

Ontario Professional Surveyor



on the cover ...

**Sergeant-at-Arms
Steve Balaban (NWMP)
presided over the 126th AGM
in Niagara Falls, Ontario**

also in this issue ...

**126th AGM Photos
Surveying Beach Properties
Understanding Sections 54 and 55
of the Surveys Act
Speculations on the Seneca
Outpost of Tinawatawa**

plus our regular features

**Educational Foundation
News from 1043
Book Reviews
Sites to See**

MADE
TO FIT
YOUR
WORLD.



SOKKIA
SOKKIACANADA.COM

ONTARIO PROFESSIONAL SURVEYOR



VOLUME 61, No. 2

Spring 2018

CONTENTS

Executive Director's Notes - Blain Martin.....	4
Surveying Beach Properties - Submitted by the Beach Task Force	8
Understanding Sections 54 and 55 of the Surveys Act. – Not as easy as it seems when it comes to waterfront - By John Barzo and Chester Stanton	10
The One Question We All Need to be Asking Potential Employees - Eric Termuende	14
Lost and Found – A Walk in the Woods - R. Craig Stewart	16
Photos from the 126th AGM.....	20
Exhibitors and Veterans' Dinner	22
Convocation Address, Charge to the New Surveyors - Mark Sampson	24
Speculations on the Seneca Outpost of Tinawatawa - Joachim Brouwer.....	28
The Future Starts Now: Part II - Justin Collett.....	32
12th Annual AOLS Graduate Student Geomatics Poster Session Award Winners...36	

REGULAR FEATURES

President's Page.....	2
Survey Review Department Forum, Field Notes - Tim Hartley	6
Calendar of Events	16
News from 1043.....	18, 19
Sites to See	19
Educational Foundation.....	38
Book Reviews.....	39
The Last Word - The North-West Mounted Police (1873-1904) - Steve Balaban	40

ADVERTISERS

Sokkia.....	2nd cover
Horizon Measurement Solutions.....	3
The Connectors Insurance Group Ltd.	5
Mark IT Locates	7
Hunt Surveys	9
Hayward Iron & Metal	11
J.P. Morasse Inc.	12
GeoShack	13
Tekmet Ltd.	15
T2 Utility Engineers.....	17
Northway/Photomap/Remote Sensing Ltd.	19
Dias & Dias.....	26
Carlson Software.....	27
Logan Wealth Management.....	31
Arthur J. Gallagher Canada Limited.....	35
Leica Geosystems	3rd cover
MicroSurvey Software Inc.	4th cover

ON THE COVER ...

Sergeant-at-Arms Steve Balaban chose to portray a member of the North-West Mounted Police (NWMP) which was active from 1873 to 1904. Those who applied to the NWMP had to be single males between the ages of 18 and 40, be of good character, be capable of riding, and be able to read and write in either English or French. See the article by Steve Balaban in The Last Word on page 40.

*Professional
Surveying
in
Ontario*

*encompasses
the
Disciplines of*

*Cadastral,
Geodetic,
Hydrographic,
Photogrammetric
Surveying
&
Geographic
Information
Management*





President's Page

By Dan Dzaldov, O.L.S., O.L.I.P.



On March 1, 2018, I was privileged to have been asked to accept the Chain of Office for the coming year (albeit, it was taken away immediately after the above photo was taken and likely will not be seen again by me until the next AGM.)

I am very excited to be the 127th President of this Association, while at the same time humbled in the presence of those who have preceded me.

I was extremely grateful for the warm welcome and felicitations from past presidents, council members, fellow surveyors and articling students.

I was happy to have a number of family members present for the inauguration ceremony and feel very lucky to have so many wonderful people around me, be they staff, colleagues, family or friends. Each has played a very important part in my life and contributed to my maturation within the profession. Without your support, I could not have attained this level of satisfaction and success.

I would like to thank the staff at the AOLS for putting together, once again, a fabulous AGM and I would also like to give special thanks to our outgoing president, Russ Hogan, who provided steady and strong leadership over the last year. I look forward to Russ's help on Council in his role as past president this year.

The increased attendance at the AGM's has allowed us the opportunity to connect with fellow professionals, to learn from each other and to find out about leading industry trends. It is a pleasure to see and feel the fellowship and warmth among us.

We do have strong membership engagement but we need more both for and from the members. I have learned so much over the 10 plus years that I have participated on committees and Council and there is no doubt that I am a better OLS because of it. My clients and staff have benefitted substantially as well from the experience that I have gained.

As I write this message, I am getting ready for an incredibly busy journey. The next few weeks will see me attending four different provincial AGM's. I will travel across Canada from Victoria to Newfoundland. I have already met and have had the opportunity to participate in one President's Forum with the leaders of all of the Provincial Associations and I plan to share and learn at every stop along the way. We have so much to offer in Ontario but we also have so very much to learn from the members in the other provinces.

We had a short Council meeting in March to approve some

committees and our first formative Council meeting is scheduled for early May. It will likely be combined with the annual strategic planning session. Our agenda is full and the many major items that are at the top of the list of priorities will not, in my view, be able to be tabled for future consideration.

We know that communication to and from the membership is critical but we must also ensure that the information that is being disseminated is presented in a cohesive manner. We must build on our past successes to continue to increase the number of articling students and ensure that we advocate strong professional ethics. We need to encourage students and new professional land surveyors of all races, genders and sexual orientations to join our association.

Our firm articulated one of the newest female members to be commissioned this last year and we hope to have a second woman from our office receive her OLS this year.

We saw at the AGM that there was a great deal of discussion on many topics but sketches is one issue that is still unresolved. While we have tried to find a way to please everyone, the overriding principle when producing policies or guidelines must be, in my opinion, the protection of the public interest. This is perhaps easier said than done but I am hopeful we can effect a quick and expeditious solution.

Another subject that I believe is critical is the education of the public to better understand our relevance to society. By no means is that to be interpreted as an arrogant assertion but rather an attempt to ensure that the public is aware of our contribution and assistance. Most members of the general public and many educators have little or at best limited knowledge of the services that we provide or they lack the training to interpret the products that we produce. This education may also be a good way to encourage our youth to consider a career in our field of endeavour. While I doubt Land Surveying will ever be "the" career of choice it would be an accomplishment if occasionally a parent, teacher or counsellor made the recommendation to consider our profession when students are choosing among the plethora of occupations that are available to them.

The education of and responsibility to the public is not only an obligation of Council but is also the obligation of each and every member. We must continue to set and hold ourselves to the highest possible standards of the profession.

I will, as President, do my very best to uphold the trust that I have been given and make my goal to strive for a year of positive enhancement for both me personally and for the Association.





**SURVEY EQUIPMENT SALES,
SERVICE & RENTALS**

YOUR VIEWPOINTS MATTER

Canada's Premium UAV & Drone Rentals

All UAV & drone rentals include: UAV/Drone (fixed wing or multi rotor flight system), certified pilot, flight crew, and all required permits.

"On behalf of Horizon Measurement Solutions, I would like to personally thank the AOLS and its members for the continued support over the years."

Mike McMillan
President - Horizon Measurement Solutions

**HORIZON
MEASUREMENTS.com**

Executive Director's Notes



By Blain Martin

In this issue's column, I would like to share my thoughts on our Annual General Meeting (AGM) and how we are moving forward with some of our Strategic Planning Initiatives. Our AGM was three weeks ago as I write this and I admit I am still recovering. After each AGM I get many people thanking both me and the AOLS Staff for making the event so successful. I believe that the AOLS Staff also make it look easy and I assure you that it is not.

The AOLS members do not see Lena in the office weeks before the meeting on weekends and evenings making sure that everything is in order. They do not see Penny programming the registration system at 1:30 in the morning to make it easy for our members to register. They do not see Julia working into the evening to get the registration package ready for distribution. Nor do they see Maureen, as multiple items pile into her office, as she organizes the poster competition or the Educational Foundation events. The rest of the staff are all working in the same way to make sure that the event is a true success.

I point out these things as a way of saying thank you to all of your AOLS Staff and I assure you that each of us appreciates it every time someone does thank us personally. By all accounts this past AGM appears to have been a great success. I am including a chart with the registration numbers. I am sure all other professional associations would be thrilled to have 76% of their membership attend their AGM.

Registration Category	
Title	Number of Registrants
Member	467
Accompanying Persons	129
Non-Member	93
Exhibitor	80
Total	769
Member Category Breakdown	
Category	Number of Registrants
OLS	385
Articling Student	45
Retired	27
Associate	10
Total	467

One of the AGM events that I would like to highlight is the "Meet and Greet" on Tuesday evening. I credit Mark Tulloch and the North Eastern Regional Group with bringing forward this idea the last time we were at Deerhurst. It has become a popular event. This year we had 321 people register.

I also want to thank everyone for supporting our exhibitors and participating in the Exhibit Hall events. I am happy to report that 292 people attended the Exhibitors' Lunch and 353 attended the Exhibitors' Welcoming Party.

The other huge attraction is the Convocation Lunch where we honour all of our New Surveyors. Mark Sampson provided a

fabulous "charge" to our new surveyors. The theme of his address was the meaning of being a professional. Interestingly, I can recall being asked what it meant to be a professional by George Yates during my professional exam. Mark provided a great answer for us all.

One of the things that is puzzling is why we always seem to have trouble getting a huge crowd out to the President's Dinner and Dance. Again this year it was a great event but the attendance was small. Each year the AGM Planning Committee wonders what we should do to provide entertainment on Thursday evening and we always seem to come back to the dinner and dance. If anyone has ideas for other options, I am sure the 2019 Committee would be happy to listen to them.

I also want to talk about the Hospitality Suites. In the past the AOLS has hosted a hospitality suite for the out of town guests and Council. Occasionally over the years this has led to bad results. This year we set up a room called the VIP lounge for out of town guests so that they could meet each other and we also set up a separate hospitality suite in the "Hard Rock Club" for everyone else. For the most part this seemed to work well.

That being said, I was very disappointed that noise, and unruly and abusive behaviour problems, which occurred in a private hospitality suite, were reported to me by hotel security. This does not reflect well on the "professionalism" that Mark spoke so highly about during his Convocation Lunch address. We cannot allow this to happen again.

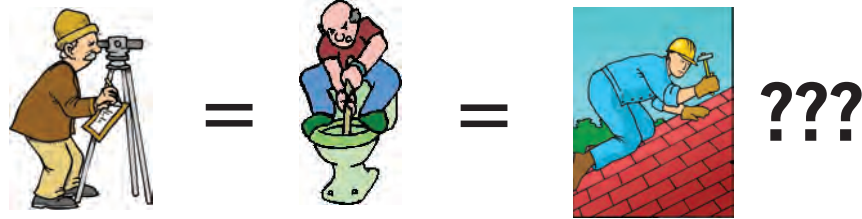
On a more positive note, our Exhibitors are always vital to the success of the AGM and this year was no exception. The exhibitors add a tremendous amount of value in terms of demonstrating new technology, sponsoring our events and fully engaging with our members. We appreciate their efforts and participation so much.

The presentations are always fabulous and all of the PowerPoint slides were delivered to you via our newsletter, In Sight a few weeks ago. Of particular importance is the Geomatics Recruitment and Liaison Committee (GRLC) presentation. They had a table in the hall where members could sign up to work with local school boards and we had 54 members do just that. If you still want to participate in that program please send me an email.

This ties in particularly well to one of the goals of our 2017 Strategic Plan which is to attract new members. We should also talk about the AOLS succession plan. We know that SRD Manager Tim Hartley is retiring and I already have several applications for his position. We also know that Registrar Bill Buck will retire at the end of this year. I think that each member should be considering the possibility of filling his position. I suspect that the advertisement for Bill's position will come out sometime in the next few months.

We have the contracts in place for the next four Annual General Meetings. There is a chart on page 15. We hope to see you attend each one of them.





Does your employee benefits agent/broker/consultant think surveyors are the same as plumbers or the same as roofers?

MOST DO!

You don't wear "one-size-fits-all" shoes!

You don't wear "one-size-fits-all" pants!

Why put up with a "one-size-fits-all" benefit plan?

Why not enjoy a plan that is "custom-tailored" for surveyors with special features you won't get anywhere else?

Your fellow surveyors have helped us custom-design the Land Surveyors Group plan over the past 24 years!

They told us what they wanted or needed, and we made changes.

Why not call Bob @ 1-888-747-7707 and have a look at a plan that is "custom-tailored for surveyors"?

Looks are free!



ROBERT J. MORROW CLU RHU CEBS

THE CONNECTORS INSURANCE GROUP LTD.

SUITE 101, 299 GLENVIEW AVENUE
OSHAWA, ONTARIO L1J 3H5

(905) 721-7569 (905) 721-9154 fax

1 (888) 747-7707 toll free

bob.morrow@theconnectors.com

Survey Review Department Forum - FIELD NOTES



By Tim Hartley, O.L.S., Survey Review Department Manager

Ah the deadly Partridge and Orange. What does this old English north country soft hackle fly have to do with field notes? Nothing, absolutely nothing, except in 1842 a fellow named Joseph Wells made a sketch and a written description of how it was tied and fished. So today we can tie and fish this fly in the same manner as our ancestors did, at the time when Robert Stephenson and Company were working on their steam engines and their 4 ft. 8¹/₂ in. railway gauge.

Field Notes is an important topic. We as surveyors have been charged with the responsibility of maintaining the survey fabric of Ontario. In this short article I will try to impress upon you why we need field notes.

Section 15 of Ontario Regulation 216/10 says it all. It states that field notes are to be prepared in the field and are to show everything found, observed and done in the field in the course of and relevant to the survey. Section 4 of the

Surveys Act states that we shall make and preserve exact and regular field notes and shall supply them to other surveyors if requested. This is the law, it was the law when you received your commission and it is the law today. Field notes are important.

Since field notes are made in the field at the time of the survey they can be referred to and used as evidence in a court of law. Plans not necessarily so, as they may not reflect what was done on the ground, although they should. Lot lines and corners may have been adjusted on the plan but never adjusted in the field. I recently discussed the concept of field notes with a Provincial Court judge. He mentioned that the law was silent on the most important aspect of field notes and his point was that surveyors do not make field notes for their clients, they make them to protect themselves. This is true, we make field notes to illustrate how evidence was assessed in the establishment or re-establishment of boundaries and corners.



Justice Richmond in *Equitable Building & Investment Co. v. Ross* (1886), 5 N.Z.L.R. S.C. 229 stated, “Neither the words of a deed nor the lines and figures of a plan, can absolutely speak for themselves. They must in some way or other, be applied to the ground.” Now if we work this backwards, how can we produce a plan without first knowing what is on the ground and how do we know what is on the ground without good field notes?

Field notes have never been easy to make; it is an art that has to be learned and worked on. With today’s technology, field notes are easier to make than they were in the past. We have good mechanical 0.5 mm lead pencils and fairly large format field note paper and are not stuck with the small field note books of the past. The coordinates of the end points of lines are usually known, they can be inversed and the bearing and distance as well

as whether the contained angle was set or measured shown on the notes. When features along the lines are shown on the notes you have a good visual check to illustrate whether the features are shown on the correct side of the line. Small jogs and various details may not be spotted in the office, when you only have a raw data file to work with, but when they are shown on a field note they are easily noted. Good field notes make the drafting and checking of plans much

easier. After making the field notes and before you leave the site look once again at the notes and once again at the property. If it looks right it usually is, if it looks wrong it usually is.

In 2007 AOLS Council approved a document titled, “Guidelines for the Preparation of Field Notes”. This document is posted on the Survey Review Department section of the AOLS website and it is as relevant today as it was in 2007.

A plan is at best a reflection of what is in the field notes.



MARK ✓ IT™

LOCATES INC.

**MARK IT RIGHT
THE FIRST TIME**



**CAMERA INSPECTION
SEWER LOCATES & MEASUREMENTS
BOREHOLE CLEARANCES
CONFINED SPACE ENTRY
GPR SCANNING
SUBSURFACE UTILITY ENGINEERING - ASCE 38-02
PRIVATE LOCATES**

Initiation and coordination of all Ontario One calls and other public utility requisites.

info@markitlocates.com | 1-855-337-9202 | markitlocates.com

Surveying Beach Properties

Submitted by the Beach Task Force

In response to a series of public complaints regarding surveys of beach properties, the Ministry of Natural Resources and Forestry, through the Surveyor General, requested that the AOLS Council create a Beach Task Force to review the issue and try to come up with a suggested list of “Best Practices” for our members to employ during their retracements.

It is the Ministry’s opinion that the public’s interest is not being protected without a consistent methodology/approach being followed by all OLS’s. While initial complaints identified that the main problem areas are along the Great Lakes, the task force is aware that all surveyors have probably encountered similar problems across the province.

The Ministry reminds us that no surveyor has the right to arbitrarily redraw or reconfigure subdivision limits that have been run, clearly illustrated and accepted by the public for many years. We should all be aware of the effects that our work has on not just our clients’ properties but overall neighbourhood peace and settlement.

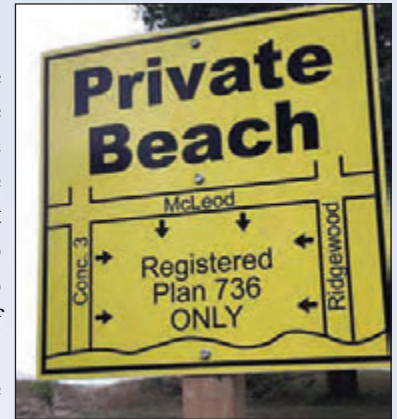
While the issues involved are varied, the task force decided to concentrate on beach lands shown on existing Registered Plans (RP) where the original water-side limit on the RP was set as the “High Water Mark, (HWM)” or some similar designation. Specifically, we are dealing with the land shown between the rear of defined lots and the water’s edge on those subdivision plans. While many surveyors are citing cases like *Gibbs v. Grand Bend* as their reason to extend the sidelines of abutting subdivision lots out across the beach, the task force cautions them that a lot of questions must first be addressed before they come to such an arbitrary decision.

The Surveyor’s Role:

The surveyor’s duty has never changed. We are to do the research and impartially assess all available evidence so as to come to the best decision on how to retrace the boundaries on which we are working. As we all are aware, surveyors do not make boundaries, land owners do. When dealing with lots on a registered plan, the surveyor should give most credence to the evidence that is clearly and properly shown on the plan.

The task force felt an understanding of how to assess evidence was essential in our coming to a common interpretation of the issues at hand. When interpreting a Registered Plan, Extrinsic Evidence is generally only admissible when a clear ambiguity exists. (A patent ambiguity would be a math error or such that makes the plan not work unto itself. A latent ambiguity occurs when evidence found on the ground does not agree with the dimensions on the plan).

The Courts have acknowledged that we can use Extrinsic Evidence when we see that the plan just doesn’t work. In this case, it is up to the surveyor to try to determine the intention of the original subdividers. Do not arbitrarily decide that limits defined by “high water mark” are any less significant than those limits defined as being the first running of the line by the Registered Plan. A careful review of all available evidence needs to be undertaken before we decide the proper course of action.



Evidence to be Considered

In order to come to a uniform decision, the task force reminds surveyors that they should at a minimum:

- Conduct a thorough review of the Registered Plan itself. How does the plan show the property lines along the water? How does the plan describe the land between the HWM and the water’s edge? Is it just blank space or is it described as “beach” or some other designation. (This is where a surveyor might first be able to discern the “intention” of the original subdivider).
- Read all information on the plan. What do the certificates say? Does the plan show indications of local access to the beach for the non-riparian owners, (an alley or walkway)? Does the local Municipality have access to the land via a road leading to the shore?
- Conduct a thorough field examination. Are there fences between the beach and the abutting lots? Is there evidence of public use beyond the abutting owners? Has the local Municipality demonstrated evidence of maintaining the beach for public use?
- Review notes from other local surveyors. How have they handled similar problems? The public needs continuity not a constant reimagining of where boundaries might go. Long standing local practices should not be arbitrarily over-ruled without compelling reasons.
- Review past Registry Office searches. Was there an actual abstract created for the beach at the time of original registration? If so, how is the land described in the registry system and do they show an owner? Is the original subdivider (be it an owner or corporation) still around to offer guidance on interpretation?
- Examine the deeds to the upland or non-riparian owners

in the subdivision to see if they make reference to any private right of access to the beach? It isn't enough to just look at the original RP. You should also review the original deeds to determine what the original land owners actually purchased from the subdivider.

- Look at the original Patent. Were there any Crown reservations in place. Were there any exceptions? (A Reservation is interpreted in MNRF Policy 4.03.01 as meaning that the Crown retains only a right or interest in that portion of the patented land reserved. An Exception is interpreted so that that portion of the land described is retained by the Crown).
- Determine the laws of Ontario at the time the plan was registered. Plans registered between 1940 and 1951 would have been done under the guide of a version of the Beds of Navigable Waters Act that set all original patents to be interpreted as going to the HWM unless stated otherwise. You should note that plans created outside of those years were not prepared under similar legislative wording.
- Determine the dynamics of the beach itself. Is accretion slow and imperceptible or does wave-action aggressively change the topography? Has the beach topography been changed by the construction of artificial features or shore protections.
- Determine whether any First Nations interests have to be considered. Are there any historical use claims? Most of

Ontario is covered by Treaties except Eastern Ontario which is currently working on a modern one with the Algonquins. In Eastern Ontario, one must consider historic use by First Nations to determine if Aboriginal Title has been achieved as outlined by the Tsilhqot'in case.

- Look at navigation patterns along the beach. Navigation is a Federal concern but should always be considered where there is evidence of public use.
- Always verify that there is no artificial regulation of the waterways in question. (This almost needs a separate article unto itself).

This list is in no way to be considered as a comprehensive summation of all evidence needed to be reviewed. All projects are different in their own ways and it will always be up to the individual surveyor to come to their own opinion.

The Beach Task Force hopes to continue with similar articles such as this on issues related to water boundaries in Ontario. Our intention is to encourage conversation between surveyors so that common policies can be developed across the province. We always welcome input and feedback from our fellow surveyors.



Members of the Beach Task Force: Andy Mantha, Chair; Sue MacGregor, Surveyor General, MNRF representative; Peter Lamb, Al Jeraj, and Peter Meerveld, Lay Councillor. We also acknowledge Izaak de Rijke for his input and supplying the task force with background material.

BATHYMETRIC SURVEY SOLUTIONS

provided by: Underwater Topographic Mapping

Featuring the: Unmanned Surface Vehicle (USV) by Clearpath Robotics

Setting the **NEW STANDARD** for quality, more and better data, fast, efficient

Unmanned = **SAFETY** for staff, **REDUCED LIABILITY** for owners/ stakeholders

Storm Water Ponds

**Flood plain mapping/
watershed analysis**

**Monitoring/ in-water
construction**

**Legal surveys/
water boundaries**

**Mapping shallow
waters**

**Materials loss/
insurance claims**



**on-board RTK GPS,
sonar, IMU, remote**

**Survey grade
+/- few cm. level**

**The "20/20" view of
the underwater
topography**

**Flexible contracts,
subcontracts, partner,
OLS firms/ engineers,
contractors**

Underwater Topographic Mapping (UTM2020) is a division of Hunt Surveys Inc. (Ontario Land Surveyors)

Serving Ontario as the "go-to" source for BATHYMETRIC SURVEY SOLUTIONS

For more information visit our web-site www.UTM2020.com or contact us by email/ phone at:
huntsurveys@rogers.com huntdouglas@hotmail.com 905-764-8759 416-347-4351

Understanding Sections 54 and 55 of the Surveys Act. – Not as easy as it seems when *it comes to waterfront.*

By John Barzo and Chester Stanton

Sections 54 and 55 of the Surveys Act address how surveyors are to respect plans of subdivision and describe how to re-establish their boundaries should the need arise.

True and unalterable line, boundary and corner

54 *Every line, boundary and corner established by survey and shown on a plan of subdivision is a true and unalterable line, boundary or corner, as the case may be, with respect to such plan and shall be deemed to be defined by the original posts or blazed trees in the first survey thereof, whether or not the actual measurements between the original posts are the same as shown on the plan of subdivision or expressed in any grant or other instrument R.S.O. 1990, c.S.30, s.54.*

Re-establishment of lost corners, etc.

55 *A surveyor in re-establishing a line, boundary or corner shown on a plan of subdivision shall obtain the best evidence available respecting the line, boundary or corner, but if the line, boundary or corner cannot be re-established in its original position from such evidence, the surveyor shall proceed as follows:*

1. If a part of a line or boundary is obliterated, the surveyor shall re-establish it by joining the nearest ascertainable points thereof in the manner shown on the plan of subdivision.

2. If a corner on a line or boundary is lost, the surveyor shall re-establish it by the method that accords with the intent of the survey as shown on the plan of subdivision and, if it is consistent with the intent of the survey as shown on the plan of subdivision, the surveyor shall determine the distance between the two nearest undisputed corners, one being on either side of the lost corner, and the surveyor shall re-establish the corner by dividing the distance proportionately as shown on the plan of subdivision having due regard for any road allowance, highway, street, lane, walk or common shown on the plan of subdivision. R.S.O. 1990, c.S.30, s.55.

THE LAWYER'S VIEW

The analytical starting point is the confirmation that every line, boundary and corner of a plan of subdivision is by

virtue of statutory directive, “a true and unalterable line.”

The surveyor is then mandated, when re-establishing the boundary “to obtain the best evidence available”. If the surveyor can successfully re-establish the boundary, the Surveys Act gives specific guidance in two circumstances, namely; firstly where a part of the boundary is obliterated, and secondly where the boundary is lost.

Let's focus on what to do when the boundary is lost. In this case, the surveyor must (“shall”) resort to the method that “accords with the intent of the survey as shown on the plan of subdivision”.

The statutory mandate is clear. Look to the intent of the survey as shown on the plan. Some decisions talk about the intent of the original subdivider. Perhaps the clear statutory wording and intent of the legislature is being glossed over. The primary objective, for the surveyor, is to ascertain the intent of the survey as shown on the plan. If that can be reasonably ascertained without resort to extrinsic evidence that is the end of the inquiry. The courts have found that extrinsic evidence may be used as evidence of intent where there is a patent or latent ambiguity with respect to a plan or document.

When tasked with the need to examine extrinsic evidence, consider whether the original subdivider was subdividing all he believed he owned, or *all he was allowed* by the governing authority? Not being allowed is not evidence to suggest that the developer thought he was subdividing all he owned. Rather, the developer was subdividing *all he could*.

THE SURVEYOR'S VIEW

The issue with waterfront properties is how to re-establish what was previously done on the ground. Did a specific lot on a Plan of Subdivision touch the water at the time the parcel was created, or was said lot clearly defined to be something other than the water's edge on the Plan of Subdivision? Its limits should not be reinterpreted fifty or more years after the fact to be an upland riparian parcel.

The surveyor's role in retracing the lots in a subdivision is to find where the boundaries were originally established on the ground based on the documentary and physical evidence. Even if the boundaries were run incorrectly, they

remain valid in law if they have been accepted by the parties on either side of the line.

“Unless of course the grant clearly reserves by description or otherwise a space between the lands granted and the water boundary or unless the boundaries of the lot can be so clearly delineated by reference to an original Plan of Survey as to clearly except or reserve to the Crown a space between the lands granted and the water’s edge.”

The Walker Decision was referring to a patent from the Crown for an original Township lot. It indicated that all Crown interests or title in the upland was conveyed in the patent unless there is an exception or limitation to the Crown. It is true that the Walker decision clarified that the limit of the Township lot extends to the water’s edge with the side lines continuing on to the water’s edge, even though the monuments may have been some distance back from the water’s edge. **The subsequent actions of the owners of the original Township lots, such as laying down a Subdivision Plan over the Township lot is not what the Walker decision spoke to.** The Rowntree² decision said nothing about extending the lot lines to the water’s edge. The argument was whether or not Block A, which lay in front of the upland lots, was owned by the Rowntree Subdivision Group, or was it owned by the Crown. The Courts ruled that it was owned by the Group, but it remained in its entirety as a Block.

The colouring, words and schemes as shown on a Plan of Subdivision are helpful in assisting with what was included, or not included, in the subdivision. If the Plan did not show the lots extending all the way to the water’s edge, or stopped them at a high water mark, or top of bank, or monumented rectilinear boundary, the limit between the Plan and the water’s edge would remain part of the original Township lot, with the title held by the original subdivider, or his estate.

The strip of land between the subdivision limits and the Township lot remains a valid parcel of land which can be retraced, and the title can be reviewed to determine who the owner is. Both the Ellard and Battaglia cases in Tiny Township affirmed this.

... the conveyances of the cottage properties have consistently made reference to the lot numbers on the Plan in which the beach is clearly not included. This is visually apparent both on the Plan and on the ground...the reasonable expectations of those who bought properties...was that the western boundary line...is as depicted on the plan and found on the ground”....The necessity for such a reservation only came about as a result of the decision of the Supreme Court of Canada in Walker in 1975 that forced the title issue. To read that result back into Plan 773 which was registered in 1930, would be to commit the logical fallacy of anacronysm.”³

cont'd on page 12

HAYWARD IRON & METAL



185 Advance Blvd., Unit 5
Brampton, Ontario L6T 4Y3



- ◆ IRON BARS
 - ◆ LAYOUT PINS
 - ◆ SPIKES & NAILS
 - ◆ ROAD BARS - ROCK BARS
 - ◆ WOOD STAKES
 - ◆ ANTIQUE SURVEY CHAINS - GUNTER 66' - ENGINEERING 100'
- Square or round, all standard sizes, pointed and stamped
 - Solid - 18" and 24"
 - All standard sizes
 - 5/8" and 1" any length
 - Bundled and pointed

Tel.: 905-457-0150 Fax: 905-457-0542
Long Distance: 1-800-787-7420
haywardrick@hotmail.com

ONE STOP SHOP FOR ALL YOUR STEEL AND WOOD NEEDS

SERVICE AND DEPENDABILITY SINCE 1978


The surveyor's role is to re-establish where the original lot lines were originally marked out on the ground, (whether mistakenly or not, if they were accepted on the ground). His/her job is not to create new boundaries under the guise of ambiguity ignoring original evidence on the ground in favour of an interpretation of what a subdivider might have done had he been better informed.

As an example of extrinsic evidence in Tiny Township there is documentary evidence that between 1920 and 1970 the Municipality and Provincial Planning Authority would not allow the beaches to be included in subdivisions.

Obviously, surveyors need to complete their research, look for the limiting words and reservations in the patent, look for the existence of shore road allowances or reservations, search the title to understand how the original subdivider came to own the subject lands, and always refer to the notes and coloured lines on the original Plan of Subdivision, and reconstruct the subdivision according to that plan. There are often notations on the back of the original plan print and these are available at the Land Registry Office.

As to the ownership or title of beach spaces, look for what the land owners have accepted as the limits of their ownership, who uses the beach. Is it open to use by the general public, or by the upland lots within the subdivision, is the use of the land as it currently is the same as it was historically, or have lot owners tried to change that use based on

their understanding of the Walker decision?

Surveying has not changed as a result of the Walker decision. Reliance on the original monumentation is still of primary importance to surveyors and, at the risk of disrupting whole communities, compelling evidence to the contrary is necessary before rejecting it. Intention should not be used to create new boundaries that had not previously been in existence. The courts remain available to hear those disputes which are ambiguous and require broader principles of fairness to find a resolution. 

John Barzo is a lawyer practicing in Barrie, Ontario and was counsel on recent Municipal Re-Survey cases (Case No.:883 and Case No.:884). He can be reached by email at jbarzo@barzolaw.com

Chester Stanton, MBA, B.Sc., O.L.S., O.L.I.P., C.L.S., is a principal of Dearden and Stanton Limited in Orillia, Ontario. He has acted as an expert witness in various Boundaries Act and Land Title hearings, as well as the following cases: Gall v. Rogers, 15 O.R. (3d) 250 [1993] O.J. No. 2285, Ontario Court, General Division; Meaford v. Grist, 2011 ONSC 3055; Tiny (Township) v. Battaglia, 2013 ONCA 274; Ellard v. Township of Tiny, 2012 ONSC 280, and Bailey v. Barbour, 2013 ONSC 204. He can be reached by email at cstanton@encode.com

References:

¹ Attorney General of Ontario v Walker [1975] 2s.c.r.78

² Ontario (Attorney General) v. Rowntree Beach Assn., 17 O.R. (3rd) 174 (1994) O.J. No. 483

³ Ellard v. Township of Tiny, 2012 ONSC 280, Para 25 and 26

WE'VE GOT THE SOLUTION



GEODESY

LEGAL SURVEY

SERVICES

<p>MAGNETIC MARKERS</p> <ul style="list-style-type: none"> ~ for soil ~ for rock or concrete ~ GPS marker 	<p>PROTECTIVE COVERS</p> <ul style="list-style-type: none"> ~ aluminium ~ mix ~ lifts <p>POST</p> <ul style="list-style-type: none"> ~ witness post ~ raised characters 	
<p>MARKERS</p> <ul style="list-style-type: none"> ~ aluminium ~ plastic ~ steel ~ boundary ~ terminus type ~ CLS-77 ~ CLS-69 	<p>STATIONS</p> <ul style="list-style-type: none"> ~ PK nails ~ identified washers ~ MAG nails 	

"ASK FOR OUR BROCHURE"

J. P. MORASSE INC. 1321, Marie-Victorin, St-Nicolas, Quebec, Canada G7A 4G4
 Tel.: (418) 831-3811 ~ 1 800 463-6866 • Fax: (418) 831-7827 ~ 1 800 463-8138
 WEB SITE: www.morasse.com • E-mail: morasse@morasse.com



Indago Mapper



DJI M210



Hiper HR



HiPer SR



FC-5000



HiPer V

GT Series
Total Station



LN-100 Layout
Navigator



We Have Everything You Need!

If you're looking for great deals on equipment then call our experts or stop by one of our many locations and see for yourself what products and services GeoShack has to offer. We have everything you need to get the job done accurately and right the first time.

Don't forget to ask us about our **GeoShack Advantage** programs – where you can get support, training, and other services along with your equipment purchase.

London

1930 Mallard Road
London ON CA N6H 5M1
Phone: (519) 235-0240

Toronto

35 McCleary Court, #21
Concord ON CA L4K 3Y9
Phone: (905) 669-9759

Ottawa

15 Grenfell Crescent
Ottawa ON CA K2G 0G3
Phone: (613) 225-1110

FIND US ON



The One Question We All Need to be Asking Potential Employees



By Eric Termuende

We're living in an age where we have more access to information than ever before. We have become desensitized to catchy phrases, and find it harder to relate to organizations than we do people. Why? Because we can all hire a great copywriter and craft that seemingly perfect job description.

While speaking about the future of work around the world though, I realized quickly that the job description isn't really a description of the job at all. It is merely a skills and requirements checklist, offering very little understanding about the environment and cultural 'fit' of the job.

And so, when we look at the typical job description, we often wonder why there isn't anything on it about the people they are going to be working with, how conflicts are mitigated, and what employees like to do in their spare time.

Although it might seem a little odd to consider talking about an employee's favourite activities outside of work, we have to remember that in many cases today, the skills required to do the job may not be as significant a differentiator as the culture and the experience while at work.

But during an interview, how do we get a full understanding of what the experience at work is like? Especially in larger companies, how is it that we know what lives employees live both inside and outside of work? Does HR *really* know the workplace experience of all of the depart-

ments and the people in them?

In some cases, maybe not.

A scenario that we believe is very important in the recruiting process is to ask the interviewee to sit down for 30 minutes and have a coffee with an individual who is already in the position. And for employees, offering them an opportunity to meet someone who they will likely be spending more time with than their loved ones at home is great for a few reasons:

They will give authentic responses.

There will be a better sense of trust developed.

The responses will be more accurate, as they will be coming from someone who is living the experience.

They may realize there is a good sense of fit.

They may realize there is no fit at all.

While it seems that coming to the conclusion that there isn't a fit is a bad thing, it actually saves a lot of time and money. To get a better understanding of not only the job that needs to be done and the skills associated with it, but the people that come with the job as well, is very important.

In our findings, we've seen that there is an increased need to have a sense of belonging in the workplace and a good fit with the work that we are doing. As we know, work isn't something that is as transactional as it used to be, and we can take it places we wouldn't have dreamed of even a few

years ago—think emails in bed or conference calls in the car. The fact that work is so much bigger than it used to be requires us to have a better understanding of what the whole experience entails. Getting a better idea of what the team dynamic is like, how they work together, and who they are outside of work are all important in determining if there is going to be a fit.



Eric Termuende is a bestselling author, speaker, and entrepreneur. He is co-founder of NoW Innovations, and Lead Content Strategist for True Calling Canada. His book, *Rethink Work* is available on Amazon.



UPCOMING ANNUAL GENERAL MEETINGS

AGM 2019 – Toronto

February 27 - March 1, 2019
Westin Harbour Castle

AGM 2020 – Huntsville

February 26 - February 28, 2020
Deerhurst Resort

AGM 2021 – London

February 24 - February 26, 2021
DoubleTree by Hilton - London Convention Centre

AGM 2022 – Ottawa

March 2 - March 4, 2022
The Westin Ottawa



Rock Bars SSIBs IBs Layout Pins

EcoStakes™ Survey Washers

Berntsen® products Mag Nails

Custom Bars Concrete Pins

Wood Stakes SIBs Monument Bars

Control Bars

TEKMET
since 1970
Survey Markers
"making a point for the future"

Ontario's Leading Survey Bar Manufacturer

Online Ordering

Prompt & Efficient Delivery

Volume Discounts

6590 8TH Line, Beeton, ON

www.tekmet.ca

tekmet@bellnet.ca

905-729-2673

LOST AND FOUND – A Walk in the Woods

By R. Craig Stewart O.L.S. (Ret)

The black flies were out in full force, and in the nearby rock outcrops, the occasional rattlesnake was announcing its presence. On the positive side, the pine-scented air was fresh and the breeze from nearby Georgian Bay was helpful. In the summer of 1968, my crew and I were surrounded by typical Muskoka geography – granite, white pine, red oak, maple, and a forest floor covered in needles, leaves, and decaying trees and branches.

The north-east corner of Lot 53, Concession 2, in the geographic Township of Freeman (now in the Township of Georgian Bay) was our target, but it wasn't exactly staring us in the face. Looking at the surrounding undisturbed landscape, I had the feeling that the last person to traverse this area was David Beatty OLS (#107) in 1895/96, when he performed the first survey of part of Freeman Township, subdividing it into lots and concessions under instructions from the Crown.

Beatty's field notes show that he had planted a wooden post at this particular corner, and measurements to nearby topographic features shown in his field notes confirmed that we were in roughly the correct location; but we found no evidence of a post, or remains of a post, after examining a large area.

Why were we here? In 1967 I had been retained by the Tadenac Fishing Club to subdivide a portion of their vast

holdings fronting on Georgian Bay. The large lots were to be sold to members of the Club. The Tadenac Hunting and Fishing Club (as it was originally known) was the grantee in letters patent by the provincial government in the late 1800's. Note that some of the patents pre-dated Beatty's original survey, and were part of the un-subdivided territory of Muskoka. The Club members comprised a group of professional men from Toronto: doctors, lawyers, etc. The patents included part of the land under Georgian Bay, and also the land under the waters of Tadenac Lake, an (almost) land-locked lake. The patents did not include the original road allowances laid out by Beatty in his original survey (this may have been a surprise to members of the Club in later years).

Beatty's survey had established road allowances, one chain in width between every second concession and between every fifth lot line - the 1000 Acre Sectional System under the Ontario Surveys Act.

The object of our search was on the south side of the road allowance between Concessions 2 and 3 and on the boundary of one of the new lots we were establishing, subsequently designated as PARTS on several Reference Plans of survey prepared.

Finding no evidence of the lost corner, I had to consider an alternate method of establishing this corner. The Surveys Act prescribes methods when no physical evidence relating

Calendar of Events

May 2, 2018

URISA Ontario – BeSpatial 2018

Mississauga, Ontario

www.urisaontario.ca

May 6 to 11, 2018

FIG Congress 2018

Istanbul, Turkey

<http://fig.net/fig2018>

June 19 to 21, 2018

39th Canadian Symposium on Remote Sensing

Saskatoon, Saskatchewan

<https://crss-sct.ca/conferences/csrs-2018>

July 9 to 13, 2018

Esri User Conference

San Diego, California

www.esri.com/about/events/uc

October 16 to 18, 2018

INTERGEO

Frankfurt, Germany

<http://www.intergeo.de/intergeo-en>

October 30 to November 1, 2018

USC Unmanned Canada 2018 Conference

Vancouver, British Columbia

<https://www.unmannedsystems.ca>

to the lost corner exists. This could involve using net distances and bearings as shown on the original township plan from known survey monuments, possibly resulting in an extensive (and expensive) retracement of boundaries established by the original township survey. However, the Ontario Surveys Act also instructs the surveyor to use “the best available evidence” in determining a boundary or lot corner before resorting to the theoretical methods prescribed in the Act. In other words, a lost corner should be placed where it actually was, not where it should be.



With that thought in mind, I re-examined Beatty’s field notes and noted that the wood post he had placed was referenced to a tree nearby. In surveyor-talk this was a “bearing tree” (BT) and was commonly used in original township surveys as a means to locate the post if it disappeared; trees being permanent, wood posts less so. The BT was normally blazed with an axe, and the distance to it in chains or links, with a magnetic bearing, was recorded in the original survey notes. If found, Beatty’s BT would be the “best available evidence” of the lost corner.

Unfortunately, no living trees in our search area were large enough to have been a BT in 1895; the post and the tree were long gone. After spending the better part of a day carefully (remember the rattlesnakes) uncovering and examining several disintegrating tree trunks lying on the ground: EUREKA!

The bearing tree had fallen with the BT blaze facing up, as luck would have it. The tree was entirely decomposed, except for the blaze, and covered in leaves and pine needles.

Estimating the position of the tree before it fell, and using Beatty’s compass bearing and distance measurements from the BT as shown in his field notes, I set a prescribed Crown Lands survey monument and brass cap at the lost lot corner.

For this effort, the Ministry of Natural Resources paid me the princely sum of \$75 for the extra work involved in setting a cedar guide post and stone cairn according to instructions under their retracement program. Their aim was to encourage OLS’s to maintain deteriorating township fabric by monumenting lot or section corners found or re-established during the course of a private survey. At the same time, the MNR designated the corner thus set as “true and unalterable”.

They must have agreed with my method!



Utility MAPPING
the way to successful projects

T2 utility engineers

- Utility Mapping
- Vacuum Excavation
- Ground Penetrating Radar
- CCTV Sewer Services

T: 1-855-222-T2UE • E: info@t2ue.com • www.t2ue.com
your source for **subsurface utility engineering** services

NEWS FROM 1043

Changes to the Register

MEMBERS DECEASED

Fernando De Luca	1838	Dec. 21, 2017
Robert D. Tomlinson	1110	Jan. 10, 2018
M. Neil Simpson	683	Mar. 16, 2018

RETIREMENTS/RESIGNATIONS

Mircea Baila	CR206	Dec. 31, 2017
Edward M. Lancaster	1547	Dec. 31, 2017
William H. Card	1269	Dec. 31, 2017
Stephen Perkins	CR112	Dec. 31, 2017
E. Bruce Johnson	1571	Dec. 31, 2017
Eric Ting	1823	Dec. 31, 2017
Sophie Rose Coté	1987	Dec. 31, 2017
Steven Davidson	1939	Dec. 31, 2017
William Akehurst	1901	Dec. 31, 2017
Richard D. Lorentz	1399	Jan. 5, 2018
James E. Walker	1334	Feb. 1, 2018
Eric Ansell	1543	Mar. 3, 2018
J. Russell Hogan	1617	Mar. 21, 2018

SUSPENDED

Peter J. Williams	1211	Jan. 1, 2018
-------------------	------	--------------

REINSTATEMENTS

Andrew Cameron	1314	Jan. 1, 2018
Anita Lemmetty	1896	Feb. 14, 2018
Adam Stephen	1948	Mar. 9, 2018

COFA APPROVED

Genesis Land Surveying Inc.
Toronto, Ontario March 14, 2018

COFA RELINQUISHED

exp Geomatics Inc.
Sudbury, Ontario December 22, 2017

Story Geomatics Inc.
Haileybury, Ontario December 31, 2017

MacDonald & Eberhardt Surveying Limited
Napanee, Ontario January 1, 2018

Smith & Smith Kingston Ltd.
Kingston, Ontario January 1, 2018

Metz & Lorentz Ltd.
Kitchener, Ontario January 5, 2018

J.E. Walker Surveying Ltd.
Englehart, Ontario February 1, 2018

COFA SUSPENDED

Peter J. Williams, O.L.S.
Shelburne, Ontario January 1, 2018

Surveyors in Transit

Gregory Macdonald is now the Managing OLS at **WSP Geomatics Ontario Ltd.** in Oakville.

Steve Davidson is no longer with **exp Geomatics Inc.**

The Dryden office of **TBT Surveyors Inc.** has moved to 103

Duke Street, Dryden, ON, P8N 2Z4.

David Brubacher is no longer with **NA Geomatics Inc.**

Peter Moreton is now with **D. Culbert Ltd.** in Goderich.

David Raithby is now the managing OLS at **NA Geomatics Inc.** in Stratford.

Nath Segaran is no longer with **Barich Grenkie Surveying Ltd. (A division of Geomape Canada Inc.)**.

Guido Consoli is now the managing OLS at **Barich Grenkie Surveying Ltd. (A division of Geomape Canada Inc.)** located in Stoney Creek.

Ron Mak is now the managing OLS at the new branch office of **Van Harten Surveying Inc.** located at 71 Weber Street East, Kitchener, ON, N2H 1C6.

Luke Wilcox is now the managing OLS at **Van Harten Surveying Inc.** in Orangeville.

Black, Shoemaker, Robinson & Donaldson Limited (A wholly owned subsidiary of J.D. Barnes Limited) is now located at 257 Woodlawn Rd. W., Unit 101 Guelph, ON, N1H 8J1.

The Barrie office of **J.D. Barnes Limited** has moved to 142 Commerce Park Dr., Unit V, Barrie, ON, L4N 8W8.

Thomas MacDonald is now with **Hopkins Chitty Land Surveyors Inc.** located at 133 John Street, Napanee, ON, K7R 1R1. Phone: 613-384-9266.

Rudy Mak Surveying Limited has acquired the assets of **Menno Van Harten Surveying** effective January 1, 2018. Plans and notes are now at their office in Barrie.

Athiththan Kanaganayagam is now with **A.J. Clarke and Associates Ltd.** in Hamilton.

Matthew DiCosmo is now working with **Barich Grenkie Surveying (A division of Geomape Canada Inc.)** in Stoney Creek.

Protect Your Boundaries is now located at 7577 Keele Street, Suite B1, Concord, ON, L4K 4X3.

Frank Mauro is now the Managing OLS at the Vaughan office of **Young & Young Surveying Inc. (A Subsidiary of Mauro Group Inc.)** located at 400 Applewood Crescent, Unit 100, Vaughan, ON, L4K 0C3. Phone: 905-482-4668. **John F.G. Young** is the managing OLS of the Bolton office.

Dwayne Cummings is now the managing OLS at the new branch office of **Ivan B. Wallace Ontario Land Surveyor Ltd.** located at 637 Norris Court, Unit 1, Kingston, ON, K7P 2R9. Phone: 613-389-3344. The records of **Smith & Smith Kingston Ltd.** are located in this office.

Amar Loai is now the managing OLS at **Genesis Land Surveying Inc.** located at 10 Four Seasons Place, 10th Floor, Toronto, ON, M9B 6H7. Phone: 905-499-2956.

The Woodstock office of **Brooks & Muir Surveying (Div. of Macaulay White & Muir Ltd.)** has moved to 514 Princess Street, Suite 120, Woodstock, ON, N4S 4G9, and **Kenneth Ketchum** is the managing OLS.

THE AOLS IS PLEASED TO ANNOUNCE THAT THE FOLLOWING ONTARIO LAND SURVEYORS WERE SWORN IN:

Ignat Girin	2018	January 24, 2018	Shafic Rahman	2023	January 26, 2018
Armin Akhlaghi	2019	January 26, 2018	Saeid Sedaghat	2024	January 26, 2018
Aisar Bheri	2020	January 26, 2018	Robert Wood	2025	January 26, 2018
Navid Najjarbashi	2021	January 26, 2018	Natalie Vibert	2026	March 1, 2018
Robert Pearlman	2022	January 26, 2018			

Sites to See

The Great Trail

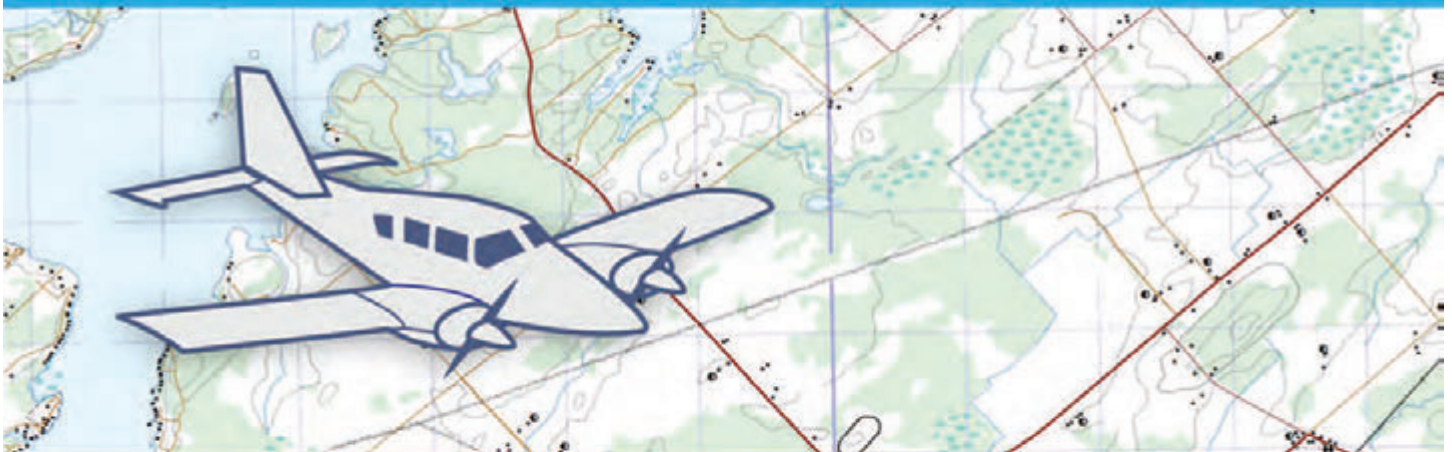
<https://thegreattrail.ca>

The Great Trail, formerly known as the *Trans Canada Trail*, is the longest recreational trail in the world. Twenty-five years in the making, it is more than 90 per cent complete and consists of more than 24,000 kilometres of multi-use trails stretching across Canada from coast to coast to coast. The Great Trail is a community-based project. Trail sections are owned, operated and maintained by local organizations, provincial authorities, national agencies and municipalities across Canada. Trans Canada Trail is a foundation that is represented by provincial and territorial organizations that are responsible for championing the cause of the Trail in their region. These provincial and territorial partners, together with local trail-building organizations, are an integral part of Trans Canada Trail and are the driving force behind its development.

Esri Canada has partnered with Trans Canada Trail to create *Explore the Map* which is an interactive map that not only shows the location of the trail but offers links to information, photos and stories to encourage all Canadians to get outdoors, explore and enjoy the many wonderful features of this national treasure. The map can be found at <https://thegreattrail.ca/explore-the-map>

SPRING IS IN THE AIR & WE ARE FLYING AERIAL PHOTOS

ORDER YOURS TODAY!



Northway/Photomap/Remote Sensing Ltd.
Aerial Photography, GPS Surveying, LiDar Scanning and More

pfrancis@photomapltd.com | 705.730.6694 | northway-photomap.com
Unit 2-75 Hooper Road, Barrie, ON, L4N 9S3

126th Annual G



Eric Termuende, who is a best-selling author, speaker, and entrepreneur, was the Keynote Speaker at the Opening Ceremonies. See his article on page 14.



Mark Sampson is Senior Vice President of Arthur J. Gallagher Canada Limited. He delivered the Charge to the New Surveyors at the Convocation Lunch. A copy of his speech can be found on page 24.

The 126th Annual General Meeting was called to order as the Sergeant-at-Arms Steve Balaban laid down the Standard Measure, which historically was used to control the accuracy of surveys in Upper Canada.



Incoming President Dan Dzaldov (right) presented the Past President's gavel to Russ Hogan.

Members Commissioned in the Last Year

Front left: Juzer Noman, Keene Maulion, Shafic Rahman, Natalie Vibert, Farzad Salehi, Maaz Malek



Russ Hogan (left) presented a Posthumous Centenary Award in the name of Henriette Verhoef to her sister Monique Ibey (right). Henri was a valued member of the North Western Regional Group. She will be remembered for her professionalism, her kindness and her dedication to the environment.



Russ Hogan (left) presented a Centenary Award and accompanying pin to Des Rasch for his accomplishments and exemplary conduct as an Ontario Land Surveyor.

General Meeting



Chris Tucker, Specialist High Schools Major (SHSM) Board Lead for the York Region District School Board, was invited to speak to the members about the SHSM Land Surveying Certification Program.



Back left:
Andrew Kayak,
Rob Wood,
Ignat Girin,
Mark Girin,
Aiser Beri,
Armin Akhlaghi,
Saeid Sedaghat,
Navid Najjarbashi,
Athiththan
Kanaganayagam

missing from photo
Justyna Ziemlewska
and Robert Pearlman



Vicki Hogan (right) presented the AOLS medallion to Shawna Dzaldov



Russ Hogan (left) presented a Centenary Award and accompanying pin to Tony Roberts for his accomplishments and exemplary conduct as an Ontario Land Surveyor.



Natalie Vibert (left) was sworn in by Registrar Bill Buck just prior to receiving her OLS certificate at the Convocation ceremony at the Convocation Lunch.

Event Sponsor



Arthur J. Gallagher Canada Limited represented by Mark Sampson, Senior Vice President

Platinum Sponsors



Members of the Cansel Team



Members of the Sokkia Team

Thank you to all of our Sponsors and Exhibitors



The Connectors Insurance Group represented by Bob and Leslie Morrow



Protect Your Boundaries represented by Saša Krcmar (left) and Chris Kamarianakis



URISA Ontario was represented by Executive Director Sandra Crutcher (left) and President Catherine Fitzgerald.



Guests from other provincial surveying associations and their accompanying persons pose with President Russ Hogan (centre) and his wife Vicki at the President's Dinner and Dance.



Pat Hills and all the players wore an RDT 1110 sticker on their helmets in memory of Robert D. Tomlinson, OLS #1110 who was a regular character at the annual hockey game.



Thanks to (from left to right) Penny Anderson, Lena Kassabian and Julia Savitch who sold tickets for the Exhibitors' Draw at the Welcoming Party.



The Welcoming Party. Thanks to our Exhibitors who each donated a prize for the Exhibitors' Draw, which is an annual fundraiser for the benefit of the AOLS Educational Foundation.



Hockey at the Falls! Sponsored by Pat Hills and Cansel

It was a great turnout this year for the 14th Annual Hockey Game at the AGM. Twenty two players and two "rent-a-goalies" rounded out the squads. Thanks to everyone who took part and thanks to Pat Hills again for keeping this game going!

Veterans' Dinner



Front left: Al Roccaforte, Ed Bowyer,
Wayne Brubacher, Doug Culbert
Back left: Stewart McKechnie, Frank Mauro



Front left: Mike Maughan, Eric Ansell,
Colin Bogue, Adam Kasprzak, Rob Harris
Back left: Phil Hofmann, Omari Mwinyi,
Robb McKibbin, Patrick Haramis



Front left: John Galejs, Helmut Grander,
Andrea Tieman, Doug Hunt, Ed Grenkie
Back left: Jim Hill, John Jackson, Erich Rueb,
Leslie Higginson, Chester Stanton



Front left: Tony Roberts, Norm Sutherland,
Mrs. Rasch, Des Rasch, Richard Murray
Back left: Ron Dore, Murray LeGris,
David Dorland, Marvin McNabb, Bill Snell,
Bruce Clark, Izaak de Rijcke, Mrs. Roberts,
Gord Good



Front left: Gerald Hickson, Andy Shelp,
Richard Emode, Peter Williams, Steve Gossling
Back left: Greg Bishop, Bill Webster,
Paul Gregoire, Dan Vollebakk, Ed Herweyer



Front left: Bill Buck, David Horwood,
Dan Dolliver, Bob Hawkins
Back left: Rodney Geyer, Bill Bennett,
Ivan Wallace



Front left: Bruce Baker, Brian Maloney,
Russ Hogan, Sue MacGregor
Back left: Al Worobec, Murray Purcell,
Blain Martin



Front left: Paul Wyman, Grant Bennett,
Maureen Mountjoy, Bob Mountjoy
Back left: Bob Jordan, Gary Auer,
Vladimir Krcmar, Kim Husted



Front left: Mrs. Taurins, Ms. Demiany
(Tolson's wife), Talson Rody, Ron Berg
Back left: Peter Lamb, Paul Goodridge,
Norm Taurins, James Ferguson, Bruce Irwin



Front left: Tim Hartley, Bob Clipsham,
Paul Riddell, Keith Watson
Back left: Scott McKay, Ron Jason,
Martha Burchat, Paul Edwards, John Vinklers



Front left: Mrs. Annable, Mrs. Statham,
Mrs. O'Sullivan, Mrs. Monteith
Back left: Drew Annable, Jim Statham,
Michael O'Sullivan, Jack Monteith



Front left: Ardon Blackburn,
Rodney Reynolds, Rob Mann,
Kathy Sam-Guindon
Back left: David Raithby, Bob Fligg,
Paul Torrance

Convocation Address Charge to the New Surveyors



By Mark Sampson

When I first got the call from Blain Martin asking me to address the newly commissioned surveyors at the Convocation Lunch at the 126th Annual General Meeting, the first thing that went through my mind was:

“Have you been drinking Blain?”

“I am not a surveyor... I am an insurance guy... I don't know much about surveying... all I know is what surveyors shouldn't do. What common mistakes they make!”

“What advice can I give to the incoming members?”

Blain's response to my question was: “Mark, Bill Buck and I think you will do a wonderful job giving the charge to the incoming members. Just stick to what you know.”

So I decided to take their advice and share some very important risk management advice that will help limit your exposure to loss and if you really listen closely, you may even profit from it.

- 1) My first piece of advice is not only for the new surveyors, but for all of the other surveyors in the room. You can use this advice tonight, tomorrow, and for the rest of your lives! Never, ever, no matter what the circumstance, split 10's when playing Blackjack! It is a terrible move and you will anger everyone at the table. Now, if you have a hand with pocket 8's, you always split those, as starting with 16 is the worst position to be in. I thought this advice was very timely considering we are in Niagara Falls.
- 2) It is proven that the “5 second rule” is a myth. When food is dropped on the floor, it is just as dirty and has been contaminated with the same amount of germs as if it had been lying there for a minute. Do yourself a favour, don't put it in your mouth!
- 3) Never eat yellow snow. No explanation required.
- 4) The next piece of risk management advice relates directly to surveying. Here are some interesting stories of some prominent surveyor's mistakes made prior to them receiving their commissions. To make it even more interesting, I will even tell you which surveyors made the errors! *[At this point, Mark recounts a few humorous anecdotes.]*

In all seriousness, besides being able to take a joke, these surveyors have a few things in common: they are all highly intelligent, successful businessmen, and above all, they are all extremely “professional”.

So what does it take to be a professional? What does the word really mean?

According to the Merriam-Webster English dictionary, the word “professional” was first used in the English language in 1606. A professional is:

- 1) Engaged in one of the learned professions.
- 2) Characterized by or conforming to the technical or ethical standards of a profession.
- 3) Exhibits a courteous, conscientious, and general businesslike manner in the workplace.

How does this definition of a professional relate to the land surveying and insurance industries?

#1 – “*Engaged in one of the learned professions.*”

Traditionally, a learned profession referred to a profession in theology, law, or medicine. However, the root of the definition means a profession that is associated with extensive academic learning. So in today's society, professionals include: lawyers, accountants, engineers, architects (*well I guess some of them can be considered professional*), insurance brokers, and land surveyors.

As I work in insurance, and represent the land surveyors in every Province and Territory in Canada, I am in a unique position to see the similarities between land surveying and the insurance industry. I have observed **5 main similarities** between our professions:

- 1) The first similarity is that society would not function properly or efficiently without land surveyors or insurance professionals.

The simple concept of insurance is to pool the money of the many to pay for the losses of the few. People pay a “premium” to transfer their risk of injury or loss to an insurance company. Without insurance, banks would not lend money to individuals to buy a house; entrepreneurs would not innovate or take risks for fear of being sued; people who are injured in car accidents and no longer able to work would have no means to support their family. In general terms, the economy would not function as effectively or efficiently as it does today.



Surveyors are the architects of the boundary fabric of Canada. They have led in the development and issuance of Crown land and the formation of personal and business property titles throughout the history of our nation. Surveyors continue to play a vital role in the pre-design and as-builts of every major infrastructure project throughout Canada. Society relies on the expertise of surveyors to adjudicate boundary disputes and establish ownership title. This importance is even depicted on the building of the Toronto Stock Exchange which shows a surveyor leading the economic engine of our country.



- 2) There is a strong sense of community within both professions. I have the pleasure of attending the annual general meetings of the Provincial Surveying Associations across Canada and the one thing that amazes me the most is that even though surveyors may compete against each other for business, they are just as likely to socialize, have a drink, and share ideas on how best to improve and advance the Survey profession. This is the same at the insurance broker annual general meetings... except with a little less scotch!
- 3) Both professions also believe strongly that their members should maintain professional development throughout their career. We both have to follow a program of continuing education and maintain a level of proficiency that will meet the needs of the public.
- 4) Another similarity between insurance and land surveyors is that we are both connected to the land. Almost every day during the summer we get to be outside in the wilderness, being one with the land and countryside. It's just you and nature, and a little white golf ball that you hit up and down fairways without a care in the world... Well ok, maybe that last one is just applicable to insurance!
- 5) And finally, both of these professions have people that typically "fell into" the industry. People were either attracted to the industry because of a family member or friend, or they were exposed to some of the principles of the profession at College or University.

It is because of these similarities between our professions

that I believe is the reason that I have such a great connection with the surveyors across Canada.

I am sure many of you believe that I dreamt of being an insurance professional when I was growing up. Well, I am sorry to say that isn't true. I went to Wilfred Laurier University for business and economics. While in my second year, I got into the Business Co-op Program and was offered a job at an insurance company.

When I graduated from university, I started my career at Zurich Insurance Company. I learned about the essential role that the insurance industry played in the global marketplace. More importantly, I saw firsthand the positive impact that insurance has when a business or a person suffers a loss. This encouraged me to pursue the goal of becoming an insurance professional.

Now let's go back to the second part of the definition of a professional:

#2 - "Characterized by or conforming to the technical or ethical standards of a profession."

Similar to receiving your surveying commission to obtain your land surveying designation, in the insurance industry, you have the option to take two professional designations to achieve the top level of professional certification. I achieved both the insurance professional designations within 3 years, becoming one of the youngest graduates. But I quickly realized that just because I graduated with the technical requirements to become an insurance professional, it didn't make me a true professional.

I had only met one of the many criteria of becoming a professional: achieving the technical standards of the profession.

In my view, professionals must conform to both the technical and ethical standards of their profession. Both of our professions have a code of ethics that we must abide by. The Code of Ethics of the AOLS and that of an Insurance Professional are very similar. However, they are merely words written on a piece of paper. The true test of whether or not you meet the ethical definition of a professional is how you act every day. Do you conduct your business in a truly ethical manner?

As my career in insurance evolved, I moved to the broker side of the insurance business. This is where I faced my first professional ethical dilemma.

I was presenting an insurance proposal to a large potential client. The insurance program that I put together had some good coverage features and it was cheaper than what they were currently paying. The issue I faced was that the prospective client's current insurance program had some good coverage features that in some ways were superior to the coverage I was offering.

So my ethical dilemma was: do I just focus on the coverage features that I was offering? After all, the premium I was quoting was less than he was currently paying. I could have simply not discussed the full technical coverage aspects of the other program offered by the other insurer. What would a professional do?

cont'd on page 26

Well, as a professional, I did go through the coverage differences between the program I offered and his current coverage. I told the President of the company, that if he were my client, my professional recommendation would be to stay with his current insurance program and that the premium savings was not worth switching for. My professional advice didn't change regardless of whether he was my current client or not. As a professional, you should never be influenced by the potential of profit or lack of it.

The client was obviously very appreciative that I gave him my honest opinion. So he took my advice, and he stayed with his current insurer and I didn't win the business.

So as a newly commissioned OLS, you may be faced with a similar ethical situation or dilemma. A client may ask you to adjust a boundary, topographic survey or as-built survey in his/her favour – or to cut corners on research to save costs.

The decision you make at that time will not only impact you today, it will impact your future reputation as a professional land surveyor both at your current firm and in the surveying industry. Always give the right professional advice regardless if it has a negative financial impact on you, or your client.

One of the things that impresses me the most about surveyors is that you are advocates for the truth, even if the truth is to the detriment of your client. This is unlike other professionals such as lawyers, who are advocates for their clients (sometimes regardless of truth).

To finish my ethical dilemma story, the next year that same client called me for advice as his business needs were changing, and he knew that I would be straight forward and honest. Based on his business' new requirements, I put together a broader insurance program than he currently had and he switched brokers and I earned a new client. This is a good example of how the decisions you make may have a short term negative impact however, in the long run, they can pay off.

Finally, let's examine the third definition of what it means to be a professional:

#3 - "Exhibiting a courteous, conscientious and general businesslike manner in the workplace."

For some people, this may be the most difficult attribute of being a professional to achieve, while for others, it may be the easiest.

How we conduct ourselves in the workplace is very prevalent in today's society with the much publicized allegations of sexual misconduct against prominent businessmen within Canada and abroad. I suspect that if these people are acting unprofessionally in the workplace, they are acting unprofessionally outside of it as well.

In my view, this part of the definition of a professional should be expanded to include not only in the workplace, but also in our daily lives. I was very impressed when I read the AOLS Code of Ethics. The very first point is: "Every member shall conduct his or her professional and private affairs in such a manner as to maintain public trust and confidence in the profession." A professional is a leader. Someone who is always courteous and respectful to

everyone, regardless if it is in the workplace or outside of it.

If you look around the room today, the surveying profession is becoming more diverse, multicultural, and gender inclusive than in the past. This is a very encouraging demographic change. You must continue to promote and embrace cultural diversity and gender equality within the land surveying profession. Be leaders. Be professionals. Conduct yourselves in a businesslike manner in the workplace and outside of it.

As I have outlined today, the definition of a "professional" is multi-dimensional. In my opinion, to be a professional, you have to achieve the technical standards of surveying, operate your business ethically, and be a leader by behaving in a courteous and respectful manner in the workplace and in your personal life.

To the recently commissioned land surveyors: being a true professional isn't a one-time thing. You haven't achieved it today by obtaining your commission. You won't achieve it tomorrow, or next year, or the year after that. You ALWAYS have to live up to the definition of a professional throughout your career. Being a professional is a lifelong pursuit of self-improvement.

So your journey starts today. Your path is clear. I wish you well on your journey to becoming a true professional by maintaining the public trust and confidence in the workplace and in your personal life.



www.BATTERYREVIVAL.com

Send your batteries to the company Land Surveyors have come to trust since 1994

Battery Re-celling:
Total-Stations, Radios, Drills, etc.

Data Cable Repairs

Bar Finder Repairs

www.magnetic-locator-repair.com
www.batteryrevival.com

(416) 823-0489 (talk or text)

Dias & Dias Electronics
1992 Davebrook Rd, Mississauga, ON, L5J 3M5

You'll like the way your software works

New Carlson 2018



Fair Price

Offered through perpetual licensing with optional upgrades. Check out the savings at carlsonsw.com/civilsuite.

Free Support

Carlson Software provides free technical support by phone and online.

Newly released Carlson 2018 has more than 200 new feature improvements. Learn more at carlsonsw.com/2018

Full Featured CAD

Powerful, yet flexible automation for all facets of a land development project.

Available for AutoCAD® (versions 2010 to 2018) or with IntelliCAD® 8.3 built-in.

Carlson Software Inc.
33 East 2nd Street ■ Maysville, KY 41056, USA
800-989-5028 ■ 606-564-5028 ■ www.carlsonsw.com

© Copyright 2017 Carlson Software, Inc. All rights reserved. Carlson Software is a registered trademark of Carlson Software, Inc. All other product names or trademarks belong to their respective holders.



Speculations on the Seneca Outpost of Tinawatawa

By Joachim Brouwer

Much has been written on the aboriginal hamlet called Tinawatawa. It is popularly considered to have been a transient Seneca hunting outpost or way station but was also probably the site of an earlier Neutral/Chonnonton town. This article proposes an alternative to the traditionally understood location of Tinawatawa.

By the late 1700's, the Mississauga Ojibways, the Anishinaabe, were nominal owners of the Niagara corridor, a fertile flat belt of land stretching from western New York to the head waters of the Thames River. The Anishinaabe sold their holdings to the British government in 1784, who in turn deeded part of it to the Six Nations Iroquoian Confederacy for their loyalty to the Crown during the American Revolution.

The Mohawk Iroquois, the most populous of the 'nations', established their villages on the west side of the giant oxbow of the Grand River, near present day Cainsville, just downstream from Brant's Ford. The other 'nations' spread out along the lower parts of the river.



Canoeist approaching the giant oxbow of the Grand River near Cainsville.

The Iroquois League or Confederacy (Haudenosaunee meaning 'People of the Longhouse' is a newer term) had been using much of the Niagara corridor as a hunting ground after 'dispersing' their linguistic kindred the Neutrals, the Attawandaron or most properly the Chonnonton ('people who tend deer').

The forests in the Niagara corridor teemed with deer, bears and wild turkeys. Rattlesnakes as thick as a man's arm were reported by the Sulpician priests Francois Dollier and Rene Gallinee when they visited here in 1669. Passenger pigeons could be batted to the ground with sticks. In fact, the north

shore of Lake Erie was described on some French maps as 'Chase de Castor des Iroquois' or 'Iroquois beaver ground'.

The Five Nations (the Tuscaroras would be added in 1712) established or repurposed existing settlements throughout Southern Ontario, including one, that can be nicknamed 'the town of many names'. Quinaouotuan, Outinouatawa, Tinaouatoua and Tinawatawa have all been used to designate the fabled Seneca habitation. Famed historian Francis Parkman, called the place Otinawatawa, referring to it as a kind of Iroquois colony. Another author refers to it as a 'hub' village.

Some of these Iroquois settlements may be better called outposts and were located on high points of land, at the confluence of streams and /or the junction of walking trails. The traditionally ascribed location for Tinawatawa, the easiest name to use for the Seneca habitation, is in a hilly part of Flamborough Township, just east of Westover, about twenty-five kilometres northwest of Hamilton, which meet two of the three requirements above. But not perhaps the most important one.

Numerous meandering trails crisscrossed the Niagara corridor. The 'Iroquoian Trail', just inland from the southern shore of Lake Ontario, crossed the Niagara River near present day Lewiston and proceeded into the ancestral Six Nations lands in New York. This is King Street in Hamilton and Highway #8 today. In fact, many of the bends and twists of these busy thoroughfares follow the path of the original trail.

The better known Mohawk Trail, sometimes called 'The Great Road', which also had also its eastern terminus in the Mohawk Valley, paralleled the upper escarpment, probably crossing the upper Niagara River at 'Black Rock' near present day Fort Erie. The Mohawk Trail wound its way the other way, northwest to Huronia, the ancestral homelands of the Wendat Iroquois.

The Detroit trail, the Highway #401 of its day, spun off The Great Road somewhere in the Dundas Valley, connecting to the headwaters of the Thames near London and paralleling the south shore of Lake St. Clair before reaching Fort Pontchairen (Detroit). Much of the Detroit trail has been incorporated into Wilson Avenue in Ancaster and Highway #2 to Woodstock and beyond.

Outdoor educator and author Bob Henderson has written about a 'portage' trail of waterways that existed between

Dundas and Cainsville. Both Ancaster Creek and Sulphur Springs Creek were probably navigable for considerable lengths in earlier days. Both are oriented towards the Grand River. Fairchild Creek could have served as the western leg of the portage route. The portage trail may have been used by various aboriginal groups to ferry trade goods from the head of Lake Ontario to the largest water course in Southern Ontario.

Henderson speculates that the busy corner of present day Rousseau and Wilson Avenues in Ancaster, where Ancaster Creek passes under a busy bridge and turns sharply east, was the junction of the Mohawk Trail, the Detroit trail and the 'portage' trail. He suggests that it may also be the true location of Tinawatawa.

The existence of Tinawatawa is firmly placed in time, if not place. In one of the most amazing co-incidences in Canadian history, the Seneca Iroquois village was where, on September 24, 1669 Adrian Jolliet, brother of Louis, discoverer of the Mississippi River met Rene Robert Cavalier De La Salle, discoverer of the mouth of this auspicious body of water.

The naming and plaquing, on a huge boulder no less, of La Salle Park in Aldershot by The Wentworth Historical Society in the 1920's supposedly established incontrovertible proof that this is the place where La Salle and his entourage made landfall in late August 1669 and stayed over two weeks. However a more recent OHS plaque at the north end of the park, near North Shore Blvd. diverges from the commonly understood narrative, suggesting that Tinawatawa, La Salle's final destination, was located between Brantford and Dundas.



Rene La Salle and his European companions Dollier and Galinee, on their way to the Ohio River, had come to Hamilton Harbour/Burlington Bay after visiting the Seneca capital Ganondagan near present day Rochester, New York where they had gained the services of a Seneca guide, returning to his hometown or posting of Tinawatawa.

Following present day Waterdown Road, La Salle and his entourage came to a cleft in a steep rock face that became known as the Niagara Escarpment. This scenic vista was overrun by mills and factories in pioneer white settler times and fittingly called Smokey Hollow. From here, La Salle turned in the opposite direction of the current road, crossing

Grindstone Creek, going through the recently named Souharrisen Natural Area and arriving at Lake Medad where they stayed one night.

Lake Medad, also called Lost Lake, is mostly known as Hidden Lake today and owned by a trailer park of the same name. The virtually inaccessible body of water, partially fed by underground stream, is barely visible from the nearest public road, Parkside Drive. Lake Medad has also been cited as the true location of Tinawatawa.

On the 300th anniversary of La Salle's journey, reputed local historian Roy Woodhouse produced a map showing La Salle's route to Tinawatawa, including the final portion along Grindstone Creek and into the Beverly Swamp. Before farmers in the area diverted stream water for their animals and crops, Grindstone Creek was much broader and deeper and could have been navigable to Millgrove. Woodhouse does not include the overnight stay in Lake Medad.



A formal archeological survey in 1960 by McMaster University archeologist William C. Noble supposedly established the headwaters of Grindstone and Spencer Creeks near Westover as the location of Tinawatawa. The series of drumlins in the area would have made it ideal for scanning the landscape below. Iroquois observation platforms have been noted in their ancestral homeland towns.

However, in a letter to author Michael Powers dated November 9, 1982, Noble says that Tinawatawa was probably located between Burlington Bay and Grand River. From his excavations of numerous Neutral/ Chonnonton villages and towns, Noble believed that both the Westover and Lake Medad sites had been abandoned by the time La Salle arrived.

James Coyne of Elgin County was the first person in the modern era to write about the Chonnonton people. In an 1895 monograph titled *The Country of the Neutrals* where he details Dollier and Gallinee's nearly one year long journey in Canada, Coyne writes that Tinawatawa was located midway between Cainsville and Burlington Bay.

Frank Severn who has written extensively about the Niagara region believes that it was in late September 1669 that La Salle traveled on the trail between Burlington Bay and the Grand River and met Joliet.

In 1744 the celebrated cartographer and philosopher Charlevoix Bellins produced a map that clearly shows Tinawatawa under one of its many spellings located almost

exactly in the middle of a trail linking two major bodies of water.

the well blazed and trod portage trail could more reasonably have facilitated a two-day journey.

In conclusion, while the Westover site is still favoured as the location of Tinawatawa, the matter is far from being settled. The Old Mill restaurant at Wilson and Rousseau in the affluent town of Ancaster is resonant with history. The late 18th and early 19th century ‘milling’ functions of the complex are well known but who knows what else lies far below the well-heeled diner’s feet.



A key piece of evidence that Tinawatawa was located further south is that Galinee says it took two days and one night to reach the Grand River from Tinawatawa. It was here where that the two Sulpician priests began their voyage to reach the Potawatamis in the Sudbury area. La Salle, feigning illness and unwilling to continue to share control of the expedition to the Ohio, returned to Fort Frontenac (Kingston).

Joachim Brouwer has been fascinated by our aboriginal past ever since he walked behind his Dad who every spring ploughed the stony field sitting on a high bluff of the land they owned, overlooking the Grand River, near Cayuga. He eagerly eyed the freshly turned up earth looking for arrowheads or unusual shaped stones.

Today he resides in Hamilton and is the lead of *The Gibson-Landsdale History Action Team*.

The distance from Westover to the Grand River as the crow flies is only about 24 kilometres. However Dollier and Gallinee would probably have travelled in an L-shape similar to the current road configuration, making a bee line from Westover to the portage trail near the junction of Powerline Road and Regional Rd #52.

Bibliography

Coyne, James. The Country of the Neutrals: From Champlain to Talbot. Times Print., St Thomas, 1895.

Henderson, Bob. Every Trail has a Story: Heritage Travel in Canada. Dundurn Press, Toronto, 2005.

Henderson, Bob and Bandow, James. ‘Watch Your Step: Where was Tinawatawa?’ Ontario Professional Surveyor, Summer 2009.

Johnston, C.M. The Head of the Lake: A History of Wentworth County. Wentworth County Council reprint, Hamilton, 1967.

J.E. Wodell. ‘By Medad’s Marshy Shores’ Pen and Pencil Sketches: Wentworth Landmarks edited by Alma Lauder-Leith. Spectator Printing Company Limited, Hamilton, 1897.

Montague, Pat. The Wampum Keeper. Double Dragon Publishing, 2002.

Noble, William C. ‘Souharissen’s Chiefdom: An Early Historic 17th Neutral Iroquoian Ranked Society’, Canadian Journal of Archeology 1985.

Parkman, Francis. The Discovery of the West: La Salle. Rinehart and Company, New York and Toronto, 1956.

Parmenter, Jon. The Edge of the Woods: Iroquoia, 1534-1701. Michigan State University Press, East Lansing, 2010.

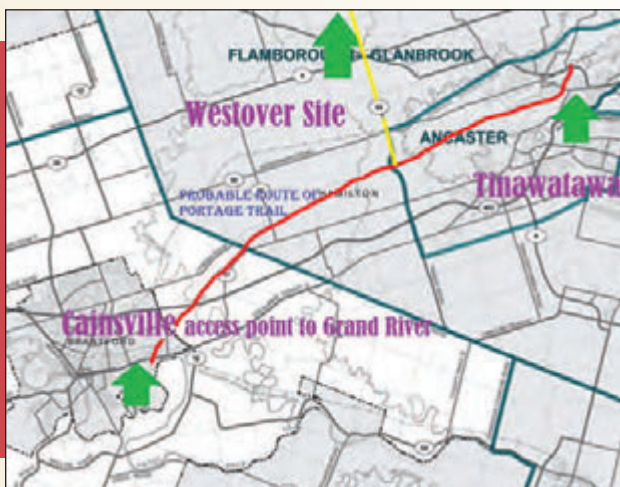
Power, Michael. A History of the Roman Catholic Church in the Niagara Peninsula 1615-1815, Roman Catholic Diocese of St. Catharines, Ontario, 1983.

Aboriginal Ontario: Historical Perspectives on the First Nations edited by Edward S Rogers and Donald B Smith. A publication of the Ontario Historical Studies Series. Dundurn Press, Toronto, 1994.

Severance, Frank. Old Trails on the Niagara Frontier 2nd Edition, Burrows Brothers, Cleveland, 1902.

White, Marion. ‘On Delineating the Neutral Iroquois of the Eastern Niagara Peninsula of Ontario’, Ontario Archaeology #17, 1972.

Woodhouse, Roy. ‘La Salle’s Probable Route to Tinawatawa’, Wentworth Bygones, The Records and Papers of the Head of the Lake Historical Society. Volume 8, 1969.



It is somewhat difficult to believe that Dollier and Galinee, weighed down with trade goods and provisions, could have travelled the entire distance, well over 30 kilometres from Westover via the portage trail to the Grand River, in two days. The proposed site of Tinawatawa, represented by the green arrow on the map, may only be a slightly shorter distance to the Grand River than Westover. However,

It's business and it's personal.

AFTER ALL, getting to know you better is what allows us to truly understand your investment needs. And that means a world of difference for you. We take the time to customize an investment plan that fits your life, so you can focus on what really matters—living it.

To learn more about Investment Management, please contact Julie Brough who will match you with a Portfolio Manager that is right for you: **647-352-5100**.



The Future Starts Now: Part II

By Justin Collett

As the outgoing President of the Geomatics Undergraduate Engineering Student Society (GUESS), and Founder/Chair of the *first ever* National Geomatics Competition (NGC), which was hosted at the University of New Brunswick (UNB), I am happy to report that the event was a complete success! What started as a pipe dream in late 2016 has become a reality because of the continued efforts of the Organizing Committee (OC). This amazing group of (mostly) fourth year geomatics engineering students, who took time out of their hectic schedules, during the busiest semesters they would face at UNB, truly made the event a joy to attend. To all of the event volunteers, and specifically Riley Smith, Curtis Blackwood, Victoria Menchinton, Alex Turner, Patrick McNeill, Luke McCully, Raymund Cronin, Ryan McGuigan, Toni MacRae, Bailey Simpson, and Tegan Guenette, I'll be forever grateful for the sacrifices that you have all made to get this event off the ground.



U of C representatives (left to right): Outgoing GESS President Jennifer Busser, Miriam Dietz, Edmond Leahy (NGC 2019 Chair), Kelly Harke, and Dr. Lichti

(UofC), and a number of industry professionals, who judged during the competition, spoke at the conference, and provided the sponsorship that was necessary to host the competition. The first official activity on Friday, February 16th was a shared event with our media sponsor GoGeomatics, an icebreaker social where students, professors, and industry professionals were able to mix and mingle before the competition took place. We had a few rounds of trivia, a rock paper scissors tournament, and door prizes galore!

It was an early start for the competitors on Saturday morning; the introduction to the geomatics-based consulting problem began at 8am sharp! The teams were tasked with preparing a response to a Request for Proposal (RFP) to design a flood mapping and monitoring system in Karonga, a northern region of Malawi. They were given six hours to design the system while keeping the following rubric criteria in mind: Societal Benefits, Economics, Data Storage and GIS, Feasibility, and Education. To include the



The UNB NGC Organizing Committee at the Awards Gala (left to right): Victoria, Curtis, Ryan, Justin, Raymund, Patrick, Luke, Alex, and Riley

For those who were not lucky enough to attend, don't worry! The Geomatics Engineering Student Society (GESS) at the University of Calgary will be hosting NGC 2019 in "Cowtown". But before I delve too deeply into the future of the NGC, I would like to highlight what took place at our first competition.

We were fortunate to have nine teams made up of three delegates each to attend our first ever NGC, many of whom weren't exactly sure what they were getting themselves into! These teams came from the following schools: York University, University of Calgary, University of Waterloo, Southern Alberta Institute of Technology, British Columbia Institute of Technology, and of course UNB. With them came a number of professors: Dr. Costas Armenakis (YorkU), Dr. Sameh Nassar (SAIT), and Dr. Derek Lichti



(left to right): Dr. Nassar, Dr. Kingdon, Dr. Armenakis, and Dr. Lichti

attending professors in the activity, we had them, along with UNB Geodesy and Geomatics Engineering (GGE) Undergraduate Director Dr. Robbie Kingdon, participate in a “call a professor” portion of the event where each team was allowed a 10-minute question period with the panel of professors. At the end of the allotted six hours, each team was given fifteen minutes to make a presentation in front of a judging panel of industry professionals and professors and 5 minutes to answer any questions. The OC and I were delighted to see the diversity of solutions to this problem. They ranged from UAV flight paths to crowd sourced data to Artificial Intelligence (AI) for water level prediction.



UNB GGE students and NGC delegates at curling night

from Callon Dietz - “Surveying the Future”, Mike Wolf from NBDTI and CIG - “RPAS Innovations”, and Dr. Monica Wachowicz from UNB GGE - “Behind Big Data”. Neil, Terry, Tim, Mike, and Bernie Conners from GeoNB also took part in an Industry Panel where they answered a range of questions from the attendees. Our Keynote Speaker John McLaughlin, UNB President and Professor Emeritus, concluded the event with his “Reflection on a Life in Geomatics”.



BCIT students attending the ‘Call a Professor’ portion of the event (left to right) Wade Zhang, Grady Rowley, Tyler Chase, Dr. Nassar, Dr. Kingdon, Dr. Armenakis, and Dr. Lichti



YorkU delegates presenting in front of industry professionals and professors



Dr. Wachowicz presenting on Big Data and the Internet of Things

The Saturday evening social included a curling night, which is an annual tradition for UNB GGE students. It was a perfect way to unwind after a hectic day of researching and presenting.

The final day of the NGC consisted of a conference and gala dinner at the Fredericton Convention Center (FCC). Imelda Pearly, UNB Elder in Residence, welcomed the conference attendees to the unceded lands of the Wolastoqey with a song and drumming. She spoke to us of her peoples’ connection to the land, and some of the issues that she is working on to solve in aboriginal communities. The following sponsors presented throughout the day and spoke on a range of geomatics related topics: Tim Steeves from Challenger - “3D Laser Scanning Applications in Geomatics”, Neil Gerein from Novatel - “Accuracy, Availability, and Assurance”, Terry Dietz and Mike Simpson



NGC Founder/Chair Justin Collett (left) and Keynote Speaker Dr. John McLaughlin.

cont'd on page 34

We convened back at the FCC later that night for our final event, the awards gala. A cocktail hour proceeded a splendid buffet dinner which was enjoyed by all. UNB GGE Chair Dr. Peter Dare made my job easy by thanking just about anyone who could be thanked during his opening remarks.

Anticipation grew as we announced the top three finishers:

Third Place: University of Calgary - Miriam Dietz, Kelly Harke, and Edmond Leahy

Second Place: University of Waterloo - Nahleen Antika, Aujas Bandlish, and Carmen Kong

First Place: UNB - Bennett Faulhammer, Kurt Hamlyn, and Jake Surgenor



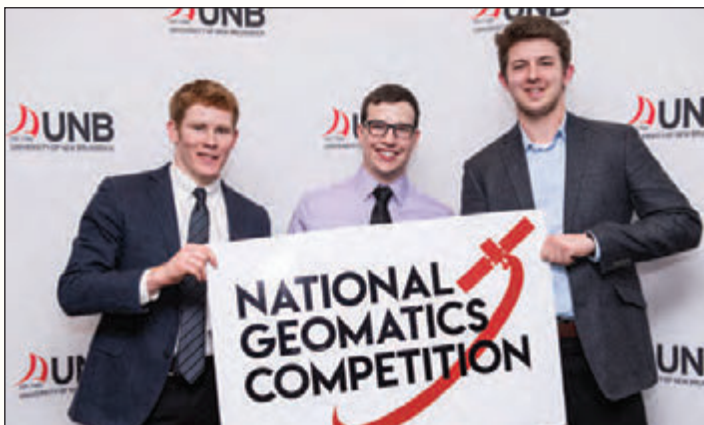
Waterloo delegates (left to right): Aujas Bandlish, Dina Amer, Nahleen Antika, Candy Lee, Carmen Kong, Nathan Joosse



YorkU delegates (left to right): Patricia Dhup, Ario Hadian, and David Recchia



First place UNB team (left to right) Jake, Kurt, and Bennett with Sponsors & VP Academic.



UNB delegates (left to right): Gavin Tyler, Michel Leger, and Tyson Lyons



SAIT representatives (left to right): Mikhail Fedossov, Victoria Desjardins, Kori Millar, Dr. Nassar, Haoran Li, Johan Cooper, and Kuan Xiong

Congratulations!

The Organizing Committee and I were so pleased to have such generous support from our sponsors! We couldn't have done it without them, and are excited to build partnerships with them for the future of our annual event. To insure the longevity of the NGC, a Steering Committee has been formed which currently consists of myself, NGC 2018 VP External Riley Smith, outgoing UofC GESS President Jennifer Busser, outgoing UofC GESS VP Academic Nathan Patton, and NGC 2019 Chair Edmond Leahy. Together with University of Calgary's OC, the NGC will continue to be a quadruple win - for students (read future professionals), academia, professional associations, and industry professionals/sponsors. By bringing all of these groups together and having them communicate, the future of geomatics will be very bright. From the beginning, our three goals were to promote the profession of Geomatics, network students and industry, and give students something tangible to strive towards. Our vision for the future is to increase the number of participating schools, continue to develop strong partnerships with professional associations, and be the meeting place for the future of the geomatics profession.



Justin Collett, GGE IV – University of New Brunswick, GUESS President – NGC Chairman – EUS Sr. Advisor. Email: jcollett@unb.ca



Arthur J. Gallagher
INSURANCE & RISK MANAGEMENT

When you go aloft, be sure you're carrying the right insurance.

Aviation Insurance designed exclusively for Land Surveyors



SurveyorsFirst provides coverage customized for drones, hull and aviation liability, non-owned aircraft liability and digital cameras used for surveying.

SurveyorsFirst, part of Arthur J. Gallagher Canada Limited, provides cost effective insurance products designed exclusively for AOLS members.



For information about Surveyors'Plan aviation and other programs contact:

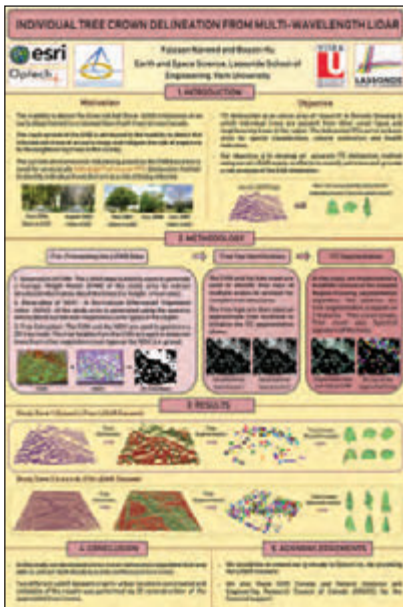
Mark Sampson BBA, FCIP
Senior Vice President,
Commercial Insurance

800.267.6670 ext. 2631
mark_sampson@ajg.com

 **SurveyorsFirst**

**Professional Liability • Insurance Protection for Retirement
UAV Insurance • Business Coverage**

TWELFTH Annual AOLS Graduate Student Geomatics Poster Session Award Winners



FIRST PLACE: Faizaan Naveed, M.Sc. Student, Earth and Space Science and Engineering Department, Lassonde School of Engineering, York University, supervised by Dr. Baoxin Hu.

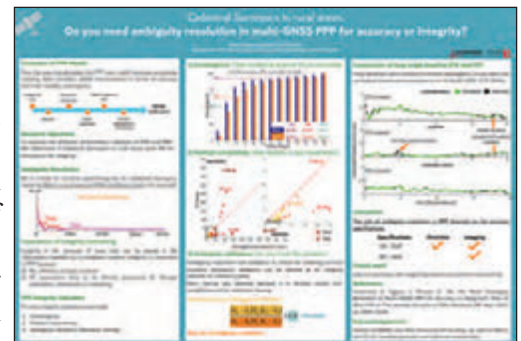
Individual Tree Crown Delineation from Multi-Wavelength LiDAR

ABSTRACT — The inability to detect the Emerald Ash Borer (EAB) at an early stage has led to the enumerable loss of different species of ash trees. Due to the increasing risk being posed by the EAB, a robust and accurate method is needed for identifying Individual Tree Crowns (ITCs) that are at a risk of being infected or are already diseased. This paper attempts to outline an ITC delineation method that employs airborne multi-spectral Light Detection and Ranging (LiDAR) to accurately delineate tree crowns in efforts to identify and possibly control the spread of the EAB. In this study Optech's Titan multi-spectral LiDAR data is used to initially generate the Digital Surface and Elevation models of the study area. Structural information pertaining to the height, size, and shape of the tree crown is consequently extracted from the models and combined with spectral data to segments of ITCs using a modified seeded region growing algorithm. The availability of the multi-spectral LiDAR data allows for delineation of crowns that have otherwise homogenous structural characteristics and hence cannot be isolated from the structural data alone. The proposed method offers an insight into the combined effect of spectral and structural information on current ITC delineation methods. Email: fazanham@my.yorku.ca

SECOND PLACE: Garrett Seepersad, Ph.D. Student, Department of Earth and Space Science and Engineering, York University, supervised by Dr. Sunil Bisnath.

Cadastral surveyors in rural areas. Do you need ambiguity resolution in multi-GNSS PPP for accuracy or integrity?

ABSTRACT — With the advent of quad-constellation, triple-frequency and external atmospheric constraints being provided to the PPP user, the novelty and focus of this poster is in the quest to answer the question: Do we really need ambiguity resolution in multi-GNSS PPP for accuracy or for integrity? To address the first component of the question, which is also an area of research that has lacked attention, is an examination of the significance between the float and ambiguity resolved PPP user solution. Is the improvement significant enough for applications such as precision agriculture and autonomous vehicles to justify the additional cost and computational complexity of producing a multi-GNSS PPP-AR solution? Results consist of solution analysis of convergence time (time to a pre-defined performance level), position precision (repeatability), position accuracy (solution error with respect to analysis centre's weekly Site Independent Exchange (SINEX) solution) and residual analysis. Pre-defined user thresholds were selected based on specifications for lane navigation and machine guidance for agriculture. A novel component within the realm of PPP-AR is the analysis of ambiguity resolution as a metric to examine the integrity of the user solution.



The role of ambiguity resolution relies primarily on what are the user specifications. If the user specifications are at the few cm-level, ambiguity resolution is an asset, as it improves convergence and solution stability. Whereas, if the user's specification is at the few dm-level, ambiguity resolution offers limited improvement over the float solution. If the user has the resources to perform ambiguity resolution, even when the specifications are at the few dm-level, it should be utilized. To have a high probability of correctly resolving the integer ambiguities, the residual measurement error should be less than a quarter of a wavelength. Having a successfully resolved and validated solution can indicate to the user the solution strength and reliability. Email: gseeper@yorku.ca

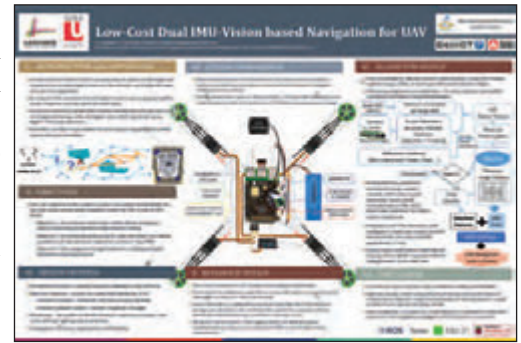
THIRD PLACE: Erin Xinheng Du, M.Sc. Student, Department of Earth and Space Science and Engineering, Lassonde School of Engineering, York University, supervised by Dr. Costas Armenakis.

Low-cost Dual IMU-Vision-Based Navigation for UAV

ABSTRACT — With the increased use of Unmanned Aerial Vehicles (UAV) in both recreational use and commercial applications such as mapping and navigation, a reliable navigation system is needed onboard for operating in complex environments, especially for a built-up area with poor or no GNSS reception. The main objective of this research project is to explore the feasibility and development of a vision-aided dual IMU-integrated navigation system for UAV in case of GNSS failure or generally when operating in GNSS denied environments.

A challenging alternative widely used by the computer vision and robotics community is the implementation of vision-based navi-

gation systems where the position and orientation of the image sensors are determined by visual odometry. This study aims to combine vision and inertial navigation sensors techniques from the Geomatics perspective. The position and the orientation of the UAV are determined by dual IMU units augmented with a vision-based georeferencing approach based on the matching of UAV image features with features located on a-priori generated or available reference image database. The reference image database can be available prior to the UAV flight or it can be created by GNSS-IMU geotagging images before the loss of the GNSS signal by the UAV. Several scenarios will be studied and tested to compare their advantages and disadvantages, in terms of the accuracy of the determined UAV trajectory, the image matching accuracies, computation speeds, and applicability. Email: erin1006@yorku.ca



FOURTH PLACE: John Aggrey, Ph.D. Student, Department of Earth and Space Science and Engineering, Lassonde School of Engineering, York University, supervised by Dr. Sunil Bisnath.

Ionospheric Constrained Multi-GNSS PPP: Towards RTK-like performance

ABSTRACT — Conventional GNSS Precise Point Positioning (PPP) processing makes use of the dual-frequency ionosphere-free linear combination to mitigate the ionospheric effect. With modernized satellite constellations transmitting third frequency signals, there is a potential of noise amplification through various linear combinations. Hence it becomes necessary to address PPP performance with the aim of improving solution convergence and initialization by mitigating the ionosphere with a-priori information. The positioning performance for low-cost receivers has been shown to improve with Global Ionospheric Maps (GIMs) which are produced by, e.g., the International GNSS Service (IGS). Given that GIM is based on phase-smoothed code observations, the DCB information provided in the IONEX file is only beneficial to code-only, single-frequency receivers. For dual-frequency PPP processing, the significance of GIM in processing is not obvious in the quality of the solution after a few hours. However, constraining with GIM improves PPP initialization and solution convergence in the first few minutes of processing. The general research question to be answered is whether there is any significant benefit in constraining the atmosphere, specifically the ionospheric parameter in multi-frequency PPP. The uncombined PPP approach implies the estimation of slant ionospheric delay parameters using raw GNSS measurements without the need for linear combination. Some other related questions intended to be answered include: (1) Are there any benefits in adopting the uncombined PPP approach for dual- and triple-frequency measurement processing? (2) Is atmospheric constrained multi-GNSS PPP comparable to RTK approach? (3) Regarding time and position accuracy, how far away are we from RTK performance? Email: jeaggrey@yorku.ca

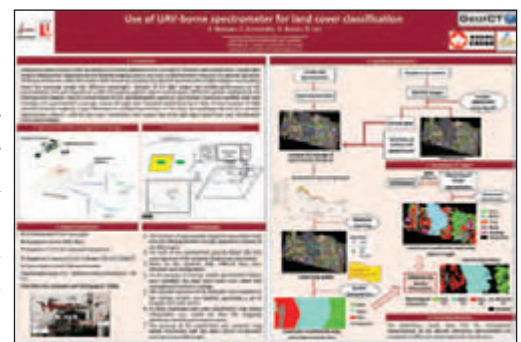


gionospheric parameter in multi-frequency PPP. The uncombined PPP approach implies the estimation of slant ionospheric delay parameters using raw GNSS measurements without the need for linear combination. Some other related questions intended to be answered include: (1) Are there any benefits in adopting the uncombined PPP approach for dual- and triple-frequency measurement processing? (2) Is atmospheric constrained multi-GNSS PPP comparable to RTK approach? (3) Regarding time and position accuracy, how far away are we from RTK performance? Email: jeaggrey@yorku.ca

FIFTH PLACE: Sowmya Natesan, Ph.D. Student, Department of Earth and Space Science and Engineering, Lassonde School of Engineering, York University, supervised by Dr. Costas Armenakis.

Use of UAV-borne spectrometer for land cover classification

ABSTRACT — Unmanned aerial vehicles (UAV) are being used for low altitude remote sensing for thematic land classification. The objective of this work was to investigate the use of UAV equipped with a compact spectrometer for land cover classification. The UAV platform used was a DJI Flamewheel F550 hexacopter equipped with GPS and IMU navigation sensors, and a Raspberry Pi processor and camera module. The spectrometer used was the FLAME-NIR, by Ocean Optics, a near-infrared spectrometer that operates in the 927nm to 1658nm region, with spectra resolution less than 10 μ m, thus allowing for hyperspectral measurements. Images and spectrometer data were captured simultaneously. As spectrometer data do not provide continuous terrain coverage, the locations of their ground elliptical footprints were determined from the bundle adjustment solution of the captured images. Around 400 images were captured of the study area flying about 40 m above terrain elevation.



For each of the spectrometer ground ellipses the land cover signature at the footprint location was determined. Based on the signature plots, various land cover elements could be distinguished. For the purpose of training, sample spectrometer ellipses were identified for each land cover class which had homogeneous footprint coverage. Spectral exposure was calculated and the average values were used for training. Then the spectral exposures of all ellipse footprints were matched to the training samples and labelled, thus generating a set of irregular land cover points. To attain a continuous land cover classification map, spatial interpolation was carried out from the irregularly distributed labelled spectrometer points. The accuracy of the classification was assessed by comparing it with the supervised classification performed using RGB images. Confusion matrix was also used to evaluate the accuracy of the land classification. Results show that the hyperspectral measurements of low altitude UAV-borne spectrometers can contribute to efficiently obtaining land cover classification using UAV-borne sensors. Email: sowmya@yorku.ca

EDUCATIONAL FOUNDATION

Lifetime Members at March 31, 2018 (Individual)

BOB MORROW (Honorary)	ROSS A. CLARKE	NANCY GROZELLE	SCOTT MCKAY	GRENVILLE T. ROGERS
ANNA AKSAN	W. BRENT COLLETT	ROBERT C. GUNN	RONALD G. MCKIBBON	CARL J. ROOTH
DONALD ANDERSON	RICHARD H. CREWE	ROBERT HARRIS	LAWRENCE A. MILLER	ERICH RUEB
DREW ANNABLE	ERIC CRONIER	JOHN M. HARVEY	PAUL A. MILLER	FRED SCHAEFFER
GEORGE D. ANNIS	DANIEL A. CYBULSKI	GORDON W. HARWOOD	MANOUCHEHR MIRZAKHANLOU	ANDY SHELPE
DOUG ARON	TOM CZERWINSKI	ED HERWEYER	W. HARLAND MOFFATT	H.A. KENDALL SHIPMAN
BRUCE BAKER	JAMES D. DEARDEN	JAMES HILL	J.W.L. MONAGHAN	DOUG SIMMONDS
J.D. BARNES	ARTHUR DEATH	RUSS HOGAN	PATRICK A. MONAGHAN	JOHN SMEETON
JOHN BARBER	RON DENIS	HAROLD S. HOWDEN	JOHN D. MONTEITH	EDWIN S. (TED) SMITH
ANDRÉ BARRETTE	TERRY DIETZ	ROY C. KIRKPATRICK	PETER MORETON	RALPH A. SMITH
GRANT BENNETT	DAN DOLLIVER	CINDY KLIAMAN	BOB MOUNTJOY	TAD STASZAK
WILLIAM E. BENNETT	DAN DZALDOV	ANNE MARIE KLINKENBERG	JIM NICHOLSON	JAMES STATHAM
ANDREW BOUNSALL	PAUL EDWARD	WALLY KOWALENKO	DONALD W. OGILVIE	RON STEWART
GRAHAM BOWDEN	RONALD EMO	VLADIMIR KRCMAR	FREDERICK J.S. PEARCE	NORM SUTHERLAND
GEORGE W. BRACKEN	DON ENDLEMAN	LENNOX T. LANE	E.W. (RED) PETZOLD	MARK TULLOCH
WILLIAM A. BREWER	WILLIAM M. FENTON	RAYMOND T. LANE	N. LORRAINE PETZOLD	MIKE TULLOCH
BRUCE BROUWERS	CARL F. FLEISCHMANN	JARO LEGAT	JOHN G. PIERCE	E. HENRY UDERSTADT
HARRY BROUWERS	ERNEST GACSER	ANITA LEMMETTY	HELMUT PILLER	DAN R. VOLLEBEKK
TOM BUNKER	DONALD H. GALBRAITH	OSCAR J. MARSHALL	ROBERT POMEROY	BRIAN WEBSTER
KENT CAMPBELL	BOB GARDEN	BLAIN MARTIN	YIP K. PUN	GORDON WOOD
WILLIAM H. CARD	JAIME GELBLOOM	RAYMOND J. MATTHEWS	VALDEK RAIEND	DAVID WOODLAND
J.B. CHAMBERS	CHARLES W. GIBSON	LARRY MAUGHAN	PAUL A. RIDDELL	AL WOROBEK
PAUL CHURCH	GORDON GRACIE	MIKE MAUGHAN	RONALD W. ROBERTSON	ROBERT H. WRIGHT
DAVID CHURCHMUCH	HOWARD M. GRAHAM	KENNETH H. MCCONNELL	TALSON E. RODY	GEORGE T. YATES
A.J. CLARKE	JOHN GRAY	JAMES A. MCCULLOCH	HENRY ROESER	JACK YOUNG
				GEORGE J. ZUBEK

Individual Sponsoring Members

PAUL FRANCIS MARC FOURNIER
BILL HARPER TRAVIS HARTWICK
GEORGE WORTMAN DAVID WYLIE

Corporate Sponsoring Members

LESLIE M. HIGGINSON SURVEYING LTD.
RON M. JASON SURVEYING LTD.
CUNNINGHAM McCONNELL LIMITED
ADAM KASPRZAK SURVEYING LTD.
KIRKUP MASCOE URE SURVEYING LTD.
A.T. MCLAREN LIMITED
DAVID B. SEARLES SURVEYING LTD.

Sustaining Corporate Members

A.J. CLARKE & ASSOCIATES LTD.
D. CULBERT LTD.
ANNIS O'SULLIVAN VOLLEBEKK LTD.
ARCHIBALD, GRAY & MACKAY LTD.
CALLON DIETZ INCORPORATED
GEORGIAN BAY REGIONAL GROUP

R. AVIS SURVEYING INC.
THE CG & B GROUP, PART OF ARTHUR J.
GALLAGHER CANADA LIMITED
EASTERN REGIONAL GROUP
GALBRAITH, EPLETT, WOROBEK SURVEYORS
HAMILTON & DISTRICT REGIONAL GROUP
J.D. BARNES LIMITED
KAWARTHA-HALIBURTON REGIONAL GROUP
KRCMAR SURVEYORS LTD.
LEICA GEOSYSTEMS LTD.
LLOYD & PURCELL LTD.
STEWART McKECHNIE SURVEYING LTD.
MMM GEOMATICS ONTARIO LIMITED
MONTEITH & SUTHERLAND LTD.
NORTH EASTERN REGIONAL GROUP
NORTH WESTERN REGIONAL GROUP
SOKKIA CORPORATION
SOUTH CENTRAL REGIONAL GROUP
SOUTH WESTERN REGIONAL GROUP
STANTEC GEOMATICS

TARASICK McMILLAN KUBICKI LIMITED
TERANET INC.
THAM SURVEYING LIMITED
WSP GEOMATICS ONTARIO LIMITED

Members as of March 31, 2018 (Individual and Corporate)

T.A. BUNKER SURVEYING LTD.
DINO ASTRIS SURVEYING LTD.
RICK DELLA MORA
E.R. GARDEN LIMITED
RODNEY GEYER, ONTARIO LAND SURVEYOR INC.
SHAWN HODGSON
MICHAEL MACEK
GREG MACDONALD
JORDAN SCANTLEBURY
RASCH & HYDE LIMITED
RICHARD LAROCQUE LIMITED
JAMES SWINNERTON
ROBERT C. THALER SURVEYING LTD.

EDUCATIONAL FOUNDATION NEWS

Report from the 2018 Annual General Meeting

The Board of Directors would like to thank the Exhibitors who donated prizes for the **Exhibitor Draw at the Welcoming Party** and to those members and guests who bought tickets for this major fundraising event. The Board would also like to thank the ticket sellers, Lena Kassabian, Penny Anderson, Julia Savitch and Mary Raithby, and the Master of Ceremonies David Raithby, who all helped to make the evening a great success.

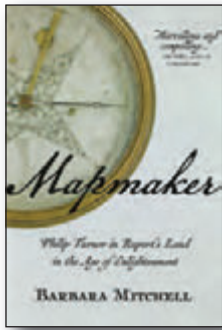
The Annual Meeting of Members was held at the AGM on Thursday morning. The Foundation's Board of Directors is pleased to report that the number and value of awards being presented each year is steadily increasing and as a result, the Foundation is truly helping to attract promising young

surveyors to our Association. This year 7 of the 17 new OLSs who received their certificates at the Convocation Lunch were award winners and 18 of the current Articling Students are award winners.

The 12th Annual Graduate Student Geomatics Poster Session attracted 20 poster entries from students at Ryerson and York Universities. The purpose of the session is to allow graduate students to showcase their research topics while competing for monetary prizes which are provided by the Educational Foundation. Thanks go out to our judges: Boney Cherian, Brian Coad and Reuben Mc Rae who devoted many hours to evaluate and rank the entries. The top five winning posters can be found on page 36.

The Educational Foundation would like to recognize with thanks donations made in the memory of Fernando De Luca, Katie Courtnage, Doug Coggan, Malcolm Shaw and Neil Simpson.

BOOK REVIEWS



Published by University
of Regina Press

ISBN 978-0-88977-503-9

Mapmaker

Philip Turnor in Rupert's Land in the Age of Enlightenment

By Barbara Mitchell

As the first inland surveyor for the Hudson's Bay Company, Philip Turnor stands tall among explorers and mapmakers of Canada. Barbara Mitchell's biography brings to life the man who taught David Thompson and Peter Fidler how to survey. In her search for Turnor's story, Mitchell discovered more of

her own Cree-Orkney ancestry and that of thousands of others who are descendants of Turnor and his Cree wife, whose name remains unknown.

Information taken from inside the front cover.

Original Highways

Travelling the Great Rivers of Canada

By Roy MacGregor

Expanding here on his landmark newspaper series, Roy MacGregor explores the story of Canada through the stories of its original highways. From the mouth of the Fraser River in British Columbia to the Bow in Alberta, Red in Manitoba, Gatineau in Quebec, New Brunswick's Saint John and the most historic of all Canada's rivers, the St. Lawrence, MacGregor wanders their lengths, learns their stories and secrets, and tells of centuries lived on their rapids and riverbanks. He raises lost histories, like that of the Great Tax Revolt of the Gatineau River, and reconsiders the Irish would-be settlers who died on Grosse Ile and the incredible resilience of the Scots of the Red River Valley. He travels the

mighty Mackenzie River, where the Dehcho First Nations have spent decades hoping to block a proposed pipeline. Along the Grand, the Ottawa and others, he meets the conservationists behind the successful resuscitation of polluted wetlands, including the most abused river in Canada, Toronto's Don.

Long before the railroad, it was rivers that held Canada together. In these sixteen portraits, filled with yesterday's adventures and tomorrow's promise, *Original Highways* weaves together a story of Canada and its complicated but always rewarding relationship with its most precious resource.

Information taken from inside the front cover.



Published by Random House
Canada

ISBN 978-0-307-36138-7

Dead Reckoning

The Untold Story of the Northwest Passage

By Ken McGoogan

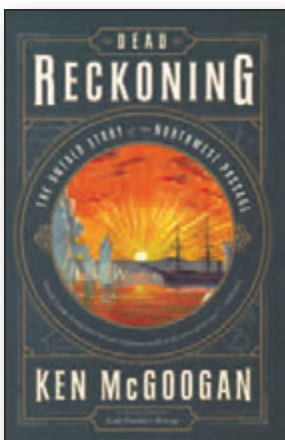
With this book, his most ambitious yet, Ken McGoogan delivers a vivid, comprehensive recasting of Arctic exploration history. *Dead Reckoning* challenges the conventional narrative, which emerged out of Victorian England and focuses almost exclusively on Royal Navy officers. By integrating non-British and fur-trade explorers, and above all, Canada's indigenous peoples, this work brings the story of Arctic discovery into the twenty-first century.

Orthodox history highlights such naval figures as John Franklin, Edward Parry and James Clark Ross. *Dead Reckoning* tells their stories, but also recognizes John Rae, Roald Amundsen and Knud Rasmussen, and celebrates such forgotten heroes as Thanadelthur, Akaitcho, Tattannoeuck, Ouligbuck, Tookoolito, Ebierbing and Tulugaq, among others. Without the

assistance of the Inuit, Franklin's recently discovered ships, *Erebus* and *Terror*, would still be lying unfound at the bottom of the polar sea.

The book ranges from the sixteenth century to the present day, looks at climate change and the politics of the Northwest Passage and honours the cultural diversity of a centuries-old quest. Profusely illustrated and informed by the author's own voyages and research in the Arctic, *Dead Reckoning* is a colourful, multi-dimensional saga that demolishes myths, exposes pretenders and proclaims unsung heroes. For international readers, it sets out a new story of the Northwest Passage. For Canadians, it brings that story home.

Information taken from inside the front cover.



Published HarperCollins
Publishers Ltd.

ISBN 978-1-44344-126-1

The Last Word

The North-West Mounted Police (1873-1904)

by Steve Balaban, B.Sc., O.L.S., O.L.I.P.

In 1870 a young surveyor by the name of Thomas Scott was executed at Fort Garry (now Winnipeg) under the orders of Louis Riel. His crime, when put in the context of what we do today, was ignoring long settled possession by the Metis settlers who had been there for generations. His execution prompted the Canadian Government to send a militia force west to suppress the uprising.

Recognizing the need to maintain law and order as Confederation moved westward and the looming threat of annexation of the western provinces by the Americans, an act of parliament was passed on May 23, 1873 to create the North-West Mounted Police (NWMP). By the end of 1874, six outpost camps had been established across the west with men ready to serve.

These men endured horrific living conditions, illness, disease, insect infestations, hunger, inadequate clothing, lack of equipment and boredom. Those who didn't desert the force and completed their three year contract, were often given land by the Government in appreciation for their service.



NWMP Badge and Motto: *Maintien le Droit - "Uphold the Right"*

The construction of the trans-continental railway during the 1880's brought thousands of railway workers, surveyors, administrators, businessmen, prospectors and settlers lured by free farmland, all of whom looked to the NWMP for peace, security and justice. Suppressing whisky traders, arresting gun smugglers and calming disgruntled Natives were but a few of the duties that they were called on to perform.

All across western Canada and the North West Territories, the men of the NWMP helped to maintain law and order. They brought peace, prosperity and security, as well as safety and stability in an otherwise lawless land.

For those of you who are interested in reading a far more detailed account of this legendary police force, I would encourage you to read *The Wild Ride, A History of the North West Mounted Police 1873-1904* by Charles Wilkins (the same Charlie Wilkins who wrote the book telling our own stories of surveying, *Great Lengths*).



Published by:

The Association of Ontario Land Surveyors
(Established 1892)
1043 McNicoll Avenue
Toronto, Ontario, Canada M1W 3W6
Phone: 416-491-9020 FAX: 416-491-2576
admin@aols.org * www.aols.org

Editor & Publication Manager:

Maureen Mountjoy, O.L.S., O.L.I.P.

Production Manager:

Lori Veljkovic

Advertising Manager:

Maureen Mountjoy, O.L.S., O.L.I.P.

Unless otherwise stated, material which originates from our membership may be re-printed with acknowledgment.

Printed by Colour Systems Incorporated
Original graphics design by Uniq Graphics and Design, Toronto, Ontario
Computer implementation by nu Vision Images Inc., Toronto, Ontario

Views and opinions in editorials and articles are not official expressions of the Association's policies unless so stated.
The Ontario Professional Surveyor Magazine and its publisher accept no responsibility for these views and opinions.

Advertising Rates:

	1 time	4 times
1st Cover	Not Sold	Not Sold
2nd and 3rd Cover	Not Sold	\$715
4th Cover	Not Sold	\$825
Full page 4 Colour	\$705	\$660
1/2 page B&W	\$280	\$245
1/2 page 4 Colour	\$500	\$465
1/4 page B&W	\$190	\$165
1/4 page 4 Colour	\$410	\$385

Inserts (supplied): Page rate plus 25%.

Mechanical Requirements:

Typed page: 48 picas wide by 63 picas deep
Bleed size: 8.75 wide by 11.25 deep
Non-bleed image area of a single page should be 7.5 x 10
D.P.S.: 17.25 wide x 11.25 deep with bleed
D.P.S.: 16 wide by 10 deep without bleed

Digital File Requirements:

Supplied files should be "Press Quality" PDFs with trim and bleed marks included and with all fonts applied in the ad embedded.

Note: The "Marks Offset" should be set to the same value as bleed (for example .125") to avoid marks protruding into bleed area and thereby reducing bleed. Four Colour images should be in CMYK mode with a resolution of 300ppi.

Colour profile included in the file should be GRaCol_2006_Coated with Relative Colorimetric Intent.

Circulation (This Printing)

Ont. Land Surveyors & Associates	907
Other Professional Affiliations	261
Advertisers	18

The *Ontario Professional Surveyor* Magazine is published quarterly as a medium of communication between the Association and its members. Readers are invited to comment and express their opinions on relevant subjects.

The *Ontario Professional Surveyor* Magazine is distributed to all members of the Association.

Subscription Rates to others: \$40.00 per year or \$10.00 per copy. All rates to us - no provision for commissions or discounts.

Canadian Publication Sales Agreement
40064685
Postage paid Mississauga / Gateway

**Published Quarterly:
next publication deadline:
May 15, 2018**

**ALL PRICES LISTED ARE SUBJECT TO
13% H.S.T.**

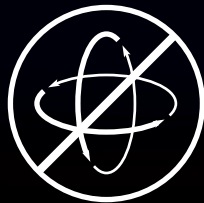
THE WORLD'S FASTEST GNSS RTK ROVER

Introducing the **Leica GS18 T**, the first true tilt compensation solution that is immune to magnetic disturbances. The bubble no longer has to be centered. As a matter-of-fact, you can forget about the bubble. In addition to that, the system is calibration-free, so no long-winded procedures are required.

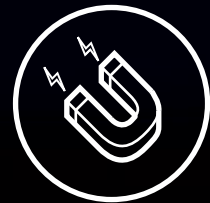
Just turn it on and go.



First True
Tilt Compensation



Works Out Of The Box,
Calibration-Free



Immune To Magnetic
Disturbances

www.ForgetTheBubble.com



For more information please contact:

Don Edgar

don.edgar@leicaus.com

Leica
Geosystems

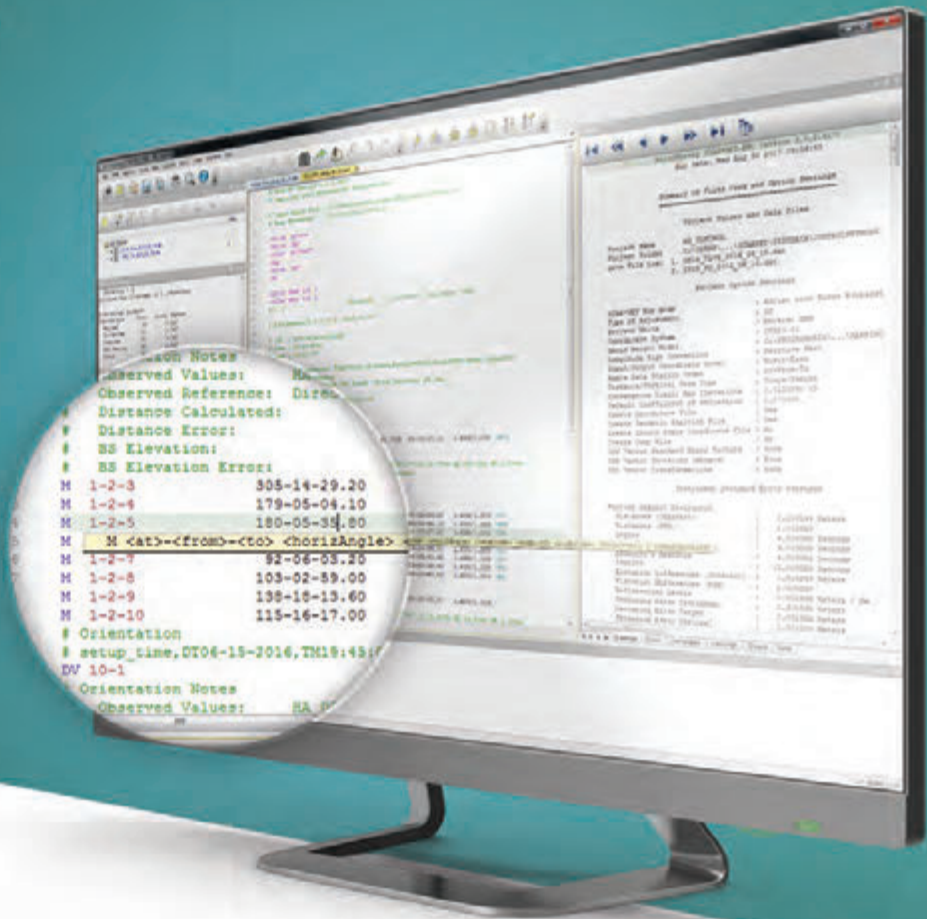
The Best Just Got Better.

Least Squares Adjustment Software

See why the New STAR*NET 9 is an absolute must have.

Now available as a true 64-bit program, STAR*NET 9 has powerful new functionality including command autocompletion, context sensitive syntax tips, hyperlinked station names, inline error messages, column editing, and more!

MicroSurvey
STAR*NET 9



NEW FEATURES

• 64-Bit Version

The 64-bit version supports higher memory usage and faster execution.

• Auto-Completion

Auto-Completion of inline option text to assist when manually entering data.

• Inline Help Tips

Context-sensitive help tips appear when clicking on any data line.

• Column Editing

STAR*NET 9 now lets you select and type columns of text, to make multi-line edits spanning multiple lines of similarly formatted text.

• Advanced Find

Advanced find of a station name now also works from the Data Editor.

• Inline Error Messages

Error messages appear at the exact location of any errors when an adjustment is run, and can be jumped to directly from the Error Log.



Download your 10 day **FREE** Demo

Visit: www.microsurvey.com/free