian Papa

Herman Alfred 'Bud' Aron, OLS# 772
August 14, 1929 – April 2, 2016

Herman 'Bud' Aron was born on August 14, 1929 in Toronto, Ontario to Alfred Robert Aron and Flora Agnes Aron. He graduated from Perth Avenue Public School 1942 and obtained his secondary school diploma at Bloor Collegiate Institute in 1947. He served in the Canadian Army Reserves from 1944 to 1948. He articled with Mr. Harold Stewart Howden, OLS# 607 and was admitted to the Association of Ontario Land Surveyors on July 13, 1951. He was married to Eleanor June Evans and had 3 sons: Douglas, Robert and Steven. He volunteered with the Boy Scouts of Canada in North Bay, and with Little League Baseball in Kingston. He was a member of the Loyal Orange Lodge and Royal Black Knights. He has served on various committees of the North Eastern Regional Group and was employed with the Department of Highways.

Submitted by Herman Aron on May 7, 1966

James (Jim) W. Nicholson, OLS# 1094, CLS
July 6, 1935 - April 9, 2016

Jim Nicholson was a great guy, a good surveyor and a close friend. He passed away quietly and peacefully at Georgian Bay General Hospital in Midland, Ontario on April 9, 2016. He is survived by his wife, Donna, his children Tim, Jane, and Jon and his grandchildren Bryn, Avery, Kate, Emily, Emma, and Aiden. Jim was father-in-law of Deb and Jill and brother of Mary Ann Adamson and her husband John, and Nancy North. He was predeceased by his parents Ernie and Islay Nicholson. Jim was born and raised in Midland and graduated from Midland High School.

Throughout his life Jim was actively involved in the community, including the Midland Minor Hockey Association, the Georgian Bay Minor Hockey Association, the Midland Curling Club, the Huronia Masonic Lodge, the Rotary Club of Midland and St. Paul's United Church.

His love of music began with the Midland Brass Band in the 1950's and later with the Penetanguishene Legion Pipes and Drums. It continued with the Orillia Wind Ensemble and then many happy years with the Orillia Silver Band.

After completing high school in June 1954, Jim decided to try his hand at surveying and he took a job as a chainman on a field crew with Charlie O'Dale, OLS, in Midland. In November 1955, he joined the Department of Highways in Downsview and from there decided to become an OLS. Jim signed articles on June 3, 1957 to Bill Ratz of the Department of Highways in Toronto and in 1958 he was transferred to the regional highways office in London. Jim received his OLS commission on November 22, 1961 and was assigned registration# 1094. He later received his commission as a "Canada Lands Surveyor".

In September of 1960 Jim married his high school sweetheart, Donna, and they lived in London until Jim was transferred back to head office of DHO in Toronto in 1967, becoming a Control Survey Supervisor.

In July 1968, Jim and Donna returned home to Midland to raise their family in the area that they loved. Their family and their grandchildren still live in the community.

Jim established a private survey practice in Midland which was incorporated as "James W. Nicholson Limited" in 1974 and in 2001 partnered with Gary Preston to form "Preston Nicholson Harvey Inc." Jim retired his OLS commission in 2009.

Jim's volunteer work with the AOLS began in 1984 when he was appointed to the "Board of Examiners" which is now the "Academic Experience Requirements Committee". As a testament to Jim's dedication to that task, a surveyor in Sudbury that Jim monitored during the surveyor's article period in the mid 1980's, recalled his meetings with Jim in his Midland office and how he appreciated the generous amount of time and the genuine advice that he received from Jim.

Jim was elected to AOLS Council in 1988 and was president of the Association in 1991 which was the centennial year of the founding of the AOLS. Jim was very proud to represent our profession during our Centennial year. His photo is displayed on the centennial poster of the Province of Ontario titled "Surveying for Settlement" which is displayed in many survey offices across the province.

While Jim received his Surveyor's Commission long before the start of the University of Toronto's Survey Science program in the early 1970's, he took advantage of Survey Law courses offered by the University and did considerable reading to upgrade his legal survey knowledge. From this he became proficient in survey law principles, especially in the area of water boundaries. In his later years, Jim was sometimes engaged as an expert witness in Boundaries Act cases across the province and often came out on the winning side of the decision.

Jim was a very social type of guy, easy to talk to, and was always genuinely interested in what was going on whether it be personal, or association business. I got to know Jim in the early 80's when we both sat on the Board of Examiners and then on Council and we have been good friends ever since. Jim always looked at the brighter side of things and if he did not have something good to say about someone – he said nothing. The surveyors in the Georgian Bay area who were his business competitors were also his friends.

Jim's love for Georgian Bay began long before his surveys in the area. As a child, he spent his summers at Honey Harbour and in the mid 60's his dad built a family cottage, named "Whistlers Cove", on Little Beausoleil Island, on the Main Channel, about 5 minutes north of Honey Harbour. Jim purchased this cottage in the mid-80's and it became his family's retreat. In retirement, Jim's favourite pastime was sitting on the deck enjoying in his words "watching the world go by". Another of Jim's expressions was to go "up the shore" for the weekend.

Sometime in the late 1980's Jim decided to learn to play the bagpipes with the Penetanguishene Pipes and Drums. With his musical talent, he became an accomplished piper. For several years in the 1990's, Jim piped in the head table at the Presidential Luncheon at the "Annual General Meeting" of the AOLS held in February each year. Jim's favourite part was "tossing a shot of scotch" with the incoming President prior to piping himself out of the room.

Jim also enjoyed himself at another annual function, the "Senate" get-togethers. The Past Presidents of the Association, (affectionately known as the "Senate") have met socially twice a year for almost 30 years. Rarely did Jim and Donna miss one of

these events. The Senate meets with the incoming President and Council at the AGM in February to wish them well in their council year. This of course, requires a toast to council, and generally another toast (or two) if the scotch does not run out. At the summer Senate BBQ in 2013, Jim was presented his “Gold 50-year pin” as an Ontario Land Surveyor.

Jim will be missed by the profession, as during his time he was certainly one of the leaders of our association.

Submitted by Jack Young

Douglas Gilbert McMaster, OLS# 1170
July 22, 1936 – April 24, 2016

Doug passed away peacefully on Sunday April 24, 2016 at Campbell House Hospice, Collingwood after a long battle with cancer at the age of 79.

Doug of Stayner, beloved husband of the late Barbara (nee Phillips) and loving friend of Ruth Scrannage (nee Bentley). Loving father of Susan (Randy Schaefer) of Wasaga Beach and Mark of Calgary. Dear brother of Dianne (the late Bill Grant) of Minesing and Donald (Sharon) of Ivy. Brother-in-law to Marilyn (Lorne Heatherly) of Wasaga Beach, David (Joan) Phillips of Wasaga Beach, James Phillips and Donna (Art Ireland) of Stayner. Doug is predeceased by his parents Gilbert (Gib) and Mary (nee Coutts) of Utopia.

He will also be missed by his many cousins, nieces, nephews, his many friends and former colleagues through his association with the Ontario Land Surveyors, the Royal Canadian Legion Branch 457, Stayner and the Stayner Lions Club. He will be missed. Doug’s family wish to thank Carrie, the visiting St. Elizabeth nurse whose smile he looked forward to each week, Shelley the CCAC Nurse practitioner for her support and comfort, Dr. Lane, CCAC and all the staff and volunteers at Campbell House Hospice who treated the entire family with compassion and respect.

John Campbell "Jack" Milne, OLS# 888
Dec 2, 1931 - May 1, 2016

Jack is the son of Dr. John Eric Milne and Rhena Milne (Campbell).

Born in Durham, Ontario, Jack crew up the son of a country doctor in Flesherton and Markdale, Ontario. As a young boy and teenager with his love of the outdoors he became an avid hunter and fisherman. He also played senior hockey where he lead both Flesherton and Markdale to Championships as team captain, and later player-coach, winning the MVP of the league.

He often attended the Annual General Meetings with some sort of bandage which was evidence of his physical play. His playing days ended when he suffered a serious head injury, after which he spent a weekend in the hospital recovering. He was a long time volunteer with Owen Sound Minor Hockey, Lacrosse, and softball coaching and managing various teams.

He was instrumental in bringing harness horse racing to Owen Sound in the 1970's. He had a show on the local radio station called "Horse Talk with Jack Milne". He was the Secretary Treasurer of the W. J. Hyatt Association. He was also a long time member and volunteer at Georgian Shores Church formerly Division Street Church.

Dad excelled at school being accepted to the University of Toronto Civil Engineering program at 17. There was a high emphasis put on education. Dad did not enjoy life in the big city and decided on a different career path. He taught at a 1 room school house in the small village of Massie teaching some students his age. After teaching for a year he began working for Maurice Hewett, OLS where he later signed his articles. He was commissioned in July of 1955 at the age of 23. The firm was called Hewett, Dinsmore and Milne and in 1962. Hewett and Milne as it is known today.

I enjoyed many conversations with my dad about his early days of surveying. As a young O.L.S. he was assigned a project on Manitoulin Island. His field crew was comprised of a few veterans who had served along with Maurice Hewett in World War Two. With the exception of the veterans, many got sick after drinking the water on board the ferry from Tobermory to South Bay.

Dad spent many months working away from home during the mid to late 1950's and early 1960's. Hewett and Milne had grown to a staff of 50, acquiring projects through the Department of Highways. The company had four OLS's and an

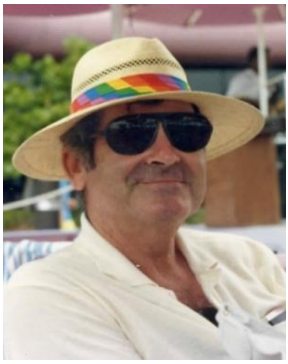
articling student. During 1959, my dad was the project manager for the surveying of Highway 101 from Chapleau to Foleyet returning in October to marry my mother Sheila Ann Milne (Mackinnon). Their honeymoon was spent in Huntsville while Dad was the project manager of another survey project in the area.

He also worked on part of Highway 401. Towards the end of his professional career, from the mid 1990's to 2007 when he was diagnosed with Alzheimer's, he worked in the field as much as possible. His big smile and laughter continued on even after being ill. He was a kind, dedicated, and loving family man. He is the proud father of four children Ian, Neil, Allison and Ann and seven grandchildren.

He was very well respected in the profession and community. He was the recipient of the award of honorary citizen of the City Owen Sound. We had a great working relationship in which I enjoyed our discussions of survey issues past and present. Dad is missed every day.

Submitted by Neil C. Milne, OLS

William "Bill" Bolan, OLS# 1051
July 9, 1934 – May 24, 2016



William (Bill) Edward Bolan was born to William and Marie Bolan, one of four boys, and an identical twin, on July 9, 1934 in Midland, Ontario.

As an enterprising young man, Bill worked for the Department of Highways. It was there that he acquired his passion for land surveying, such that he determined to pursue a degree at Ryerson and become a full-fledged Ontario Land Surveyor.

It was while working at highways up in the North Bay area that Bill met and fell in love with a young receptionist Myra, who became his wife and mother to his three children: Christopher, Laura-Lynn and Gregory.

Bill worked out of North Bay for a time and then, in 1967, bought an existing land surveying practice in Sault Ste. Marie. He settled into the Soo for good, operating, initially, as William E. Bolan Ltd. Bill ran several crews conducting surveys in the Soo and the wide surrounding area.

Although none of his children followed in his footsteps, his two sons did work extensively with him over the years and learned to run both prints and a transit.

Bill had a great passion for land surveying, not only the study and practice itself, but the social life as well. Bill and Myra were always to be found in attendance at the annual conventions and social gatherings.

As the years went on and his business thrived, Bill got into the field less and less, but he never lost his taste for it. While Bill was, by his own admission, only half-ways handy with an axe or saw, he always remained a darn fine party chief. He knew his way around the registry office as well. He was well liked by his employees and managed to be their boss and bend more than the occasional elbow with them at the same time. He became lifelong friends with some of them.

Bill was proud of the camaraderie that the surveyors in the Soo and area enjoyed. In the early days, the group was made up of Murray Acheson, Burt Chambers, Larry Miller, Ted Wall, and Colin Trivers. Later on, Dave Urso would join forces with Bill, and Mike Tulloch settled into Thessalon. Bill maintained good relationships with all his fellow surveyors. Even after he retired, Bill continued to work for some of his colleagues because he enjoyed doing so. The picture below shows Bill going into one of the Othello tunnels in BC, which he visited with his son to admire that great feat of land surveying and engineering

Bill was a man who liked to participate and give back to his community. He volunteered at his church and the Soup Kitchen and was a dedicated member of the Knights of Columbus. Bill enjoyed following and playing all manner of sports, especially Canadian ones such as lacrosse, football, and curling. He was a lifelong enthusiast of cross country skiing, loved walking and cycling on the Hub trail, and was a proud Soo Greyhound season ticket holder. He will surely be missed and just as surely remembered with fondness by his family, colleagues and friends.

Submitted by Laura-Lynn Bolan and Chris Bolan

Edward Carl Tacium, OLS # 1032
November 15, 1921 – June 14, 2016

Edward Carl "Ted" Tacium passed away at the age of 94, on Tuesday, June 14**.** Edward leaves in mourning, his wife of 63 years, Dorothy; his son David; daughter Debra; and grandsons, Joel and Zachary; nephews, Edward and John; nieces, Patricia and Susan; grand-nephew Johnny and grand-niece Ashley. He was predeceased by his son Kenneth, in 2012; his niece Sandra; and his sisters, Stefania (Stella) and Helen.

Ted was born in 1921, in the town of Nysmychi, near L'viv (Ukraine), the eldest child of Aleksandra and Piotr Taciun. In 1934, the family, with three school-aged children, immigrated to Canada aboard the HMS Montcalm and settled initially in Edison and Raith, and eventually in Fort William, Thunder Bay.

Ted was a slight, but handsome young man who was anxious to join the Armed Forces at the start of the Second World War. He was turned away from the Royal Canadian Air Force because of his youthful appearance. He managed to join the Canadian Army, Ontario Regiment, in 1940, and after training at Camp Borden, was initially stationed in Brighton, England.

As a member of a tank regiment, he landed in Sicily and moved along with the Armed Forces through Italy in 1944, stopping in places such as Lanciano, Campobasso and Tornareccio, and eventually participating in the liberation of the Netherlands at the end of the war.

In later years, he read voraciously on the campaigns he witnessed, studying regiment maneuvers and military tactics as if trying to make sense of everything he had been through during those formative years, but never had a taste for war nostalgia or commemorations. He always maintained that he had no quarrels with anyone and believed that wars, at best nothing more than a series of missteps and pointless adventures, were the evidence of human inability to deal intelligently with pressures. Ted's instincts were always aligned against power. He said more than once that it was important to be skeptical of history, because it is inevitably written by the winners.

Upon his return from the war, with thousands of other young soldiers, Ted realized that his future depended on obtaining a good education. Despite his interest and brilliant memory for history and geography, he chose to study in scientific fields and obtained a BSc in Chemistry from the University of Manitoba in 1952. That was the same year he married Dorothy Guyatt, a young nurse, also from Fort William.

Ted worked for a few months at the pulp and paper mills in Thunder Bay, but the odours and chemicals made him violently ill. He found an opportunity to apprentice as a land surveyor, a technical profession that took him out into the fresh air, exploring many out-of-the-way locations in all seasons of the year. He never mustered enthusiasm for recreational camping after spending weeks in a tent during several winters. Summers weren't much better; there were clouds of mosquitos and black flies.

He worked for several years with R.S. Kirkup & Son and led various teams of less than reliable assistants in expeditions through unmarked forests and muskeg, and never once lost his bearings. He spent many years taking detailed measurements of land in northern Ontario, Manitoba and Saskatchewan, and was eventually hired by the surveying department of Canadian National Railways in Winnipeg. He moved there with Dorothy and his two sons in 1967.

Ted was a quietly devoted father who enjoyed many years of hockey with his sons. He never missed a game, and was their most devoted fan. He served as team manager with the St. Boniface Riels for a few years. When his daughter joined a local gymnastics club, he helped build and install various apparatus. In 1979, Kenneth suffered a catastrophic car accident near Falcon Lake. Ted was devastated, but worked tirelessly to secure all the support he needed to return to school and build a new life. When Ken graduated from law school in 1986, Ted was his right-hand man, assisting him in setting up a practice from home and delivering documents to firms and other locations throughout the city.

After suffering a serious heart attack following his retirement in 1988, Ted made adjustments to his diet and lifestyle, and was able to enjoy many years of good health and sports activities, even returning to part-time surveying in more enjoyable weather. He took every opportunity to survey areas around Lake of the Woods, where he would sometimes go fishing with friends. Summer was for golfing and winter was for curling. He also loved travelling by car through Northern Ontario with David to visit his grandsons in Quebec. He took long walks through the streets of Montreal, as well as in the countryside. As he entered his 90's, his health and eyesight were in severe decline, and he underwent a series of delicate surgeries to his eyes and skin. Nevertheless, he travelled even as recently as last year to attend the school awards ceremonies of both grandsons, and was delighted to see the oldest receive the Governor General's Award.

Submitted by Mr. Peter Godwin

Robert George Waterman, OLS# 1204
April 18, 1939 – September 12, 2016

Bob "Gramps" Waterman passed away peacefully on Monday, September 12, 2016 at Hospice Wellington, in Guelph, after a brief but vigorous battle with cancer.

Born April 18, 1939, he was a sports fanatic from his early years growing up in London Ontario, right through to his final weeks. He even kept up to date with his favorite Inter County Baseball League teams from the hospital, and was renowned for his collection of jerseys, memorabilia, home-run baseballs and hockey pucks. Not content to merely watch, he was an active athlete all his life, taking up horseshoes in his retirement and playing old-timers hockey up until the spring of this year.

He had a variety of professions ranging from chef to member of the Air Force Reserves, but was particularly proud of his time as an Ontario Land Surveyor, notably achieving the highest marks on the 1967 OLS exams.

Predeceased by loving wife Carol-Anne (nee Kimber), Bob went on to become a father to Robert William Waterman (Celeste Bannon), Lee Ann Waterman (David Webster), Carol Jean Waterman (Scott Breen), James Craig Waterman (Trisha Clark) and Jonathan Charles Waterman. He remained good friends with former spouse Lee Ann (nee Farnsworth) Waterman, and was particularly proud to be Gramps to Devin and Liam Waterman, and Jack and Cameron Breen. Predeceased by his parents Alfred and Frances Waterman, and his sister Anne Marie Wilson; he leaves behind his siblings Barbara Jean Nesmith and William Alfred Waterman. In accordance with Bob's wishes, a private family service will be held as Bob is laid to rest in Mount Pleasant Cemetery.

Timothy Albert Young, OLS# 1051
September 24, 1950 – September 1, 2016

After a long brave battle, Timothy Albert Young passed away peacefully at Southlake Regional Health Centre with his family by his side on September 1, 2016 at the age of 65.

Born on December 24, 1950, Tim (T.Y.) was a special Christmas gift to his parents John and Eileen (Peggy) Young and little brother to Sandy (Odho) and John (Jack) Young. Tim attended the University of Western Ontario where he graduated with a Bachelor of Arts degree in 1972, continuing on to the University of Toronto graduating with a Bachelor of Science degree in 1980.

Tim was very proud to become a member of the Association of Ontario Land Surveyors in 1980 and in 1983 incorporated a successful business, Young and Young Surveying with his partner and brother John until 2006. Tim was proud to be a member of the United Empire Loyalists' Association of Canada.

Tim and Susan started their lives together on April 13, 1984 marrying exactly six years later on a Friday the 13th in 1990. Daniel and Sean completed their family and nothing gave Tim greater pleasure in life than raising those two wonderful boys. He was the proudest dad in the world.

Thomas Edward Lyons, OLS # 989
1933 – September 23, 2016

Tom loved his Northern Ontario roots. He grew up in Virginiatown and Timmins before returning to his birth town of North Bay for high school where he attended Scollard Hall Collegiate from 1946-1951.

Even as a teenager Tom was not a punctual person and he resorted to running everywhere. His frequent 'practice' and talent landed him Northern Ontario Secondary School long distance running records that subsequently held for over 20 years.

Tom obtained his first job surveying for the CNR in the summer of 1952 and knew this was the career for him. A career that went on for the next 40 years. He apprenticed in Niagara Falls under Barry Watson, OLS from 1955 to 1958. In 1958, Tom received his commission as an Ontario Land Surveyor. Tom and his wife missed their family and eventually moved back to North Bay where he worked for Simpson and Taylor, Ontario Land Surveyors. As Tom was a trustworthy and hardworking man, Mr. Simpson and Mr. Taylor asked him to start a satellite office in Parry Sound.

Upon a visit to Peterborough in 1965, he had the opportunity to meet John G. Pierce who was quick to offer him a job in his practice. Tom worked for Pierce & Pierce Ontario Land Surveyors until becoming a partner in 1978 and then taking over the practice years later when Mr. Pierce retired. Over his career, Tom conducted surveys for the TransCanada Pipeline, Township Boundary Retracement Surveys in Northern Ontario, C.N.R. in Northern Ontario, Department of Highways, Ontario Hydro, numerous local land developers, City of Peterborough, and Counties of Peterborough, Northumberland, Hastings, Victoria, and Clarington.

Tom's passion for surveying led to his involvement with the A.O.L.S. in the 1970's where he proudly held the position of President in 1979. He was also an early contributor to the G.I.S. consortium. Tom and his wife, Lucile developed many friendships from the surveying community. He had great admiration and respect for the talented men and women he met throughout his career and was honoured to be a part such a distinguished group of professionals.

Tom firmly believed in contributing to his community. As a Rotarian, he spent countless hours fundraising and organizing events for special needs children through

the Easter Seals Foundation and Five Counties Children's Centre. The Peterborough Rotary Club recognized his volunteerism by awarding him with a Paul Harris Fellowship. Tom continued his involvement with Rotary by serving as President of the local chapter in 1986. He was also a man of faith and served in his church for many years and became a Fourth Degree Knight of Columbus. In his later years, Tom was an active member of several Stroke Survivor groups in Peterborough.

In the winter months, Tom was an avid curler. Representing the Peterborough Rotary Club, he participated in and coordinated North American and International Rotary from 1987 to 2003. He remained a member at large for several more years maintaining the friendships he had established.

In the summer months, Tom could be found in his many gardens, meticulously tending to them daily or building new ones. Above all, Tom was a family man, coordinating family trips, traveling to many sporting events, and later, babysitting his grandchildren. He was married to Lucille (2003) for 47 years and leaves behind two daughters, Patricia (Brian) and Jennifer (David) and four grandchildren, Sarah, Michael, Graham and Eric.

Submitted by Jennifer Pitt

Edwin Stuart Smith, OLS# 1248
April 8, 1944 – October 10, 2016

On Monday, October 10, 2015, Edwin Smith passed away at the age of 72. Beloved husband of the Pauline Therese Smith nee Clement. Born in Belleville, Ontario to Albert Leslie Smith and Evelyn Elizabeth Smith.

He articled with Peter Thomas Clarke, OLS 789 of North Bay and Wilfred Joseph Ryan, OLS 724 or New Liskeard. He was employed as a party chief with Clarke, Lackstrom and Braund of North Bay. He joined the Association of Ontario Land Surveyors on April 12, 1969 at Fort William, and worked as an OLS at Sutcliffe Co. in New Liskeard. Thereafter he was employed at the Legal and Survey Standards Branch at the Department of Justice and at the Ministry of Citzenship, Culture and Recreation. He enjoyed the wilderness and canoeing and was a member of the Canadian Owners and Pilots Association.

Submitted by Pauline Therese Smith.

David Woodland, OLS# 1475
March 3, 1951 – October 16, 2016

Surveying, I heard said, is not for the faint of heart. It's a tough job that requires hard work and long hours with steely eyes and ice water in their veins.

Well, gather close 'cause I have a tale to tell, 'bout a man goes by name o' David Woodland, come from the Rock ... where ships are tall and life is harsh ... where the wind blows so hard, sometimes the train can't run for fear of blowin' off the track.

Back in March of '51 it was ... A black, moonless night with a howlin' wind ... David came into the world kickin' and screamin', all pink and tough like, already a look of defiance in his eye. He spent those first few years runnin' with the local lads, jiggin' cod and causin' trouble.

Well his Pa was offered a job in Oshawa December '54. So he said Ma, gather up the kids, we're movin' to the mainland! Well, his Pa havin' a bit of the wanderlust in him, said enough of this town and in '59 moved the family to Ottawa.
But that frequent shuffling around from city to city weren't enough of a Gypsy life for David, so one day after his sixteenth birthday, he says, Ma, Pa, I'm goin' walkabout. I'm off to see this land! I'm hikin' coast to coast to see what she's about. Well, all the way to the other side of Vancouver Isle, he hiked. Then back again… not once but twice!

Then in '70 David found himself back home with his sweetheart. I missed you, Kathy, he says, but I want to work the land. It's a big country and I've learned to love her, so I'm joinin' the survey crew.

Ryerson University was his choice in '71, not only for the reputation, but also for the experience. Cards were David's game, you see, and one night the pot had grown to a sizeable sum. David had raised that pot right down to his last dollar. He glared out over his cards with a hard stare. The feller on his left reached to his pocket with a trembling hand but David slowly and deliberately turned to him. I fold, says the feller quietly, thinking better of it. The other fellers followed suit and David gathered up the pot. Lads, the next round's on me, he says. So what did you have? Says the feller on his left. Well now, says David, you want to see them cards, you gotta put up that cash. And that was the night David earned enough to buy his school books with a pair o' Jakes.

After graduating in '75, David went to work for a couple of local lads go by name o'

Charlie Fairhall and Harland Moffatt. He articled with Charlie, got his commission in ‘79 and no sooner had he started when, I got some bad news, says the doc. It was an old man’s cancer ... Hodgkins. It was a raw deal and the lads he worked for took a likin’ to David so they helped him through it, financial wise.

Well, he stared down that cancer just like he stared down them lads at poker. I got a job o’ work to do, he says and my time ain’t come yet if I have anything to say. You see, the pipeline was comin’ through, and David, well he decided he was equal to the challenge.

Scary stuff, it was, because the surveyin’ part comes first and when that siren goes, you’d best skidaddle because that shot rock gets heaved by the blast so it ends up in the tops of trees, boulders as big as fridges, they were. It’s hard work, says the feller on his left. It’ll be long days, says the feller in the middle. Maybe even work weekends says the feller on the right. Boys, says David slammin’ his hand on the table, let’s get ‘er done. Rent some ATV’s, he says to the feller on his left. Buy enough equipment for five more crews, he says to the feller in the middle. Hire some lads, he says to the feller on the right, and make sure they have broad shoulders and strong backs. There’s gonna be a lot of carryin’ and the line’s gonna be long and cut right through the middle of the roughest country this side of the shield. Well, he made his new partners proud, Charlie and Harland. Many miles and many months later, that liquid gas was flowin’ and everyone in the land got a little richer.

David’s wild ways were soon tamed by his sweetheart though and they tied the knot in ‘76. It was a good time at the local watering hole where we partied in back after the ceremony. She bore him a couple of babes, Katharine did. Shona and later, Thomas.

Thomas being a complete surprise considering the radiation. The docs had burned at that cancer from his chin to his toes. Doc said, your pup sirin’ days are over, son. But David fooled them docs. Yes sir. A “millionaire’s family” he called it. Well, family can certainly make you feel like a million when you share those good times.

David settled down to work that business. Made partner in ‘84. He ran a tight ship. When you’re a surveyor, people have to trust what you tell ‘em on a count of, you’re always caught between two fellers tryin’ to figure out where that fence goes, and sometimes they’re feudin’.

And David was no slouch when it came to lendin’ a hand up. He liked the idea of giving back to the community and the company did the surveying for Roger’s House, another poor feller, Roger Nielson, on the coaching staff of the Ottawa Senators Hockey Club, succumbed to cancer but built a legacy for the kids who need a place while they’re in town fightin’ their own cancer.

Hockey was one David’s favourite pastimes. That and golf. The skills and toughness them fellers have in hockey is humbling. Golf is just humiliating, but David liked to

participate in all them charity events. He took lessons one year. Did it work? Did you see him on the tour? Still, it's a game for those of us who won't give up and David's favourite word was 'persevere'. It must have been 'cause he used all variations of it for his passwords.

Then, damn it all if David wasn't laid to bed again. Like that Grim Reaper had it in for him. A heart attack in 2004, and another in 2013. Docs say it was that radiation he got as a young lad. But ol' David wasn't gonna sit still for that nonsense. He fought both of them off and got back in the saddle.

It was an inspiration to the rest of us, but in 2016 he got the news from the docs again. They say I got maybe a year, he says. That damn cancer. Managed to squeeze out another forty, but I guess you can cheat the Reaper so many times. He gave a long hug goodbye. Even the toughest of us have a soft side.

David didn't have anything close to a year. But I know damn well, even with his last breath he would have been starin' down that Reaper. And if the cancer hadn't taken all his strength, he would have cheated the Reaper one more time.

Submitted by Shona Woodland

Kenneth Arthur James Williams, OLS# 827
January 2, 1926 – November 26, 2016

Ken was born on January 2, 1926, the son of Arthur Clyde Williams and Mary Jane Irwin in the city of Welland. He graduated from Queen St. Public Schooling in 1943.

After graduating from high school, he joined the Royal Canadian Army serving during and after the Second World War until May of 1946. His service included attending the University of Toronto Army Course; a member of the Royal Canadian Artillery in Petawawa, Kingston and overseas in England, Holland, and Germany.

The artillery units served in were the 23rd. field regiment, 4th.division and 2nd 13th field regiment 3rd. Division. While overseas and after the war he attended Karki University in England which was operated by the Canadian Army in Leavden just outside Watford.

He attended the University of Toronto from 1956 until graduation in 1950 in Civil Engineering becoming a Professional Engineer in the Province of Ontario the following year.

Upon graduation he joined the CR Hagen Engineering firm of Fort Erie in 1950. While there he also completed his Ontario Land Surveyor Certification. He served an apprenticeship with Maximum T. Gray. While working with this firm, he became the Vice President of the company and was their official Land Surveyor and Professional Engineer. Projects that were worked on included sanitary sewers in Beamsville, water main. And water treatment plants in Vineland, sanitary sewers, water mains, road construction in Grimsby, the same for the towns of Blythe, Caledonia, Welland, Chippewa, and Fort Erie.

In 1959, he left the firm to become the Engineer for the Town of Fort Erie where he was responsible for all of the construction and maintenance of water, sewers, roads, pump stations, building permits and planning within the Town.

In1966, he left the town of Fort Erie and became the Welland County Engineer. He was responsible for the construction and maintenance of all county roads and bridges. During this time, he also served on the Suburban Roads Commission for the cities of Welland, Niagara Falls and Port Colborne.
In 1970, he was transferred to the newly formed Niagara Region government into their large Public Works Department. He held a variety of roles within this organization including Assistant to the Director, Systems Engineer for water and roads control operations. These were mostly office jobs requiring all of the experience and skills that he had acquired in his previous positions. Many, many reports were prepared for consideration and approval by Regional Council.

In 1988, Ken retired from the region to enjoy a long retirement in Fonthill with his beautiful wife, Iris. They were married for 69 years. They had four children: Donna Starr, Arthur Paul, Susan Jane, and Shellee Ann. All four children married and proceeded to give him 12 grandchildren and 17 great grandchildren. His wife and family were the love of his life!

Ken loved to fish. He always had a big garden and took great pride in growing tomatoes, onions and cabbage. Every year he and Iris loved to harvest their produce to make pickles, tomato juice sauerkraut, jam and freezing corn and beans.

Ken and Iris enjoyed travelling. They both played golf at Westbrook Golf Club when his brother in law took ownership. Later he joined Lookout Point Golf and Country Club. He loved the game and the camaraderie with others. He may be responsible for all of his family loving the game, too!!

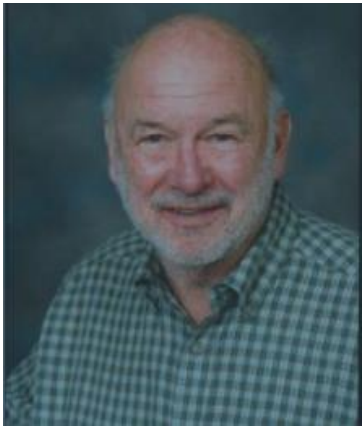
Ken had a long and healthy life. His final party was his 90th Birthday that

was celebrated with his family. He passed into heaven on Saturday, November 26, 2016.

"A FULL LIFE WELL LIVED"

Submitted by Starr Minor

Richard Jack Hatkoski OLS# 1354
1934 – November 30, 2016



In conjunction with the last class bell, R. Jack Hatkoski passed away on November 30th, 2016 in the comfort of his Dwight home surrounded by his loving family.

Once the seriousness of his abdominal cancer was considered, he made the brave decision to forego further treatments and to divert those resources to those that truly needed them. His 3 week battle was brief, heroic and honourable.

At just over 82 years of age, Jack had a full life that wasted little time. Born in St. Catherines, he moved with his family to Dwight while in high school.

Upon graduation from the University of Toronto in 1956, with a degree in Forestry, he worked in his field for a short period of time before entering Teachers' College. Upon graduation, he began teaching at Parry Sound High School and spent the majority of his career at Huntsville High School before retiring in 1989.

He was an avid private pilot, Ontario Land Surveyor, traveler, outdoorsman and village elder who skied and snowmobiled in his spare time.

Jack is survived by his wife of 54 years, Jacquie Hatkoski, brother Jim Hatkoski, son Richard (and Judy) Hatkoski, daughter Janice (and Paul) Fulton. The pride of his life was his granddaughters Taylor Hatkoski, Dana Fulton and Sophia Hatkoski.

A Celebration of Life will be held at Stewart Memorial Church, Dwight, on June 17th at 12:00 p.m. with a lunch reception to follow at the Dwight Senior's Centre. All are welcome to attend his celebration and we encourage everyone to perhaps pass on a few of Jack's more famous quotes, sayings or personal stories. He was never shy to share his opinion.

James Sneath, OLS# 927
April 11, 1928 – December 17, 2016

Born April 11, 1928 - died December 17, 2016 at Midland Ontario where he could view Georgian Bay every day. He and Ruth Cain were married Sept 6, 1952 and settled in Bolton where their two sons. Owen and Doug attended public school.

James attended public school from a farm north east of Toronto during the Depression years. Along with his brother and mother they moved into Toronto where he continued at Palmerston Avenue School and Harbord Collegiate.

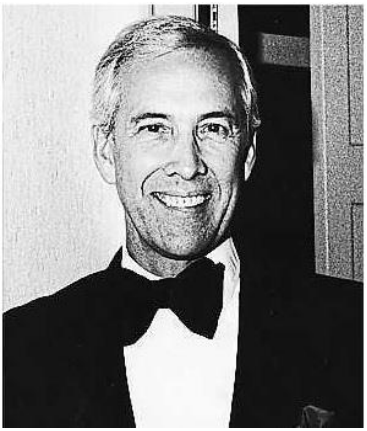
He joined Scouting and was a leader over several years. About 1950, he apprenticed to Ed Cavell as part of Browne & Cavell surveyors. Following marriage he gained certification as an Ontario Land Surveyor on October 17, 1956. He carried on a private practice close to 20 years when he retired. Occasionally he continued working on corrosion surveys. One from the Manitoba/Ontario border eastward to North Bay as well as shorter assignments in Quebec and southern Ontario.

While living at Bolton, he was President of the Bolton Rotary Club and had become a member of True Blue Masonic Lodge at Bolton and was Master of the Lodge in 1970. In October of 2016 he was awarded a 60 year pin from True Blue. During residence at Bolton he was Steward at the United Church and Trustee on the School Board.

In 1975, with his wife Ruth they sailed to Bahamas living on the boat 10 months. Other visits were made to Norway, Denmark, Australia, New Zealand and several times to Great Britain and extensive tours around United States and into Mexico.

Submitted by Ruth Sneath

George Thomas Yates, OLS# 778
June 23, 1929 – January 23, 2017



George decided to check into heaven in the early morning hours of January 23, 2017. He leaves his beloved wife of 62 years, Catherine (Cossitt) Yates. He was loved, adored and admired by his four children, Mary, Peggy, Patricia and Michael and his six grandchildren of whom he was immensely proud: Jamie, Danielle, Kathleen, Gabrielle, Matthew and Andrew. He is remembered with much affection by his children's spouses/partners, Jamie Campbell, Duff Sprague, Mike Adams and Lynn Fontaine.

George was born at 943 Greenwood Avenue in East York, to Raymond Yates and Pearle (Graham) Yates, the third of six siblings. He was predeceased by his brothers Graham and Gordon, his sister Norma (Iley) and his brother-in-law, Gus Cossitt. His brother Don and sister, Mary and his sisters-in-law, Mary Cossitt, Térèse Cossitt and Dorothy Cossitt remember him with love.

George attended R. H. McGregor Elementary School. He was a graduate of East York Collegiate Institute and according to his Grade 13 yearbook "loved to stump Miss Finch with words from the French dictionary". His childhood was defined by the Great Depression, World War II and summers spent at the Yates "compound" at Port Union, at time when sunscreen was unheard of, resulting in George's inevitable and enviable tan. Following graduation, George decided to become a Land Surveyor and was commissioned in 1951.

While working for CN Rail, he was sent to Newfoundland to survey the railway. It was there he met 18 year-old Catherine Cossitt at a dance in Corner Brook while she was home from university for the summer. When Catherine is asked what attracted her to George, she is always quick to reply, "He was gorgeous and he was the only one there taller than me".

George enjoyed a long and distinguished career as an Ontario Land Surveyor. He was a partner with his brother Don at Yates & Yates Ontario Land Surveyors and PhotoMap Air Surveys. George, while modest, accomplished much; Trustee and Chair of two school boards in the 1960s, Chair of the Unionville Home Society Foundation and appointment to the Canadian Board of Examiners for Professional Surveyors (CBEPS).

When George retired in 1997, he started his second career providing back up emergency child care for his grandchildren, a task he handled with massive amounts of both love and patience.

George was a born and bred Torontonian. That, combined with his long career as an OLS meant that he knew every street from Lake Ontario to Lake Simcoe. He couldn't go anywhere without running into someone he went to school with, did a survey for, or was related to.

He was a longtime member of the Albany Club and the Fitness Institute. He was actively involved in politics and was a dedicated Progressive Conservative (of the Red Tory variety) which led to many lively discussions with his some of his more left-leaning children and grandchildren. George was a devoted Catholic and a longtime parishioner of The Church of the Good Shepherd at Thornhill.

George loved Ray Charles and Oscar Peterson, beautiful clothes, red wine, Starbucks coffee, corned beef from the Centre Street Deli, extra old cheddar cheese, the Globe and Mail, the Toronto Blue Jays (and much to his chagrin) the Toronto Maple Leafs.

He was a natural athlete, and continued his daily runs well into his late 70s. He taught all of his kids, at a very young age, to both swim and play poker (which worked out pretty well) and tried desperately to teach those same kids math (which didn't work out so well). He was a stone-skipper extraordinaire. You could put him anywhere in the world and he could tell you where Due North was. George was the definition of a decent man, generous, fair, honest and courteous. He was both gracious and graceful and always, always looked like a million bucks.

Max Berman, OLS# 907
February 17, 1926 – January 28, 2017

Max Berman was born in Kingston, ON on February 17, 1926, to parents Jacob and Dora who had emigrated from Romania several years earlier. He has one elder brother and sister, and one younger brother.

Max did very well in school and went on to study engineering at Queen’s University. However, after completing one year of university and at just 17 years old, he decided to join the military. With his parents’ permission he entered basic training and was then sent overseas to London to work in an administrative role.

In 1946, he returned to Canada and took vocational training in Brockville, after which he returned to Queen's for another year. After the death of his mother in 1948, hedecided to follow his sibling and father to Toronto where he acquired a surveying job with the Department of Highways.

I met Max in 1950 and we were married in December a year later. At the time he was working in a survey party which took him to areas east and north of Toronto, which included surveying for the new 401 highway. He also worked in areas near Windsor and many other areas in the east and closer to Toronto. Max was sent to the Kingston office and was there from 1953-1955, surveying for roads north of Kingston.

During that time, Max decided that he wanted to study for his OLS and was sent back to the Downsview office, where he could complete his studies. In 1956 he became an OLS and was made a party chief assuming responsibility for a survey party. His son Stephen was born that same year and his daughter in December of 1957. We had moved to Brampton that year and Max continued working out of the Downsview office, still involved with the survey of properties that would become the new 401 highway as well as other areas.

Max was transferred to the Kingston office in 1960 as the Sr. Inspector of Surveys. He had to spend some time in the field overseeing projects that were underway. In 1964 a job became available in the Department of Lands and Forests at Queen's Park in Toronto and was the successful candidate for the job. We then decided to relocate to Willowdale where Max commuted downtown to an office in the Parliament Buildings. Max was working under Robert Code who was responsible for all the surveying in that department. His days were usually spent in the office overseeing their projects.

Max was very fortunate to retire near the end of 1981 on a full pension, as he was able to buy back three years of his war service. After he retired we spent some time at our condo in Florida, which we sold in 1984 and then moved to our country home in Ennismore near Peterborough. Max was an avid work-out guy and he was at the YMCA usually 4 mornings a week at 6:00 a.m. and home in time for lunch. He stayed healthy and we loved all the years there and the pleasure of having four older grandchildren with us regularly.

In 2005, we realized that the property was too much so we sold and moved into a condo in Peterborough. We enjoyed several wonderful years but in 2015 he started having issues with his memory and balance. Max then went into Long Term care at Fairhaven in May 2016 as I could no longer care for his need, but I was still able to be with him every day. In the later months he was no longer able to walk and remained in a wheelchair. He was still doing quite well until the end of January, however his health took a turn and he passed away Saturday, January 28th 2017. We had 65 wonderful years of marriage, which I am grateful for.

The years that Max spent in the government were really good ones for him. He really enjoyed the work that he did and the relationships he made with his colleagues. He respected them, and they likewise. Max was honest and forthright and could always be trusted. Although his short term memory disappeared, his long term was quite good and he would have been able to recite all the names of the people that were in his working career. If I could've been able to do that it would have been the 'icing on the cake'. Reaching almost 91, Max enjoyed a long and happy life, and I feel privileged to have been able to recount parts of it.

Submitted by Dolores Berman

2016 ANNUAL REPORT
– Active Membership –
(as of March 1, 2017)
Branches: Cadastral, Geodetic, Geographic Information, Hydrographic, Photogrammetry

1926	ABDELSHAHID, Aziz Branch: C// OLS, OLIP 2010-Jan-18	1434	ANNABLE, Drew Branch: C// OLS, OLIP 1977-Jun-24
1802	ADAMS, Kim C. Branch: C// OLS, OLIP 1997-Feb-19	1543	ANSELL, Eric L. Branch: C// OLS, OLIP 1982-Dec-06
1961	AFZALZADA, Haron Branch: C// OLS, OLIP 2013-Jul-22	1869	AREGERS, Craig G. Branch: C// OLS, OLIP 2002-Jul-19
1995	AHLUWALIA, Sabir Branch: C// OLS,OLIP 2016-Jan-27	1509	ASHWORTH, Duncan Branch: C// OLS, OLIP 1980-Dec-05
1901	AKEHURST, William Branch: C// OLS, OLIP 2007-Aug-09	2009	ASSAIE-ARDAKANY, Farrokh Branch: C// OLS, OLIP 2017-Feb-22
1831	AKSAN, Anna M. Branch: C// OLS, OLIP 1999-Jul-21	1650	ASTRI, Dino R.S. Branch: C// OLS, OLIP 1988-Dec-19
1591	ALDWORTH, Geoffrey G. Branch: C// OLS, OLIP 1986-Jun-18	1860	AUBREY, Peter N. Branch: C// OLS, OLIP 2001-Sep-12
1753	ALTON, J. Mark Branch: C// OLS, OLIP 1994-Jan-11	1501	AUER, Gerhard Branch: C// OLS, OLIP 1980-Jul-09
1976	AMIRNEZHAD, Bahram Branch: C// OLS, OLIP 2015-Jan-14	1525	AVIS, Roger Branch: C// OLS, OLIP, CLS, M.I.A.S. 1982-Jan-25

CR206 BAILA, Mircea
Branch: I//
OLS, OLIP
2013-Feb-28

1551 BAKER, Bruce
Branch: C//
OLS, OLIP
1983-Dec-21

1592 BALABAN, Steven J.
Branch: C//
OLS, OLIP
1986-Jun-18

1763 BARRETTE, André P.
Branch: C//
OLS, OLIP
1994-Aug-02

1941 BATCHVAROVA, Tania Nenova
Branch: C//
OLS, OLIP
2011-Feb-24

1913 BAYA, Martin
Branch: C//
OLS, OLIP
2008-Sep-03

1888 BEDARD, Mark
Branch: C//
OLS, OLIP, P.Eng.
2005-Jan-21

1771 BEERKENS, John M.
Branch: C//
OLS, OLIP
1995-Jan-21

1853 BELLO, Oladele S.
Branch: C//
OLS, OLIP
2001-Jan-31

1800 BENEDICT, Paul J.
Branch: C//
OLS, OLIP
1996-Dec-11

1375 BENEDICT, Ralph J.
Branch: C//
OLS, OLIP
1974-Jun-14

1614 BENNETT, R. Grant
Branch: C//
OLS, OLIP
1987-Jun-17

1836 BERESNIEWICZ, Chris
Branch: C//
OLS, OLIP
2000-Jan-26

1737 BERG, Ronald E.
Branch: C//
OLS, OLIP
1993-Jan-21

1754 BHATTI, Wikar A.
Branch: C//
OLS, OLIP
1994-Jan-11

1885 BIANCHI, David
Branch: C//
OLS, OLIP
2004-Sep-08

1606 BIASON, Lawrence J.
Branch: C//
OLS, OLIP
1986-Jun-18

1593 BISHOP, Gregory C.P.
Branch: C//
OLS, OLIP, P. Eng.
1986-Jun-18

1702 BLACK, David A.
Branch: C//
OLS, OLIP
1991-Aug-14

1104 BLACKBURN, P. Ardon
Branch: C//
OLS, OLIP
1962-May-14

1738 BODE, Ralph T.
Branch: C//
OLS, OLIP
1993-Jan-16

1580 BOEHME, Kerry
Branch: C//
OLS, OLIP
1985-Dec-18

1967 BOGDANOV, Yuriy
Branch: C//
OLS, OLIP
2014-Jan-22

1651 BOGUE, Colin B.
Branch: C//
OLS, OLIP, P.Eng.
1988-Dec-19

1689 BORTOLUSSI, Adrian
Branch: C//
OLS, OLIP
1991-Jan-29

1861 BOUNSALL, Andrew T.
Branch: C//
OLS, OLIP
2001-Sep-12

1565 BOWERS, Francis N.
Branch: C//
OLS, OLIP, P. Eng.
1984-Dec-20

CR67 BOWLBY, Ewart D.
Branch: G//
OLS, OLIP
1991-Jan-29

1530 BOWYER, Edward W.
Branch: C//
OLS, OLIP
1982-Jun-04

1402 BOYD, John G.
Branch: C//
OLS, OLIP
1975-May-16

1760 BRACKEN, George N.
Branch: C//
OLS, OLIP
1994-Jan-14

1917 BRIDGES, Ron
Branch: C//
OLS, OLIP
2009-Jan-15

1620 BROWN, Donald H.
Branch: C//
OLS, OLIP
1987-Dec-14

1971 BROXHAM, Andrew James
Branch: C//
OLS, OLIP
2014-Feb-27

994 BRUBACHER, Wayne D.
Branch: C/I/
OLS, OLIP
1959-Jan-14

CR141 BRUBACHER, David M.
Branch: I//
OLS, OLIP
2002-Feb-21

1295 BUCK, William D.
Branch: C//
OLS, OLIP, CLS, P. Eng.
1971-Dec-17

CR157 BUCKLE, Alan D.
Branch: I//
OLS, OLIP
2002-Jun-27

1768 BUISMAN, Jeffrey E.
Branch: C//
OLS, OLIP
1995-Jan-11

1947 BUNKER, Chris
Branch: C//
OLS, OLIP, CLS, P. Eng., CA
2011-Oct-06

1701 BURCHAT, Martha L.
Branch: C//
OLS, OLIP
1991-Aug-14

CR142 CADEAU, Francis M.
Branch: I//
OLS, OLIP
2002-Feb-21

1982 CALONIA, Gualberto C.
Branch: C//
OLS, OLIP
2015-Jul-10

1810 CAMPBELL, Kenton H.
Branch: C//
OLS, OLIP
1997-Aug-13

1747 CAMPBELL, Brian R.
Branch: C//
OLS, OLIP
1993-Aug-11

1269 CARD, William H.
Branch: C//
OLS, OLIP
1971-May-26

1654 CHAMBERS, Donald G.
Branch: C//
OLS, OLIP
1989-Jun-19

CR159 CHAPMAN, Michael A.
Branch: I//
OLS, OLIP, P. Eng., Ph.D.
2002-Jun-27

1811 CHAPPLE, Brooke D.
Branch: C//
OLS, OLIP
1997-Aug-13

1962 CHERIAN, Boney
Branch: C//
OLS, OLIP
2013-Jul-22

1886 CHITTY, Phil W.
Branch: C//
OLS, OLIP
2004-Sep-08

1338 CLANCY, Ronald W.
Branch: C//
OLS, OLIP
1973-Aug-17

1690 CLARK, W. Bruce
Branch: C//
OLS, OLIP
1991-Jan-29

1201 CLARKE, Ross A.
Branch: C//
OLS, OLIP, PLS, P. Mgr.
1966-Oct-04

1567 CLARKE, Barry J.
Branch: C//
OLS, OLIP
1984-Dec-20

912 CLARKE, Alvin J.
Branch: C//
OLS, OLIP
1956-Aug-15

1254 CLIPSHAM, Robert E.
Branch: C//
OLS, OLIP
1970-May-12

1781 COAD, Brian A.
Branch: C//
OLS, OLIP
1995-Jul-20

1542 COLE, J. Anne
Branch: C//
OLS, OLIP, CLS
1982-Dec-06

1641 COLLETT, Brent W.
Branch: C//
OLS, OLIP
1988-Jun-07

1803 COMERY, David A.
Branch: C//
OLS, OLIP
1997-Feb-19

1511 CONSOLI, Guido V.
Branch: C//
OLS, OLIP, CLS
1980-Dec-05

1788 COONS, Scott E.
Branch: C//
OLS, OLIP
1996-Jan-23

1987 CÔTÉ, Sophie-Rose
Branch: C//
OLS, OLIP
2015-Jul-20

1837 COUTTS, Hugh S.
Branch: C//
OLS, OLIP
2000-Jan-26

1805 CRANCH, Crystal R.
Branch: C//
OLS, OLIP
1997-May-13

1977	CROCKER, J. Paul Branch: C// OLS, OLIP 2015-Jan-15	1838	DE LUCA, Fernando G. Branch: C// OLS, OLIP 2000-Jan-26
1527	CULBERT, Douglas A. Branch: C// OLS, OLIP 1982-Jan-25	1458	DE RIJCKE, Izaak Branch: C// OLS, OLIP, LL.B. 1978-Jul-19
1928	CUMMINGS, Dwayne Branch: C// OLS, OLIP 2010-Jan-18	1789	DE ROSA, Pier L. Branch: C// OLS, OLIP 1996-Feb-22
1892	CURRIE, Lise Roxanne Branch: C// OLS, OLIP 2006-Aug-14	1655	DEL BOSCO, Terry W. Branch: C// OLS, OLIP 1989-Jun-19
CR132	CZAJKA, Stephen D. Branch: I// OLS, OLIP 2001-Sep-12	1876	DELLA MORA, Rick Branch: C// OLS, OLIP 2003-Aug-13
1714	D'AMICO, John M.J. Branch: C// OLS, OLIP 1992-Jan-29	1630	DELORME, Line G. Branch: C// OLS, OLIP 1988-Jun-07
1939	DAVIDSON, Steven Palmer Branch: C// OLS, OLIP 2011-Jan-21	1878	DENBROEDER, Ross B. Branch: C// OLS, OLIP 2003-Sep-10
CR196	DAVIS, Kelly P. Branch: I// OLS, OLIP 2003-Feb-20	1692	DENIS, Ronald A. Branch: C// OLS, OLIP, CLS 1991-Jan-29
1748	DAY, Nigel A.P. Branch: C// OLS, OLIP 1993-Aug-26	1863	DI COSMO, Matthew Branch: C// OLS, OLIP 2002-Feb-21
1739	DE HAAN, Peter Branch: C// OLS, OLIP 1993-Jan-16	1568	DIETZ, Terry P. Branch: C// OLS, OLIP 1984-Dec-20
1983	DE JAGER, Matthew Branch: C// OLS, OLIP 2015-Jul-10	1521	DOLLIVER, Dan Branch: C// OLS, OLIP 1981-Dec-02

1921 DOMAGALSKI, Adam
Branch: C//
OLS, OLIP
2009-Jul-22

1661 DORE, Ronald
Branch: C//
OLS, OLIP
1989-Nov-06

2006 DORLAND, James D.
Branch: C//
OLS, OLIP
2017-Jan-31

1400 DORLAND, David S.
Branch: C//
OLS, OLIP
1975-May-09

1854 DOSEN, Vladimir
Branch: C//
OLS, OLIP
2001-Jan-31

1491 DUTRISAC, Denis
Branch: C//
OLS, OLIP
1979-Aug-15

1716 DZALDOV, Ophir N.
Branch: C//
OLS, OLIP
1992-Jan-29

1852 DZALDOV, Dan
Branch: C//
OLS, OLIP
2001-Jan-16

1538 EDWARD, Paul C.
Branch: C//
OLS, OLIP
1982-Dec-06

1990 EL-CHANTI, Oussama
Branch: C//
OLS, OLIP
2016-Jan-18

CR113 EMODE, Richard E.O.
Branch: G//
OLS, OLIP, P. Eng., FEC
1993-Feb-11

1554 ENGLAND, Brent J.
Branch: C//
OLS, OLIP
1983-Dec-21

1764 EPLETT, Dale F.
Branch: C//
OLS, OLIP, P.Eng.
1994-Aug-17

1782 ERTL, Lawrence O.
Branch: C//
OLS, OLIP
1995-Jul-31

1812 EVEN, James
Branch: C//
OLS, OLIP
1997-Aug-13

1975 FATHI, Seyed Abdolmajid
Branch: C//
OLS, OLIP
2014-Jul-24

1937 FEE, Jeff John
Branch: C//
OLS, OLIP
2011-Jan-12

1932 FEREN, Peter Raymond
Branch: C//
OLS, OLIP
2010-Sep-08

1615 FERGUSON, Kerry D.
Branch: C//
OLS, OLIP
1987-Jun-17

CR64 FERGUSON, James E.
Branch: G//
OLS, OLIP
1990-Nov-06

1616 FERIZOVIC, Ken
Branch: C//
OLS, OLIP
1987-Jun-17

1957 FIDDES, Zachary
Branch: C//
OLS, OLIP
2013-Jan-14

1575 FINNIE, Roderick
Branch: C//
OLS, OLIP
1985-Jun-10

1934 FISHER, Michael John
Branch: C//
OLS, P.Eng.
2010-Sep-08

1828 FLEGUEL, Robin L.
Branch: C//
OLS, OLIP
1999-Feb-03

1992 FLETCHER, Guy Alexander
Branch: C//
OLS, OLIP
2016-Jan-20

1555 FLIGG, Robert A.
Branch: C//
OLS, OLIP, CLS
1983-Dec-21

1974 FORD, Greg
Branch: C//
OLS, OLIP
1983-Dec-21

1882 FOURNIER, Marc G.
Branch: C//
OLS, OLIP
2004-Jan-09

1988 FOX, Christopher
Branch: C//
OLS, OLIP
2015-Aug-19

CR21 FRANCIS, Paul M.
Branch: P//I
OLS, OLIP
1990-Jan-23

1676 FULTON, Robert J.
Branch: C//
OLS, OLIP
1990-Jul-10

1138 GACSER, Ernest
Branch: C//
OLS, OLIP
1963-May-28

1644 GALATI, Pasquale
Branch: C//
OLS, OLIP
1985-Jun-10

1636 GALEJS, John
Branch: C//
OLS, OLIP
1988-Jun-07

1727 GARDEN, Edward R.
Branch: C//
OLS, OLIP
1992-Aug-04

CR95 GARIEPY, David H.
Branch: P//
OLS, OLIP, P.Eng.
1991-Nov-19

1762 GAUTHIER, Richard R.
Branch: C//
OLS, OLIP
1994-Jun-15

2003 GAUTHIER, John
Branch: C//
OLS, OLIP
2017-Jan-30

1808 GELBLOOM, Jaime
Branch: C//
OLS, OLIP, CLS
1997-Jun-17

1718 GEYER, Rodney H.
Branch: C//
OLS, OLIP
1992-Jan-29

1984 GHOFRANI, Mansour
Branch: C//
OLS, OLIP
2015-Jul-20

1952 GHOLAMI, Ali
Branch: C//
OLS, OLIP
2012-Jul-19

1819 GIBSON, Laura E.
Branch: C//
OLS, OLIP
1998-Jan-27

1625 GIFFORD, Steven J.
Branch: C//
OLS, OLIP
1987-Dec-14

1791 GILMORE, Mark V.
Branch: C//
OLS, OLIP
1996-Feb-22

CR96	GOADSBY, J. Morgan Branch: G// OLS, OLIP 1991-Nov-19	1945	GREEN, David Branch: G// OLS, OLIP 2011-Apr-07
1813	GOEBELLE, Hugh B. Branch: C// OLS, OLIP, CLS 1997-Aug-13	CR120	GREENFIELD, Kirsten M. Branch: I// OLS, OLIP, CLS 2000-Jul-19
1814	GOLDMAN, Barry D. Branch: C// OLS, OLIP 1997-Aug-13	1868	GRIFFITHS, Michael A. Branch: C// OLS, OLIP 2002-Jul-18
1998	GOLINSKI, Waldemar Branch: C// OLS, OLIP 2016-Dec-02	1999	GROSE, Roger Branch: C// OLS, OLIP 2017-Jan-25
1185	GOLTZ, John F. Branch: C// OLS, OLIP 1965-Dec-13	1824	GROZELLE, Nancy J. Branch: C// OLS, OLIP 1998-Aug-12
1942	GONDO, Thomas Branch: C// OLS, OLIP 2011-Feb-24	1465	GUTRI, John H. Branch: C// OLS, OLIP 1978-Oct-30
1663	GOODRIDGE, Paul G. Branch: C// OLS, OLIP 1990-Jan-23	2001	HAINES, Michael Branch: C// OLS, OLIP 2017-Jan-26
1839	GORMAN, Michael J. Branch: C// OLS, OLIP 2000-Jan-26	1556	HALLIDAY, Robert D. Branch: C// OLS, OLIP, CLS 1984-Jul-04
1430	GOSSLING, Steven J. Branch: C// OLS, OLIP 1977-Feb-02	CR134	HAM, Jeffrey J. Branch: I// OLS, OLIP, CET 2001-Sep-12
1288	GRAHAM, Derek G. Branch: C// OLS, OLIP 1971-Nov-22	2002	HANNA, Maryna Branch: C// OLS, OLIP 2017-Jan-30
1183	GRANDER, Helmut F. Branch: C// OLS, OLIP 1965-Dec-13	1713	HARAMIS, Patrick J. Branch: C// OLS, OLIP 1991-Aug-22
1759	GRANDER, Ralph F. Branch: C// OLS, OLIP 1994-Jan-13	1693	HARPER, William A. Branch: C// OLS, OLIP, CLS 1991-Jan-29

1532 HARRIS, Robert K.
Branch: C//
OLS, OLIP, CLS (St Lucia)
1982-Jun-04

1786 HARRIS-HERR, Nancy L.
Branch: C//
OLS, OLIP
1995-Oct-14

1528 HARTLEY, Timothy D.
Branch: C//
OLS, OLIP
1982-Jan-25

1705 HARTWICK, Gregory J.
Branch: C//
OLS, OLIP, CLS
1991-Aug-14

1847 HARTWICK, Travis G.
Branch: C//
OLS, OLIP
2000-Jul-19

1406 HAWKINS, Robert C.
Branch: C//
OLS, OLIP
1975-Jun-17

1761 HAWLEY, David J.
Branch: C//
OLS, OLIP
1994-Apr-13

1880 HAZEN, Jason P.E.
Branch: C//
OLS, OLIP
2004-Jan-08

CR135 HENRICKSON, David R
Branch: I//
OLS, OLIP
2001-Sep-12

1930 HERMAN, Zoltan
Branch: C//
OLS, OLIP
2010-Jan-18

1576 HERWEYER, Edward H.
Branch: C//
OLS, OLIP
1985-Jun-10

1899 HEWLETT, James A.
Branch: C//
OLS, OLIP
2007-Jan-15

1621 HEYWOOD, Allan J.
Branch: C//
OLS, OLIP
1987-Dec-14

1720 HICKSON, Gerald G.
Branch: C//
OLS, OLIP
1992-Jan-29

1596 HIGGINSON, Leslie M.
Branch: C//
OLS, OLIP
1986-Jun-18

1494 HILEY, John W.
Branch: C//
OLS, OLIP
1979-Dec-07

1634 HILLIS, Kerry F.
Branch: C//
OLS, OLIP
1988-Jun-07

1631 HIMMA, Mart H.
Branch: C//
OLS, OLIP
1988-Jun-07

1919 HODGSON, Shawn
Branch: C//
OLS, OLIP
2009-Jan-15

1533 HOFMANN, Phillip
Branch: C//
OLS, OLIP
1982-Jun-04

1617 HOGAN, J. Russell
Branch: C//
OLS, OLIP
1987-Jun-17

1750 HOMER, Peter J.
Branch: C//
OLS, OLIP
1993-Sep-24

1815 HOOK, Stephen D.
Branch: C//
OLS, OLIP
1997-Aug-13

1773 HOPPE, Thomas
Branch: C//
OLS, OLIP
1995-Jan-25

CR144 HORWOOD, David M.
Branch: I//
OLS, OLIP
2002-Feb-21

741 HOUGHTON, Donald I.
Branch: C//
OLS, OLIP
1950-Aug-29

1706 HOUGHTON, Ward I.
Branch: C//
OLS, OLIP
1991-Aug-14

1958 HU, Yahui
Branch: C//
OLS, OLIP
2013-Jan-14

1534 HUNT, Douglas E.
Branch: C//
OLS, OLIP
1982-Jun-04

1582 HUSTED, Kimberly S.
Branch: C//
OLS, OLIP
1985-Dec-18

1827 HYDE, Harold D.
Branch: C//
OLS, OLIP
1999-Feb-03

1832 IAVICOLI, Bruno
Branch: C//
OLS, OLIP
1999-Jul-21

1797 IMS, Theodor H.
Branch: C//
OLS, OLIP
1996-Aug-13

1573 IRWIN, Gary A.
Branch: C//
OLS, OLIP
1992-Aug-04

1728 IRWIN, Bruce C.
Branch: C//
OLS, OLIP
1992-Aug-04

1897 ISIP, Reynaldo Lagman
Branch: C//
OLS, OLIP
2007-Jan-11

1086 JACKSON, John E.
Branch: C//
OLS, OLIP
1961-Sep-20

1629 JACOBS, Bryan
Branch: C//
OLS, OLIP
1988-Jun-07

1425 JASON, Ronald M.
Branch: C//
OLS, OLIP, CLS, P.Eng.
1976-Jul-15

1927 JEFFRAY, Angela
Branch: C//
OLS, OLIP
2010-Feb-18

1550 JEMMETT, Douglas W.
Branch: C//
OLS, OLIP
1983-Jul-12

1648 JEMMETT, Shawn A.
Branch: C//
OLS, OLIP
1988-Dec-19

1574 JENKINS, Kevin G.
Branch: C//
OLS, OLIP
1985-Feb-19

1864 JERAJ, Alnashir
Branch: C//
OLS, OLIP
2002-Feb-21

1889 JOHNSON, James W.
Branch: C//
OLS, OLIP
2005-Jan-26

1571 JOHNSON, E. Bruce
Branch: C//
OLS, OLIP
1984-Dec-20

1688 JOHNSTON, Kerry S.
Branch: C//
OLS, OLIP
1991-Jan-15

1950 JONES, Tom Dixon
Branch: C//
OLS, OLIP
2012-Mar-26

1626 JORDAN, Robert J.
Branch: C//
OLS, OLIP
1987-Dec-14

1619 JORDENS, Douglas F.
Branch: C//
OLS, OLIP, SLS
1987-Jul-11

1955 KACZMAREK, Rafal P.
Branch: C//
OLS, OLIP
2013-Jan-10

1922 KALANTZAKOS, Harry
Branch: C//
OLS, OLIP
2009-Jul-22

1449 KARPIEL, Ronald S.
Branch: C//
OLS, OLIP, ALS
1978-Jun-05

1557 KASPRZAK, Adam
Branch: C//
OLS, OLIP
1984-Jul-04

1985 KASPRZAK, Simon A.
Branch: C//
OLS, OLIP
2015-Jul-20

1678 KEAT, John C.G.
Branch: C//
OLS, OLIP
1990-Jul-10

1883 KEATLEY, Gordon R.
Branch: C//
OLS, OLIP
2004-Jan-13

1442 KENNEDY, John H.
Branch: C//
OLS, OLIP, CLS
1977-Sep-27

1352 KERR, Brian W.
Branch: C//
OLS, OLIP
1973-Nov-22

1577 KETCHUM, Kenneth J.
Branch: C//
OLS, OLIP
1985-Jun-10

1609 KIDD, Paul
Branch: C//
OLS, OLIP
1986-Dec-15

1972 KING, Adam
Branch: C//
OLS, OLIP, BCLS
2014-Feb-27

1429 KIRKLAND, James E.
Branch: C//
OLS, OLIP, P.Eng.
1977-Feb

1639 KIRKUP, Roy S.
Branch: C//
OLS, OLIP
1988-Jun-07

1607 KLIAMAN, Cindy S.
Branch: C//
OLS, OLIP, CLS
1986-Jun-18

1649 KNISLEY, Martin W.
Branch: C//
OLS, OLIP
1988-Dec-19

1851 KOVACS, David A.
Branch: C//
OLS, OLIP
2000-Jul-22

1900 KRCMAR, Tomislav
Branch: C//
OLS, OLIP
2007-Jan-23

1774 KRCMAR, Maja
Branch: C//
OLS, OLIP
1995-Jan-25

1775 KRCMAR, Saša
Branch: C//
OLS, OLIP
1995-Jan-25

1370 KRCMAR, Vladimir
Branch: C//
OLS, OLIP
1974-Jan-22

1622 KREZE, Daniel
Branch: C//
OLS, OLIP
1987-Dec-14

1722 KRISTJANSON, Tom
Branch: C//
OLS, OLIP
1992-Jan-29

1865 KUBICKI, Borys D.
Branch: C//
OLS, OLIP
1977-Feb-02

1564 KUELLING, Laurence J.
Branch: C//
OLS, OLIP
1984-Sep-04

1848 KUJALA, Kevin P.
Branch: C//
OLS, OLIP
1986-Jun-18

1986 KUMAR, Vaitheki
Branch: C//
OLS, OLIP
2015-Jul-20

1956 LADINES, Jayson F
Branch: C//
OLS, OLIP
2013-Jan-10

1898 LAFRAMBOISE, Gabriel
Branch: C//
OLS, OLIP
2007-Jan-11

1951 LALE, Goran
Branch: C//
OLS, OLIP
2012-Jun-06

1729 LAMB, Peter B.
Branch: C//
OLS, OLIP
1992-Aug-04

1829 LAMONT, David A.
Branch: C//
OLS, OLIP
1999-Feb-03

1547 LANCASTER, Edward M.
Branch: C//
OLS, OLIP, CLS
1983-Feb-06

1918 LAPOINTE, Stéphane
Branch: C//
OLS, OLIP
2009-Jan-15

1798 LAROCQUE, Brent R.
Branch: C//
OLS, OLIP
1996-Aug-13

1914 LAU, Francis
Branch: C//
OLS, OLIP
2008-Aug-28

1953 LAU, Jansky Tak Choi
Branch: C//
OLS, OLIP
2012-Jul-19

1906 LAWRENCE, Gavin Eldred
Branch: C//
OLS, OLIP
2008-Jan-23

1792 LAWS, James M.
Branch: C//
OLS, OLIP
1996-Feb-22

1809 LEGAT, Jaro A.
Branch: C//
OLS, OLIP
1997-Jun-17

1367 LEGRIS, Murray J.
Branch: C//
OLS, OLIP
1974-Jan-04

1755 LEGROW, Neil A.
Branch: C//
OLS, OLIP
1994-Jan-11

1997 LEIPER, Rob Colin
Branch: C//
OLS, OLIP
2016-Jul-26

1940 LESLIE, Jamie William
Branch: C//
OLS, OLIP
2011-Jan-26

1694 LESLIE, Craig
Branch: C//
OLS, OLIP
1991-Jan-29

1989 LEVAC, Patrick
Branch: C//
OLS, OLIP
2016-Jan-18

CR205 LI, Amy Kwok Ying
Branch: I//
OLS, OLIP
2012-Feb-23

1830 LIN, Joseph
Branch: C//
OLS, OLIP
1999-Feb-03

1825 LINHARES, Eduardo J.
Branch: C//
OLS, OLIP
1998-Aug-12

1963 LISE, Arthur J.
Branch: C//
OLS, OLIP
1998-Aug-12

1664 LO, George C.M.
Branch: C//
OLS, OLIP
1990-Jan-23

1991 LOAI, Amar
Branch: C//
OLS, OLIP
2016-Jan-18

1679 LORD, Rodney D.
Branch: C//
OLS, OLIP
1990-Jul-10

1399 LORENTZ, Richard D.
Branch: C//
OLS, OLIP
1975-Jan-14

1642 LYNCH, Brian J.
Branch: C//
OLS, OLIP
1988-Jun-07

2007 MACDONALD, Gregory Michael
Branch: C//
OLS, OLIP
2017-Feb-07

1822 MACDONALD, Thomas G.
Branch: C//
OLS, OLIP
1998-Jul-22

1849 MACDONALD, Christopher A.
Branch: C//
OLS, OLIP
2000-Jul-19

1605 MACEK, Michael
Branch: C//
OLS, OLIP
1986-Jun-18

1656 MACGREGOR, Susan F.
Branch: C//
OLS, OLIP
1989-Jun-19

1246 MACMILLAN, Don J.
Branch: C//
OLS, OLIP
1969-Nov-17

1816 MAGEE, Bret G.
Branch: C//
OLS, OLIP
1997-Aug-13

CR99 MAILHOT-ARON, Ann-Marie
Branch: G//
OLS, OLIP
1991-Nov-19

1546 MAK, Rudy
Branch: C//
OLS, OLIP
1982-Dec-06

1785 MAK, Ronald M.
Branch: C//
OLS, OLIP
1995-Aug-15

1549 MALONEY, Brian J.
Branch: C//
OLS, OLIP
1983-Jul-12

1535 MANSFIELD, Peter J.
Branch: C//
OLS, OLIP, CLS
1982-Jun-04

2000 MANTHA, Alec Sloan
Branch: C//
OLS, OLIP
2017-Jan-30

1744 MANTHA, Andrew S.
Branch: C//
OLS, OLIP
1993-Jan-19

1924 MARES, Viorel
Branch: C//
OLS, OLIP
2009-Aug-11

1540 MARLATT, Michael E.
Branch: C//
OLS, OLIP, CLS
1982-Dec-06

1337 MARR, Douglas G.
Branch: C//
OLS, OLIP
1973-Aug-14

CR149 MARTIN, Blain W.
Branch: I//
OLS, OLIP, CLS, PMP
1978-Jul-05

1745 MARTIN, Robert C.
Branch: C//
OLS, OLIP
1993-Jan-13

1907 MARTON, Alexandru
Branch: C//
OLS, OLIP
2008-Jan-23

1339 MASCOE, William A.
Branch: C//
OLS, OLIP
1973-Sep-20

1740 MATTHEWS, Michael F.
Branch: C//
OLS, OLIP, CLS
1993-Jan-12

1881 MATTHEWS, Jeremy C.E.
Branch: C//
OLS, OLIP
2004-Jan-09

1884 MAUGHAN, David U.
Branch: C//
OLS, OLIP
2004-Jan-20

1548 MAURO, Frank
Branch: C//
OLS, OLIP
1983-Jul-12

1756 MAYO, Roy C.
Branch: C//
OLS, OLIP
1994-Jan-11

1966 MC RAE, Reuben
Branch: C//
OLS, OLIP
2014-Jan-22

1724 MCCONNELL, Robert
Branch: C//
OLS, OLIP
1992-Jan-29

1730 MCDERMOTT, Robert M.
Branch: C//
OLS, OLIP
1991-Aug-04

1751 MCGUIRE, Gordon D.
Branch: C//
OLS, OLIP
1993-Sep-23

1583 MCKAY, Scott A.
Branch: C//
OLS, OLIP, CLS
1985-Dec-18

1949 MCKECHNIE, Michael
Branch: C//
OLS, OLIP
2012-Feb-23

1708 MCKIBBON, Robert W.
Branch: C//
OLS, OLIP
1991-Aug-14

1709 MCLAREN, Daniel S.
Branch: C//
OLS, OLIP, P.Eng.
1991-Aug-14

1741 MCLEOD, Daniel J.
Branch: C//
OLS, OLIP
1993-Jan-21

1874 MCMORRAN, Douglas Scott
Branch: C//
OLS, OLIP
2003-Feb-20

1558 MCNABB, Marvin D.
Branch: C//
OLS, OLIP
1984-Jul-04

1840 MCNEIL, Trevor D.A.
Branch: C//
OLS, OLIP
2000-Jan-26

1780 MELDRUM SMITH, Julia M.
Branch: C//
OLS, OLIP, CLS
1995-Jul-19

1903 MERRLLES, John
Branch: C//
OLS, OLIP
2007-Sep-07

1559 MERRY, William I.
Branch: C//
OLS, OLIP
1984-Jul-04

1585 MILLER, Richard D.
Branch: C//
OLS, OLIP
1985-Dec-18

1512 MILLER, Paul A.
Branch: C//
OLS, OLIP, CLS
1980-Dec-05

1855 MILNE, Neil C.
Branch: C//
OLS, OLIP
2001-Jan-31

1806 MIRET, Dario A.
Branch: C//
OLS, OLIP
1997-May-13

1923 MIRZAKHANLOU, Manouchehr
Branch: C//
OLS, OLIP
2009-Jul-22

1946 MITREV, Simeon E.
Branch: C//
OLS, OLIP
2011-Jul-29

1980 MO, Jason Chun-Ho
Branch: C//
OLS, OLIP
2015-Jan-29

1681 MOLLOY, Perry A.
Branch: C//
OLS, OLIP
2015-Jan-29

1053 MONTEITH, John D.
Branch: C//
OLS, OLIP
1960-May-13

1623 MOORE, William J.
Branch: C//
OLS, OLIP
1987-Dec-14

1317 MORETON, Peter G.
Branch: C//
OLS, OLIP
1972-Dec-19

1746 MOUNTJOY, Robert G.
Branch: C//
OLS, OLIP
1993-Jan-12

1467 MOUNTJOY, Maureen V.
Branch: C//
OLS, OLIP, P.Eng.
1978-Dec-14

1779 MUIR, John W.
Branch: C//
OLS, OLIP, CLS
1995-Jul-24

CR136 MURDOCH, Robert M.
Branch: C//
OLS, OLIP
2001-Sep-12

1341 MURRAY, Richard W.
Branch: C//
OLS, OLIP
1973-Nov-08

1912 MUSCLOW, Chris
Branch: C//
OLS, OLIP
2008-Jul-25

1658 MWINYI, Omari B.S.
Branch: C//
OLS, OLIP
1989-Jun-19

1870 NANFARA, Joseph
Branch: C//
OLS, OLIP
2002-Oct-03

1871 NG, Foo Yip
Branch: C//
OLS, OLIP
2003-Jan-08

1959 NICOL, James Andrew
Branch: C//
OLS, OLIP
2013-Jan-14

1833 NICULAE, Roxana
Branch: C//
OLS, OLIP, CLS
1972-Dec-19

CR199 NIELSEN, Peter M.
Branch: G//
OLS, OLIP
2004-Jan-08

1682 NISBET, T. Martin
Branch: C//
OLS, OLIP, CLS
1990-Jul-10

1908 NISIOIU, Tudor
Branch: C//
OLS, OLIP
2008-Jan-23

1873 NOUWENS, Marcus J.T.
Branch: C//
OLS, OLIP , P.Eng.
2003-Jan-14

1867 O'CONNOR, Shawn M.
Branch: C//
OLS, OLIP
2002-Jul-16

1893 OSINSKI, Marek
Branch: c//
OLS, OLIP
2006-Aug-14

CR200 OSUCHOWSKA, Zofia
Branch: P//
OLS, OLIP
2004-Sep-08

1936 OYLER, Christopher John
Branch: C//
OLS, OLIP
2010-Sep-08

1572 PACKOWSKI, Thomas J.
Branch: C//
OLS, OLIP
1984-Dec-20

1834 PAGE, Dasha
Branch: C//
OLS, OLIP
1999-Jul-21

1909 PAPA, Valerio G.
Branch: C//
OLS, OLIP
2008-Jan-23

1721 PARKER, Bruce A.
Branch: C//
OLS, OLIP
1992-Jan-29

1410 PATTEN, Lynn H.
Branch: C//
OLS, OLIP
1975-Jul-11

1778 PAYETTE, Marc P.
Branch: C//
OLS, OLIP
1995-Apr-21

1670 PEARSON, Robert G.
Branch: C//
OLS, OLIP
1990-Jan-23

1680 PEARSON, Michéle M.
Branch: C//
OLS, OLIP
1990-Jul-10

1994 PERERA, Wickramage Sunil
Branch: C//
OLS, OLIP
2016-Jan-27

CR112 PERKINS, Stephen M.
Branch: P//
OLS, OLIP
1992-Aug-04

1776 PESCE, David
Branch: C//
OLS, OLIP
1995-Jan-25

1536 PETRICH, Fred
Branch: C//
OLS, OLIP
1982-Jun-04

1970 PETROVIC, Djordje
Branch: C//
OLS, OLIP
2014-Jan-22

1586 PETRICH, Fred
Branch: C//
OLS, OLIP
1985-Dec-18

1217 PILLER, Helmut
Branch: C//
OLS, OLIP
1968-May-22

CR171 PIRAINO, John P.
Branch: I//
OLS, OLIP, P.Eng.
2002-Jun-27

CR130 POOT, Robin W.L.
Branch: G//
OLS, OLIP
2001-Aug-10

1891 POPA, Dorin
Branch: C//
OLS, OLIP
2006-Jan-13

1973 POPA, Dacian Nicolae
Branch: C//
OLS, OLIP
2014-Jun-12

CR173 POWER, K. Michael
Branch: I//
OLS, OLIP
2002-Jun-27

1993 PU, Tony
Branch: C//
OLS, OLIP
2016-Jan-20

1683 PURCELL, Murray T.
Branch: C//
OLS, OLIP
1990-Jul-10

1965 QUERUBIN, Ron
Branch: C//
OLS, OLIP
2014-Jan-22

1637 QUESNEL, Paul M.
Branch: C//
OLS, OLIP
1988-Jun-07

1579 QUINLAN, Danny P.
Branch: C//
OLS, OLIP
1985-Jun-10

1841 RAIKES, Peter T.
Branch: C//
OLS, OLIP, CLS
2000-Jan-26

1684 RAITHBY, David J.
Branch: C//
OLS, OLIP
1990-Jul-10

2004 RAJAKULENDRAN, Shajieeshane
Branch: C//
OLS, OLIP
2017-Jan-31

1968 RAMACHANDRAN, Piratheepan
Branch: C//
OLS, OLIP
2014-Jan-22

1561 RAMSAMOOJ, Sase N.
Branch: C//
OLS, OLIP
1984-Jul-04

1943 RATHNAYAKE, Vineetha S.
Branch: C//
OLS, OLIP
2011-Feb-24

1731 RAY, Gordon A.
Branch: C//
OLS, OLIP
1992-Aug-04

1872 REED, Thomas R.
Branch: C//
OLS, OLIP
2003-Jan-09

1766 REID, Rodger J.
Branch: C/G/
OLS, OLIP, CLS, P.Eng.
1994-Dec-01

1495 REITSMA, Douglas P.
Branch: C//
OLS, OLIP
1979-Dec-07

1386 REYNOLDS, Rodney G.
Branch: C//
OLS, OLIP
1974-Jul-25

1915 RIZK, Ashraf
Branch: C//
OLS, OLIP
2008-Sep-03

1176 ROBERTS, Donald E.
Branch: C//
OLS, OLIP
1965-May-17

1931 ROBINSON, Daniel Bernard
Branch: C//
OLS, OLIP
2010-Aug-18

1472 ROBINSON, Ian D.
Branch: C//
OLS, OLIP
1979-Feb-07

1725 ROBINSON, Gregory G.
Branch: C//
OLS, OLIP
1992-Jan-29

1804 RODY, Eric
Branch: C//
OLS, OLIP
1997-Feb-19

1856 ROUSE, Tracy R.
Branch: C//
OLS, OLIP
2001-Jan-31

1910 ROY, André Roger
Branch: C//
OLS, OLIP
2008-Jan-23

1733 RUDNICKI, Les S.
Branch: C//
OLS, OLIP
1992-Aug-04

1541 RUEB, Erich
Branch: C//
OLS, OLIP
1982-Dec-06

1671 RUTTAN, Steven C.
Branch: C//
OLS, OLIP
1990-Jan-23

1875 SALB, Thomas J.
Branch: C//
OLS, OLIP
2003-Jul-15

1523 SALNA, Robert
Branch: C//
OLS, OLIP
1981-Dec-02

1894 SALZER, Eric G.
Branch: C//
OLS, OLIP
2006-Aug-14

1544 SAM-GUINDON, Kathryn
Branch: C//
OLS, OLIP, CLS
1982-Dec-06

CR12 SANI, Anthony P.
Branch: P/I/
OLS, OLIP, MRICS
1989-Nov-06

1842 SANKEY, Alister D.
Branch: C//
OLS, OLIP
2000-Jan-26

1895 SCOTT, John S.
Branch: C//
OLS, OLIP
2006-Aug-14

2008 SEAMAN, Gavin P.T.
Branch: C//
OLS, OLIP
2017-Feb-08

1978 SEGARAN, Nath Prashannath
Branch: C//
OLS, OLIP
2015-Jan-16

1920 SEGUIN, Ryan William
Branch: C//
OLS, OLIP
2009-Feb-19

1611 SENKUS, Tom A.
Branch: C//
OLS, OLIP
1986-Dec-15

1857 SHANMUGARAJAH, Tharmarajah
Branch: C//
OLS, OLIP
2001-Jan-31

1686 SHANTZ, Murray R.
Branch: C/I/
OLS, OLIP
1990-Jul-10

1633 SHEEHY, Paul J.
Branch: C//
OLS, OLIP, CLS
1988-Jun-07

1719 SHELP, Andrew V.
Branch: C//
OLS, OLIP
1992-Jan-29

1697 SHIPMAN, Jeffrey P.
Branch: C//
OLS, OLIP
1991-Jan-29

1904 SIBTHORP, Raymond James
Branch: C//
OLS, OLIP
2007-Sep-14

CR124 SILBURN, James L.
Branch: I//
OLS, OLIP
2000-Jul-19

1698 SIMONE, Roy A.
Branch: C//
OLS, OLIP, MIS
1991-Jan-29

1794 SIMPSON, Michael J.
Branch: C//
OLS, OLIP
1996-Feb-22

1518 SIMPSON, Walter J.
Branch: C//
OLS, OLIP, CLS
1981-May-08

1687 SINGH, Tirbhowan
Branch: C//
OLS, OLIP, P. Eng.
1990-Jul-10

1673 SINNIS, Spiro
Branch: C//
OLS, OLIP, CLS
1990-Jan-23

1699 SKURO, Peter M.
Branch: C//
OLS, OLIP
1991-Jan-29

1600 SMITH, Anthony G.
Branch: C//
OLS, OLIP
1986-Jun-18

1960	SMITH, Kevin R.D. Branch: C// OLS, OLIP 2013-Feb-28	1589	SUDA, Philip Branch: C// OLS, OLIP 1985-Dec-18
1448	SMITH, Andrew J. Branch: C// OLS, OLIP 1978-Jun-05	1969	SUNDAR, Ganesh Branch: C// OLS, OLIP 2014-Jan-22
CR125	SMITH, Ian D. Branch: I// OLS, OLIP 2000-Jul-19	1659	SUPPA, Pasquale Branch: C// OLS, OLIP 1989-Jun-19
1799	SPERLING, Ernest G. Branch: C// OLS, OLIP 1996-Aug-13	1435	SUTHERLAND, Norman Elliot Branch: C// OLS, OLIP, CLS, P. Eng. 1977-Jun-24
CR176	SPRINGATE, Mark C. Branch: I// OLS, OLIP 2002-Jun-27	1858	SUTHERLAND, Bloss J. Branch: C// OLS, OLIP 2001-Jan-31
1570	STANTON, Chester J. Branch: C// OLS, OLIP, CLS, MBA 1984-Dec-20	1879	SWIFT, Phillip S. Branch: C// OLS, OLIP, BCLS 2003-Oct-01
1850	STARCEVIC, Dario Branch: C// OLS, OLIP 2000-Jul-19	1862	TALBOT, Jeffrey P. Branch: C// OLS, OLIP 2001-Sep-12
1672	STAUSKAS, Tony Branch: C// OLS, OLIP 1990-Jan-23	1734	TAURINS, Normans V. Branch: C// OLS, OLIP 1992-Aug-04
1457	STEWART, Ronald J. Branch: C// OLS, OLIP, CLS 1978-Jul-05	1563	THALER, Robert C. Branch: C// OLS, OLIP 1984-Jul-04
1588	STIDWILL, Kirk L. Branch: C// OLS, OLIP, P. Eng. 1995-Jan-20	1795	THOM, Kevin S. Branch: C// OLS, OLIP 1996-Feb-22
1843	STOJANOVIC, Svetomir Branch: C// OLS, OLIP 2000-Jan-26	1844	THOMSEN, Paul R. Branch: C// OLS, OLIP 2000-Jan-26
1783	STRINGER, David B. Branch: C/G/I OLS, OLIP P.Eng. 1990-Jul-10	1635	TIEMAN, Andrea E. Branch: C// OLS, OLIP 1988-Jun-07

CR148 TIERNEY, Kevin M.
Branch: I//
OLS, OLIP
1988-Jun-07

1823 TING, Eric
Branch: C//
OLS, OLIP
1998-Aug-12

1911 TOMASZEWSKI, Henry
Branch: C//
OLS, OLIP
2008-Jan-23

1340 TORRANCE, Paul H.
Branch: C//
OLS, OLIP, CLS
1973-Nov-01

1938 TRUCHON, Mel
Branch: C//
OLS, OLIP
2011-Jan-17

1905 TULLOCH, Mark Kenneth
Branch: C//
OLS, OLIP
2008-Jan-15

1954 TULLOCH, David
Branch: C//
OLS, OLIP
2012-Aug-13

1348 TURPEL, Wayne D.
Branch: C//
OLS, OLIP
1973-Nov-20

1476 URSO, David S.
Branch: C//
OLS, OLIP, CLS
1979-Feb-20

1935 VAN DER VEEN, Blake Campbell
Branch: C//
OLS, OLIP
2010-Sep-08

1515 VAN LANKVELD, Ted
Branch: C//
OLS, OLIP
1980-Dec-05

1777 VANDERVEEN, Gary B.
Branch: C//
OLS, OLIP
1995-Jan-25

1757 VERDUN, Michael D.
Branch: C//
OLS, OLIP
1994-Jan-11

1817 VERHOEF, Henriette J.
Branch: C//
OLS, OLIP,CLS
1997-Aug-13

1396 VISSER, Raymond J.
Branch: C//
OLS, OLIP, CLS
1975-Jan-10

1417 VOLLEBEKK, Dan R.
Branch: C//
OLS, OLIP
1975-Oct-27

1929 WAHBA, Christopher
Branch: C//
OLS, OLIP
2010-Jan-18

1845 WAHBA, Youssef
Branch: C//
OLS, OLIP
2000-Jan-26

2005 WAHBA, Kevin
Branch: C//
OLS, OLIP
2017-Jan-31

1902 WALCZAK, Jacek
Branch: C//
OLS, OLIP
2007-Aug-23

1846 WALKER, Darren R.
Branch: C//
OLS, OLIP
2000-Jan-26

1334 WALKER, James E.
Branch: C//
OLS, OLIP, CLS
1973-Jul-30

1369 WALL, Francis Edward
Branch: C//
OLS, OLIP, CLS
1974-Jan-18

1056 WALLACE, Ivan B.
Branch: C//
OLS, OLIP
1960-May-20

1944	WANNACK, Robert John Branch: C// OLS, OLIP 2011-Feb-24	1675	WILLIAMS, Edward J. Branch: C// OLS, OLIP 1990-Jan-23
1660	WARREN, Brad K. Branch: C// OLS, OLIP 1989-Jun-19	1427	WILSON, Paul Branch: C// OLS, OLIP, P. Eng. 1976-Nov-11
1735	WATSON, Keith Branch: C// OLS, OLIP 1992-Aug-04	1612	WILTON, David Branch: C// OLS, OLIP 1986-Dec-15
CR152	WATT, David R. Branch: I// OLS, OLIP 2002-Jun-14	1645	WOOLLEY, Patrick J. Branch: C// OLS, OLIP 1986-Dec-15
1770	WEBSTER, Brian J. Branch: C// OLS, OLIP, CLS 1995-Jan-20	1613	WOROBEC, Alan J. Branch: C// OLS, OLIP 1986-Dec-15
1319	WEBSTER, William J. Branch: C// OLS, OLIP, FSPLS 1972-Dec-22	1820	WYLIE, David J. Branch: C// OLS, OLIP 1998-Jan-27
1887	WERRELL, Adam J. Branch: C// OLS, OLIP 2004-Sep-08	1866	YADOLLAHI, Seyed M. Branch: C// OLS, OLIP 2002-Jul-16
1696	WIEGENBRÖKER, Robert Branch: C// OLS, OLIP 1991-Jan-29	1916	YALDA, Bahram Branch: C// OLS, OLIP 2008-Sep-03
1877	WILBAND, Jason P. Branch: C// OLS, OLIP, P. Eng. 2003-Sep-10	1807	YEO, Michael W. Branch: C// OLS, OLIP 1997-May-13
1996	WILCOX, Luke G. Branch: C// OLS, OLIP 2016-Jul-26	1493	YOUNG, John F.G. Branch: C// OLS, OLIP 1979-Oct-16
1758	WILKINSON, Kenneth D. Branch: C// OLS, OLIP 1994-Jan-11	1821	YOUNG, Joseph R. Branch: C// OLS, OLIP 1998-Jan-27
1211	WILLIAMS, Peter J. Branch: C// OLS, OLIP 1967-Dec-18	1964	YUEN, John Ho-Ting Branch: C// OLS, OLIP 2013-Jul-22

1933	ZAHARIEVA, Yordanka Nikolova Branch: C// OLS, OLIP 2010-Sep-08	1925	ZENG, Zhiqiang Branch: C// OLS, OLIP 2009-Aug-11
1979	ZAPATA, Juan Diego Branch: C// OLS, OLIP 2015-Jan-19	1835	ZERVOS, George J.F. Branch: C// OLS, OLIP 1999-Jul-21

2016 ANNUAL REPORT
– Retired Membership –
(as of March 1, 2017)
Branches: Cadastral, Geodetic, Geographic Information, Hydrographic, Photogrammetry

1772	AGNIHOTRI, Anil Branch: C// OLS, OLIP (RET) 1995-Jan-25	873	BENINGER, William A. Branch: C// OLS, OLIP (RET) 1954-Oct-15
CR203	AMIN, Khairul Branch: I// OLS, OLIP (RET) 2011-Feb-24	1292	BENNETT, William E. Branch: C// OLS, OLIP (RET) 1971-Dec-17
1498	ARON, Douglas R. Branch: C// OLS, OLIP (RET) 1979-Dec-07	1502	BEZAIRE, Bernard J. Branch: C// OLS, OLIP (RET) 1980-Jul-09
CR197	BACON, John P. Branch: I// OLS, OLIP (RET) 2003-Mar-14	934	BISHOP, Curry H. Branch: C// OLS, OLIP (RET), P. Eng. 1957-Apr-30
CR17	BAIR, Ali J.M. Branch: G// OLS, OLIP (RET.) 1990-Jan-23	1594	BLAIS, Denis D. Branch: C// OLS, OLIP (RET) 1986-Jun-18
CR76	BARRON, David A. Branch: P/I/ OLS, OLIP (RET) 1991-Aug-14	CR184	BOILEAU, Murray A. Branch: I// OLS, OLIP (RET) 2002-Aug-15
CR83	BECK, Norman Branch: G// OLS, OLIP (RET) 1991-Nov-19	1440	BOWDEN, Graham W. Branch: C// OLS, OLIP (RET), P.Eng. 1977-Sep-27

1278 BOWMAN, W. James
Branch: C//
OLS, OLIP (RET)
1971-Jun-25

1274 BROOKE, Michael E.
Branch: C//
OLS, OLIP (RET)
1971-Jun-07

1553 BROUWERS, Bruce
Branch: C//
OLS, OLIP (RET)
1983-Dec-21

1237 BROUWERS, Harry A.
Branch: C//
OLS, OLIP (RET)
1969-Jun-19

1293 BROWN, Lynn E.
Branch: C//
OLS, OLIP (RET), P. Eng.
1971-Dec-17

1230 BRUCE, Douglas R.
Branch: C//
OLS, OLIP (RET)
1969-Feb-10

1552 BULL, Peter M.
Branch: C//
OLS, OLIP (RET)
1983-Dec-21

1323 BUNKER, Thomas A.
Branch: C//
OLS, OLIP (RET.) C.L.S.,
P. Eng., CA
1973-Jan-29

1034 BURTON, Ross I.
Branch: C//
OLS, OLIP (RET)
1959-Nov-25

1017 CALLON, Terrance O.
Branch: C//
OLS, OLIP (RET)
1959-Jul-06

1314 CAMERON, Andrew
Branch: C//
OLS, OLIP (RET), P. Eng.
1972-Nov-06

1652 CAMPBELL, Elizabeth A.
Branch: C//
OLS, OLIP (RET)
1988-Dec-19

1566 CARD, Steven J.
Branch: C//
OLS, OLIP (RET) CLS,
ALS, BCLS

CR109 CARNEGIE, J. Trevor
Branch: H//
OLS, OLIP (RET)
1992-Jan-01

1531 CHAU, Marvin M.
Branch: C//
OLS, OLIP (RET) MHKIS,
Accredited Mediator
1982-Jun-04

CR160 CHRISTOPHER, Desmond A.
Branch: I//
OLS, OLIP (RET.)
2002-Jun-27

1466 CHURCH, Paul L.
Branch: C//
OLS, OLIP (RET)
1978-Dec-11

1265 CHURCHMUCH, David N.
Branch: C//
OLS, OLIP (RET) CLS
1971-Feb-02

1387 CLANCY, Michael J.
Branch: C//
OLS, OLIP (RET)
1974-Jul-26

1443 CLARKE, Carlton H.
Branch: C//
OLS, OLIP (RET)
1978-Jan-18

902 COE, William R.
Branch: C//
OLS, OLIP (RET)
1955-Nov-28

1801 CORMIER, Dan J.
Branch: C//
OLS, OLIP (RET) CLS,
1984-Dec-20

1691 CORNETT, Sarah J.
Branch: C//
OLS, OLIP (RET)
1991-Jan-29

CR19 COSTELLO, Barry W.
Branch: I//
OLS, OLIP (RET)
1990-Jan-23

1413 COTTERILL, J. Stanley
Branch: C//
OLS, OLIP (RET)
1975-Oct-08

1608 COULAS, Timothy A.
Branch: C//
OLS, OLIP (RET)
1986-Dec-15

1703 COYNE, Paul A.
Branch: C//
OLS, OLIP (RET)
1991-Aug-14

CR161 CRANN, Wayne F.R.
Branch: I//
OLS, OLIP (RET)
2002-Jun-27

791 CREWE, Richard H.
Branch: C//
OLS, OLIP (RET)
1952-May-05

1704 CRONIER, Eric M.
Branch: C//
OLS, OLIP (RET)
LLS (Cayman Islands)
1991-Aug-14

1253 CULLEN, Donald J.
Branch: C//
OLS, OLIP (RET)
1970-May-12

1537 CZERWINSKI, Tom
Branch: C//
OLS, OLIP (RET)
1982-Dec-06

1628 CZERWINSKI, Stefan E.
Branch: C//
OLS, OLIP (RET) CLS,
1988-Jun-07

1304 DANIELS, William J.
Branch: C//
OLS, OLIP (RET)
1972-Jun-20

1306 DELPH, Frank B.
Branch: C//
OLS, OLIP (RET) CLS,
1972-Jun-30

823 DINSMORE, Ivan C.
Branch: C//
OLS, OLIP (RET)
1953-Jun-08

1478 DIXON, Richard C.
Branch: C//
OLS, OLIP (RET)
1979-Jun-27

1125 DONALDSON, Bruce A.
Branch: C//
OLS, OLIP (RET)
1962-Nov-17

1222 DOTTERILL, Christopher E.
Branch: C//
OLS, OLIP (RET)
1968-Jul-11

1309 DOUGLAS, Robert G.
Branch: C//
OLS, OLIP (RET)
1972-Jul-11

1726 DUNLOP, R. Dean
Branch: C//
OLS, OLIP (RET)
1992-Aug-04

1115 EMO, Ronald J.
Branch: C//
OLS, OLIP (RET)
1962-Jul-04

1408 ENDLEMAN, Thomas H.
Branch: C//
OLS, OLIP (RET) CLS,
1975-Jul-11

CR35 ERICKSON, Caroline A.
Branch: G//
OLS (RET), CLS, P. Eng.
1990-Feb-19

1424 FENCOTT, Robert J.
Branch: C//
OLS, OLIP (RET), P. Eng.
1976-Jul-15

1059 FENTON, William M.
Branch: C//
OLS, OLIP (RET)
1960-Aug-26

1790 FLIM, Allard V.
Branch: C//
OLS, OLIP (RET.), ALS
1996-Feb-22

1436 FORCE, Robert T.
Branch: C//
OLS, OLIP (RET)
1977-Jun-24

1311 FORTH, Paul F.
Branch: C//
OLS, OLIP (RET)
1972-Jul-24

CR77 FRANEY, Michael T.
Branch: P//
OLS, OLIP (RET)
1991-Aug-14

1359 FULFORD, Bruce F.
Branch: C//
OLS, OLIP (RET)
1973-Dec-27

917 GARDEN, Robert A.
Branch: C//
OLS, OLIP (RET)
1956-Aug-15

1545 GASPIRC, Robert J. C.
Branch: C//
OLS, OLIP (RET) CLS
1982-Dec-06

1332 GLASSFORD, Thomas L.
Branch: C//
OLS, OLIP (RET)
1973-Jul-24

1643 GODWIN, Peter J.
Branch: C//
OLS, OLIP (RET)
1988-Hun-07

CR162 GOFF, Dennis H.
Branch: I//
OLS, OLIP (RET.)
2002-Jun-27

1111 GOOD, Gordon S.
Branch: C//
OLS, OLIP (RET)
1962-Jun-19

1132 GRAHAM, Howard M.
Branch: C//
OLS, OLIP (RET)
1963-May-07

1595 GREGOIRE, Paul J.
Branch: C//
OLS, OLIP (RET) CLS
1986-Jun-18

1379 GRENKIE, Edward J.
Branch: C//
OLS, OLIP (RET.),
SLS (RET), P.SURV. (RET)

1516 GUNN, Robert C.
Branch: C//
OLS, OLIP (RET), P. Eng.
1981-Feb-06

1118 GURNETT, Edward G.
Branch: C//
OLS, OLIP (RET)
1962-Sept-17

1447 HACKETT, Richard
Branch: C//
OLS, OLIP (RET)
1978-Feb-22

941 HADFIELD, Colin D.
Branch: C//
OLS, OLIP (RET)
1957-Jun-19

1503 HALSALL, John R.
Branch: C//
OLS, OLIP (RET)
1980-Jul-09

1058 HERMANSON, Glenn D.
Branch: C//
OLS, OLIP (RET) CLS,
1960-Jun-21

818 HILEY, John R.
Branch: C//
OLS, OLIP (RET), P. Eng.
1953-May-01

1078 HILL, James L.
Branch: C//
OLS, OLIP (RET), CLS
1961-May-10

1128 HORWOOD, David O.
Branch: C//
OLS, OLIP (RET.), CLS
1963-Feb-25

1360 HUME, Darrell L.
Branch: C//
OLS, OLIP (RET.), CLS
1973-Dec-31

CR187 JAROS, Ronald
Branch: I//
OLS, OLIP (RET.)
2002-Aug-29

1646 JIWANI, Zul
Branch: C//
OLS, OLIP (RET.), CLS
1988-Aug-10

1262 JOHNSON, Ross M.
Branch: C//
OLS, OLIP (RET)
1970-Nov-24

CR128 JONES, Darrell W.
Branch: I//
OLS, OLIP (RET.)
2000-Nov-17

1282 JONES, Russell W.R.
Branch: C//
OLS, OLIP (RET.)
1971-Sep-13

CR115 KINGSTON, Laura A.
Branch: G//
OLS, OLIP (RET.) Ph.D.
1988-Aug-12

1299 KIRSTINE, B. Gary
Branch: C//
OLS, OLIP (RET), P. Eng.
1972-Feb-14

1488 KOWALENKO, Walter
Branch: C//
OLS, OLIP (RET)
1979-Aug-15

1401 KRUPICZ, Joseph A.
Branch: C//
OLS, OLIP (RET), P.Eng.
1975-May-09

1368 KUPFERSCHMIDT, Martin
Branch: C//
OLS, OLIP (RET)
1974-Jan-10

821 LAMBDEN, David W
Branch: C//
OLS (RET), CLS, FRICS, FIS Aust.
1953-May-20

1257 LAROCQUE, Richard
Branch: C//
OLS, OLIP (RET)
1970-Aug-25

1610 LAWLOR, Michael J.
Branch: C//
OLS (RET), AMCT
1986-Dec-15

1198 LEGROS, Leo A.
Branch: C//
OLS, OLIP (RET)
1966-Aug-03

1896 LEMMETTY, Anita I.
Branch: C//
OLS, OLIP (RET)
2006-Nov-10

CR167 LI, Songnian
Branch: I//
OLS, OLIP (RET), Ph.D., P. Eng.
2002-Jun-27

1597 LYMER, Daniel J.
Branch: C//
OLS, OLIP (RET), P. Eng.
1986-Jun-18

1598 LYON, David A.
Branch: C//
OLS, OLIP (RET)
1986-Jun-18

1459 MACINTOSH, James A.
Branch: C//
OLS, OLIP (RET)
1978-Jul-19

1489 MACLEOD, Alistair M.
Branch: C//
OLS (RET), CLS
1979-Aug-15

1388 MADAN, R. Paul
Branch: C//
OLS (RET), CET
1974-Jul-26

CR98 MAGNANELLI, Alfio M.
Branch: P//
OLS, OLIP (RET), P.Eng.
1991-Nov-19

1668	MANN, Robert J. Branch: C// OLS, OLIP (RET) 1990-Jan-23
CR30	MARION, David H. Branch: P// OLS, OLIP (RET) 1990-Feb-05
CR70	MARLOW, Robert M. Branch: P// OLS, OLIP (RET) 1991-Jan-29
920	MAUGHAN, Michael J.M. Branch: C// OLS, OLIP (RET), P. Eng. 1956-Aug-15
CR181	MCCAUSLAND, Alvin D. Branch: I// OLS, OLIP (RET.) 2002-Jul-17
CR101	MCELRAVY, Gordon D. Branch: P// OLS, OLIP (RET), CC 1991-Nov-19
CR204	MCFARLANE, George P. Branch: I// OLS, OLIP (RET), CLS 1979-Jun-27
1981	MCGUIRE, Conor Branch: C// OLS, OLIP (RET) 2015-Jan-30
1508	MCKECHNIE, Stewart D. Branch: C// OLS, OLIP (RET) 1980-Oct-09
1137	MCKIBBON, Ronald G. Branch: C// OLS, OLIP (RET) 1963-May-07
1109	MCMURCHY, Bruce I. Branch: C// OLS, OLIP (RET), CLS 1962-Jun-19
1584	MCPHERSON, Bruce G. Branch: C// OLS, OLIP (RET), P. Eng. 1985-Dec-18
1328	MELLISH, Herbert L. Branch: C// OLS, OLIP (RET), CLS 1973-Jun-15
CR110	MICHAEL, John H. Branch: P// OLS, OLIP (RET.) 1992-Feb-01
1085	MIDDLETON, John A. Branch: C// OLS, OLIP (RET) 1961-Aug-23
1710	MINNIE, Steven J. Branch: C// OLS, OLIP (RET), BCLS, CLS 1991-Aug-14
1578	MITSCHE, Helmut Branch: C// OLS, OLIP (RET) 1985-Jun-10
889	MOFFATT, W. Harland Branch: C// OLS, OLIP (RET) 1955-Jul-05
1793	MOORE, Raymond A. Branch: C// OLS, OLIP (RET), P. Eng. 1996-Feb-22
CR45	MRSTIK, Paul F. Branch: G// OLS, OLIP (RET.) P. Eng. 1990-Feb-19
1358	MULLALLY, Peter J. Branch: C// OLS, OLIP (RET) 1973-Dec-24
CR170	NADJIWON, Cathryn A. Branch: I// OLS, OLIP (RET) 2002-Jun-27
CR71	NARAINE, Robert Branch: G// OLS, OLIP (RET), B.Sc. (HONS), MA 1991-Jan-29

1497 NOUWENS, John P.
Branch: C//
OLS, OLIP (RET)
1979-Dec-07

1420 O'DONNELL, J. Hugh
Branch: C//
OLS, OLIP (RET),
1975-Dec-10

1010 OGILVIE, Donald W.
Branch: C//
OLS, OLIP (RET), CLS
1959-May-06

CR143 OKORONKWO, I. Victor
Branch: I//
OLS, OLIP (RET)
2002-Mar-06

CR208 OREN, Nedim
Branch: I//
OLS, OLIP (RET)
2016-Jan-20

1169 O'SULLIVAN, Michael J.
Branch: C//
OLS, OLIP (RET), CLS
1964-Dec-14

CR201 PALLADINO, Julius
Branch: I//
OLS, OLIP (RET)
2002-Sep-11

CR195 PARKIN, Margaret J.
Branch: I//
OLS, OLIP (RET)
2003-Feb-06

1182 PARR, Robert B.
Branch: C//
OLS, OLIP (RET),
1965-Nov-12

1569 PARSONS, William E.
Branch: C//
OLS, OLIP (RET), CLS
1984-Dec-20

1290 PATTERSON, Douglas W.
Branch: C//
OLS, OLIP (RET),
1971-Nov-29

1669 PEARCE, Wayne T.
Branch: C//
OLS, OLIP (RET), P. Eng.
1990-Jan-23

1695 PERKINS, Kevin D.
Branch: C//
OLS, OLIP (RET)
1991-Jan29

1638 PERSAUD, George M.
Branch: C//
OLS, OLIP (RET)
1988-Jun-07

1787 PETTIT, Bruce D.
Branch: C//
OLS, OLIP (RET)
1995-Oct-19

1539 PREISS, Richard A.
Branch: C//
OLS, OLIP (RET)
1982-Dec-06

1351 PRESTON, Ronald K.
Branch: C//
OLS, OLIP (RET)
1973-Nov-22

1752 PRESTON, Gary L.
Branch: C//
OLS, OLIP (RET)
1993-Aug-18

1421 PUN, Yip K.
Branch: C//
OLS, OLIP (RET)
1975-Dec-30

1318 RADY-PENTEK, Joseph
Branch: C//
OLS, OLIP (RET)
1972-Dec-19

1342 REDMOND, Donald A.
Branch: C//
OLS, OLIP (RET)
1973-Nov-16

CR123 REIACH, Lindsay
Branch: I//
OLS, OLIP (RET), CET
2000-Jul-19

1474 RENAUD, Marcel E.
Branch: C//
OLS, OLIP (RET)
1979-Feb-20

CR131 RESHKE, Regan G.
Branch: I//
OLS, OLIP (RET)
2001-Sep-06

1236 RIDDELL, Paul A.
Branch: C//
OLS, OLIP (RET), CLS
1969-Jun-16

CR154 RISHCHYNSKI, Robert L.
Branch: I//
OLS, OLIP (RET)
2002-Jun-18

1001 ROBERTS, Anthony F.
Branch: C//
OLS, OLIP (RET)
1959-Apr-22

1587 ROCCAFORTE, Alfonso
Branch: C//
OLS, OLIP (RET)
1985-Dec-18

1096 RODY, Talson E.
Branch: C//
OLS, OLIP (RET)
1961-Nov-22

1140 ROESER, Heinrich L.S.
Branch: C//
OLS, OLIP (RET)
1963-Dec-04

1416 RUUSKA, Seppo M.
Branch: C//
OLS, OLIP (RET), CLS
1975-Oct-23

CR122 SAUVÉ, Sheryn I.
Branch: I//
OLS, OLIP (RET)
2000-Jul-19

1260 SAUVÉ, Peter I.R.
Branch: C//
OLS, OLIP (RET), CLS
1970-Nov-17

1225 SEARLES, David B.
Branch: C//
OLS, OLIP (RET)
1968-Oct-10

1890 SELEEM, Nahed N.
Branch: C//
OLS, OLIP (RET)
2006-Jan-13

CR189 SEVIGNY, Robert F.
Branch: I//
OLS, OLIP (RET)
2008-Sep-10

1188 SEXTON, Christopher A.
Branch: C//
OLS, OLIP (RET)
1965-Dec-13

1473 SIMMONDS, Douglas A.
Branch: C//
OLS, OLIP (RET)
1979-Feb-07

683 SIMPSON, M. Neil
Branch: C//
OLS, OLIP (RET)
1949-May-03

CR174 SMITH, Hubert C.
Branch: I//
OLS, OLIP (RET)
2002-Jun-27

1296 SMITH, Ronald H.
Branch: C//
OLS, OLIP (RET), CLS
1971-Dec-17

898 SMITH, Ralph A.
Branch: I/C/P
OLS, OLIP (RET), CLS
2003-Sep-11

1601 SNELL, William D.
Branch: C//
OLS, OLIP (RET), CLS
1986-Jun-18

1712 SNUCINS, Erik P.
Branch: C//
OLS, OLIP (RET)
1991-Aug-14

CR52 SROM, Jaromir
Branch: G//
OLS, OLIP (RET), P. Eng.
1990-Jul-10

1143 STANTON, John A.
Branch: C//
OLS, OLIP (RET), P. Eng.
1974-Jan-03

1365 STASSEN, Bastian J.
Branch: C//
OLS, OLIP (RET)
1974-Jan-03

1469 STATHAM, James S.
Branch: C//
OLS, OLIP (RET), CLS
1979-Feb-07

1312 STEL, Joseph
Branch: C//
OLS, OLIP (RET)
1972-Aug-11

1948 STEPHEN, Adam Michael F.
Branch: C//
OLS, OLIP (RET)
2012-Jan-13

1113 STEPHENSON, Robert
Branch: C//
OLS, OLIP (RET)
1974-Jan-03

1164 STEWART, Robert Craig
Branch: C//
OLS, OLIP (RET)
1964-Nov-17

1513 STIRLING, Robert D.
Branch: C//
OLS, OLIP (RET), CLS
1980-Dec-05

1444 STRINGER, Peter J.
Branch: C//
OLS, OLIP (RET), CLS, BCLS
1978-Jan-18

1428 STRONGMAN, Charles T.
Branch: C//
OLS, OLIP (RET)
1976-Nov-11

1431 STUBBERFIELD, William C.
Branch: C//
OLS, OLIP (RET), P. Eng.
1977-Jun-08

CR127 SUN, Patrick X.
Branch: I//
OLS, OLIP (RET)
2000-Nov-06

CR186 SUSSMAN, Raphael
Branch: I//
OLS, OLIP (RET)
2002-Aug-26

1326 TAGGART, Ross W.
Branch: C//
OLS, OLIP (RET), P. Eng.
1973-Feb-04

1426 TAMBLYN, Bryan W.
Branch: C//
OLS, OLIP (RET)
1976-Jul-15

CR185 TARANTINO, Giovanni
Branch: I//
OLS, OLIP (RET)
2002-Aug-26

1603 THORPE, Peter
Branch: C//
OLS, OLIP (RET)
1986-Jun-18

CR129 TORBICKI, Lydia M.
Branch: I//
OLS, OLIP (RET)
2001-Jan-31

1279 TRIVERS, Colin G.
Branch: C//
OLS, OLIP, (RET) P. Eng
1971-Jul-30

1604 TULLOCH, Michael F.
Branch: C//
OLS, OLIP (RET.), CLS, P. Eng.
1986-Jun-18

1155 VAN HARTEN, Menno P.
Branch: C//
OLS, OLIP (RET)
1964-May-08

1355 VAUGHAN, Brian G.
Branch: C//
OLS, OLIP (RET)
1973-Nov-26

1259 VINKLERS, John
Branch: C//
OLS, OLIP (RET), CLS, P. Eng.
1970-Nov-16

CR139 WALLACE, Michael J.
Branch: I//
OLS, OLIP (RET)
2001-Sep-12

1504 WATSON, Mark T.
Branch: I//
OLS, OLIP (RET)
1980-Jul-09

1035 WELSMAN, Roger R.
Branch: C//
OLS, OLIP (RET)
1959-Nov-25

1624 WIMMELBACHER, Herman J.
Branch: C//
OLS, OLIP (RET), CLS
1987-Dec-14

CR151	WOITOWICH, William A. Branch: I// OLS, OLIP (RET) 2002-Apr-16
856	WOOD, Gordon H. Branch: C// OLS, OLIP (RET), P. Eng 1954-May-20
1453	WOODCOCK, Robert Branch: C// OLS, OLIP (RET) 1978-Jul-05
1344	WYMAN, Paul C. Branch: C// OLS, OLIP (RET) 1973-Nov-16
964	YATES, Donald F. Branch: C// OLS, OLIP (RET) 1958-Jan-08
1446	YOUNG, Jack K. Branch: C// OLS, OLIP (RET), CLS, P. Eng. 1978-Feb-22
1736	ZIZEK, William Branch: C// OLS, OLIP (RET) 1992-Aug-04
CR177	ZUREK, Wojciech J. Branch: I// OLS, OLIP (RET) 2002-Jun-27