

# Ontario Professional Surveyor



*on the cover ...*

**Typical View of Hwy in Southern Ontario by Moma Markovich**

**also in this issue ...**

Wherefore Sketches

METROLINX-GO Transit

Electrification Project

Traffic Protection for the

Surveyor on the Road

A Presentation on Mapping Utility Risks

at the 124th AOLS AGM in London

**plus our regular features:**

**Educational Foundation**

**News from 1043**

**Book Reviews**



## CONTENTS

Wherefore Sketches - John H. Gutri.....	4
Be Careful When Dealing with the Retained Parcel of Land in a Consent (Severance) Application - Robert P. Tchegus .....	8
A Presentation on Managing Utility Risks at the 124th AOLS AGM in London - Lawrence Arcand .....	12
Traffic Protection for the Surveyor on the Road - Mario Guindon.....	16
METROLINX-GO Transit Electrification Project - Scott Paterson.....	18
Discipline Decision .....	22
Great Lengths - Sponsorship Opportunities .....	25

## REGULAR FEATURES

President's Page .....	2
News from 1043 .....	28
Calendar of Events .....	28
Educational Foundation .....	30
Book Reviews .....	31
The Last Word - The Ministry of Transportation (MTO) celebrates 100 Years .....	32

## ADVERTISERS

Sokkia.....	2nd cover
Carlson Software .....	3
Northway/Photomap/Remote Sensing Ltd. ....	5
Hayward Iron & Metal .....	6
Northern Survey Supply .....	7
Leica Geosystems.....	9
Tekmet Ltd. ....	10
J.P. Morasse Inc. ....	11
T2 Utility Engineers .....	14
The Connectors Insurance Group Ltd. ....	15
The CG&B Group.....	23
Hunt Surveys .....	24
UKKO - A division of Ag Business & Crop Inc. ....	26
Dias & Dias .....	27
Mark IT Locates .....	29
GeoShack Canada .....	3rd cover
MicroSurvey Software Inc. ....	4th cover

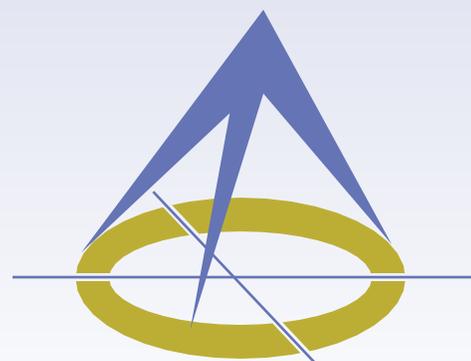
## ON THE COVER ...

The cover image is in celebration of the 100<sup>th</sup> Anniversary of the Ministry of Transportation (MTO). Typical View of Hwy in Southern Ontario was painted by Moma Markovich, an employee of the Department of Highways in the 1960's. Credit: Archives of Ontario - AC101268. See the article about MTO's anniversary in The Last Word on page 32.

*Professional  
Surveying  
in  
Ontario*

*encompasses  
the  
Disciplines of*

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





# President's Page

By Murray Purcell, O.L.S., O.L.I.P.



So far through my travelling experiences across the country and listening to the comments of surveyors at the various provincial meetings, as well as participating in our Strategic Planning session in Toronto, it appears that there is an appetite for CHANGE. CHANGE in what we offer, and CHANGE in how we provide it. The consensus seems to be that we need to be more than “measurement professionals”. Let’s think to the future in order to gain more space in the geomatics “service market”. We need to stop whining about outside forces encroaching on our “God-given historic professional rights”. We need to refocus our energy to be proactive ... not reactive ... and think and investigate outside of our current statutory obligations into areas where the public is looking for alternative products. **If we don’t someone else will.** We are influential “Data Managers”. We understand the importance and significance of observing, portraying, filing and supplying accurate and current data better than anyone. We are also the “Data Authority” when dealing with the analysis and the implementation of vertical and horizontal data. We understand geodetic systems and their effect on mapping and more importantly their effect on an end user’s design. Mix this in with our extensive knowledge of engineering, planning, construction, and real estate law and we ARE the “Geographic Information Authority”. So why are we not the “hub at that meeting”?

In Banff, Alberta there was heavy, and sometimes heated, discussion about the Hybrid Cadastre. This newly introduced land product has been developed by the Alberta Government and the Director of Surveys to allow the use of coordinates to establish boundaries on Public Lands as an alternative to typical statutory procedures. Check out [hybridcadastre@gov.ab.ca](mailto:hybridcadastre@gov.ab.ca) To some this may seem feasible, to others a serious threat to our rich geomatics history and the reason we were set on this earth. Dinosaurs were also set on this earth. They did not adapt. Can we adapt? In Alberta, I applaud the Association of Alberta Land Surveyors (ALSA). While their members saw the significant impact that this new product will have on their age old procedures and business plan, ALSA has relented (by majority vote) to working with the government to at least provide standards for the implementation of the Hybrid. ALSA continues to protect the public. What would be the result if they had refused? Perhaps another prehistoric statistic?

The progressive discussion on the future of land surveying continued at the Association of Canada Lands Surveyors (ACLS) Conference in Edmonton. A full day was designated to thought-provoking seminars and educational sessions presented by leaders in government, the legal profession, and consultants who presented new and possible alternatives and discussed the future of the surveying product. The day was inspiring and left me thinking that there is a need to break down some statutory walls to better serve the public, while continuing to protect, and maintain our livelihood.

My second observation through 2016’s first full quarter is the

successful completion of Continuing Professional Development (CPD) - Chapter 1. Many thanks must go out to your Continuing Education Committee (CEC) and Julia Savitch, Penny Anderson, and Blain Martin from the AOLS, and your Executive Committee for coordinating an effective program to assist those “challenged members” in delivering their CPD quota. I believe that there are many members who would agree that leading up to the end of “round one” of this process, while necessary, caught them by surprise. The CEC and AOLS will continue to look for ways to improve the system for the future. In the meantime, I would encourage anyone looking for CPD hours to visit [www.geoed.ca](http://www.geoed.ca) to review more than 80 courses and seminars which can count towards your tally. In addition, I encourage you to assist your Public Awareness Committee, Geomatics Recruitment & Liaison Committee, and University & College Student Liaison Committee. Providing presentations to students and business groups all count towards professional time. These are our future O.L.S. candidates, employees, and business associates.

Thirdly, Professional Surveyors Canada (PSC) is trying hard. President Wilson Phillips and PSC continue to work to prove to provincial associations that they are a viable buy in. All provinces, with the exception of Quebec and Ontario, are “100% all in”. Ontario is 20%! To me that’s embarrassing. To date the efforts of PSC have focused on buried utilities (Federal Bill 233 - read it - there is impact!), and marketing and advertising of professional surveying. AOLS Council, through our strategic plan, has acknowledged the need for a different, more aggressive approach to marketing. PSC is assisting in the development of a Canada-wide marketing campaign. Details for this initiative will be available shortly. Please give PSC your support, at least for the short term, so it can prove its long-term value. Membership is \$250/year. I am confident that PSC will prove to be viable but our marketing effort needs to be collaborative to have an impact.

Lastly, as a personal shout out, your Ontario representatives at the Edmonton ACLS meeting were hugely impacted by the devastating situation affecting Alberta, and more particularly, Fort McMurray. Surveyor General Susan MacGregor, AOLS Executive Director Blain Martin, your Vice President and Ontario’s Chief Surveyor for the Ministry of Transportation, Russ Hogan, and I watched as people loaded onto our flights with backpacks and garbage bags of cherished possessions travelling to the shelter and relief of relatives and friends across the country and it was sad. None were complaining. None were whining “poor me”. They were true Canadians.

For many of us an immediate change of direction or lifestyle brings fear and panic. Try to imagine in Alberta where there was fear and panic in over 80,000 people.

Alberta has been a province of enormous wealth and support to Canada and the result of this catastrophe will affect us all both federally, provincially, and personally.

Please consider donating to [www.Redcross.ca](http://www.Redcross.ca) as a way to reach out to our fellow Canadians and professional surveyors and show your support.



# Wherefore Sketches

By John H. Gutri, O.L.S.

*Introduction - Robert Halliday, O.L.S., Chair of the Professional Standards Committee*

*The Professional Standards Committee has been struggling with the 'Sketches Issue' for much of the past year. It has been a difficult matter because while on the one hand we recognize that there is a need for a simple and flexible product, on the other hand we also suspect that sketches are being used improperly as a way of circumventing our plan requirements. The following Op-Ed by committee member John Gutri is not 'Official Policy' of the Professional Standards Committee, but it has been reviewed and discussed and there is general widespread support for the issues raised, and the stand that John has espoused in his article. The Committee will continue to work on this issue, and report back its findings to the AOLS membership.*

Well, this old chestnut has been around a while and looks to be making another foray into the consciousness of the Ontario land survey practitioner. A recurring theme in the 'Sketch' versus 'Plan of Survey' debate generally involves the need to provide a professional opinion without the need for a formal presentation or report in order to provide a product that can compete with the so called "technical firms". So over the years the AOLS has developed rules about what a sketch is supposed to look like, save it being mistaken for a survey. Fair enough.

I find that there is disconnect here. The difference in cost between drafting a report which looks like one or the other is negligible. The real issue is that technical firms prepare illustrations that appear to satisfy a requirement without doing the proper research and groundwork that a surveyor is obliged to do.

How can you compete with that? Why would you compete with that? Can anyone who is professionally licensed ever compete with that?

Sketches as deliverables are allowed, according to AOLS by-laws and regulations, provided that the file supports the proper research, fieldwork and anything else that we ordinarily do to render a professional opinion. Given this requirement, it doesn't matter what a sketch looks like, it won't be competitive with someone pulling the geometry off an R-Plan and superimposing this onto some field gathered data, perhaps using some sort of municipal or Google GIS aerial image as a reference.

As an example, a Site Grading plan is good enough for a building permit application because it's just a demonstration to the municipality that the builder is aware of zoning requirements, servicing requirements and lot grading principles. It doesn't guarantee he'll follow those principles but no one expects to use a Site Grading plan for anything else than obtaining a building permit. It's not used for purchase and sale, or financing or even constructing the building.

If the builder is smart, he'll get a surveyor involved right away to make sure that all of the requirements are adhered to along the way. But too often builders don't want to spend any money until they absolutely have to and are in fact, quite

willing to wait until the bitter end to order that survey and only when the municipality requires an 'official' document by which to issue an occupancy permit. Otherwise, they only order the survey if a purchaser actually demands it.

Of course, by then it's too late. The building is up, the landscaping is complete, but most of the time the builder is okay. In the odd instance where he's gone and built too close to the property line, he believes that a minor variance will solve his problem anyway. And often, that's true, even though the minor variance process ends up costing more than the difference between what the surveyor would have charged and what the technical firm charged. But builders, by nature, are not averse to risk.

I'm just playing devil's advocate here. We have lots of builder clients who understand our involvement on a project and insist on it from the start. But what we really want to be discussing, the elephant in the room, if you will, is a leniency to enable the surveyor on occasion to simply become a 'drafting service'. To allow for a quick and dirty cobbling together of data, the collection of which we as a profession are pretty good at, then allow for a 'sketch' to be delivered on a reasonable and statistical probability that the numbers will be close enough. And generally speaking, surveyors would do a pretty good job of this.

I bet some of you are getting squeamish at this point. I bet others of you are liking where this is going. I'm going to disappoint you both.

Here's the thing. This is the basis on which Title Insurance was invented. Most of the time, everything's going to work out when you buy property in Ontario. When it doesn't, the Title Insurance company will deal with it. So too, do the technical firms base their business model. They're cheaper, so they'll get more work, in theory, and they believe that they'll deal with the problems as they come up. But you know, these firms are not immune to court action.

By contrast, as a professional, you have a duty and obligation to behave with a personal integrity above and beyond the layman because the layman doesn't see or understand what the professional does. Just to be clear, I tell prospective clients up-front that if I do a Site Grading plan, it will be based on a current survey which I have prepared because

my obligation is to do my due diligence. I don't care if someone else does it for half the price – have at it. And if that's your approach to your work, I don't want you as a client anyway. (I don't actually tell them that last part, as much as I'd like to.)

Boy, how easy it is to pretend to do a survey. And, we've had our share of members over the years who had their licences suspended for doing just that. Today, there seems to be a suggestion ... a flirtation ... a tentative broaching of the subject to see if we can somehow ... maybe ... possibly do pretend surveys. I have a personal opinion about this which I will share later, but let's keep things objective for now. Let's look at Title Insurance some more.

In our practice, we do more SRPR's today than ever. We're even doing surveys for the adjusters of Title Insurance companies to facilitate claim settlements. Over the long term, our business in this particular regard has increased, despite the wailing about how the SRPR is dead. This may be unique to our instance and admittedly, anecdotal. But you know, we've been on an educational campaign for years, explaining ourselves to our legal community, our real estate community, even our land development community, whenever and wherever we could. Is the message getting through? Maybe.

So these technical firms are eroding your market, you say. You can't compete. It's not a level playing field. Here's what I don't get. If this technical field is so lucrative, then give up your licence (which costs you a couple of thousand dollars a year), give up all the professional requirements like CPD hours, which probably cost another few thousand dollars a year, and according to the membership's popular opinion are quite annoying anyway, etc., etc. and go and become a technical firm.

You should be rich in no time, yes?

Here's the rub. You can't suck and blow at the same time. You'd be giving up access to other work where there's no question about a professional licensing requirement. More to the point, it's like embracing a change in practice to becoming a witch doctor after giving up a legitimate medical license, you know, because in your community, the clientele will more readily pay the cheaper fee for incantations as compared to a proper diagnosis.

Are you starting to catch my drift? There's a reason you became a professional, yes?

In our area of practice, municipalities are quickly coming to the conclusion that building permit applications shouldn't be done by just anyone. They are starting to see the problems at the other end. And they talk to other municipalities.

Bob Aaron of the Toronto Star is a great advocate for public education. Whenever I can, I direct people to review his material. Why engage a surveyor? Bob has answered that question in oh so many ways.

So instead of developing a standard litany of incantations, we should be campaigning to the public that what they really need is a professional diagnosis - and that costs money. Go

to the witch doctor at your peril. Public advocacy - another old chestnut.

Walmart lawyers? Costco surveyors? Yeah, maybe. Or maybe sooner or later, there have to be boots on the ground because ultimately, you don't build a house in your cell phone. You don't buy virtual property in your iPad. By the way, I don't see a Walmart lawyer representing anyone in court. And what about a fully digital cadastre? With a stroke of the legislative pen, we could all be rendered redundant, someone once quipped. Except that ours is an evidence based activity that fairly and impartially protects the public where they live – in the real world. It is our responsibility to remind society that their prosperity ultimately flows from the quiet enjoyment of their property boundaries. And those exist in the real world – not some virtual construct.

The one thing I've always understood about professions is their undeniable public need. There will always be posers. But sooner or later the public comes to understand what it means to engage a professional and why there's a cost associated with that. And why, even though that cost is perceived as very expensive, it is so much cheaper than the horrific alternatives.

We've been so focused on policing each other that we've done a horrible job explaining to the public why we police each other. Remember those ads: If you ate today, thank a farmer. Well, if you went to work today, thank a surveyor. Why do refugees flock here? In their country they have no quiet enjoyment of property boundaries, that's why. There is no prosperous western society that doesn't have a well maintained cadastre. We have a free society with a thriving economy, and relative personal safety. Those things were deliberately and painstakingly built by our forefathers with a full knowledge and understanding of what enables this – reliable personal property ownership with a properly maintained extent of that ownership that allows for prosperous self determination. I'll say it again – our society prospers because of the quiet enjoyment of property boundaries – we don't hear it enough ourselves, never mind the general public.

The peoples of South America were not so lucky. Their imperialist invaders merely raped the country and left nothing in their wake. So they have Brazilian slums, military juntas and drug lords ruling the population – a lot like most of the world. There's an interesting history lesson here.

In reality, we surveyors ensure the prosperity and well being of our society at a very fundamental level. It is freedom realized, not just some esoteric theory. We need to remember that. Kind of makes the whole 'sketch' discussion embarrassing, at least to me.



# Be Careful When Dealing with the Retained Parcel of Land in a Consent (Severance) Application

By Robert P. Tchegus, C.S.

One issue that individuals (including many lawyers) continue to have difficulty in understanding is that when one obtains severance approval pursuant to the provisions of the *Planning Act*, R.S.O. 1990 c. P.13 (the “*Act*”), although the practical effect of the severance is to create two (2) lots of record – the severed parcel and the retained parcel, it is only the severed parcel that acquires the same legal attributes similar to being a full lot or block on a registered plan of subdivision.

Subsections 50(3) and 50(5) of the *Act* prohibit the transfer of land where the grantor retains abutting lands, subject to a list of specific exceptions. Transactions involving the Federal or Provincial Crown are exempt, as are transactions involving a municipality. Conservation authorities are exempt when acquiring land for “the purposes of flood control, erosion control, bank stabilization, shoreline management works, or the preservation of environmentally sensitive lands under a project approved by the Minister of Natural Resources under section 24 of the *Conservation Authorities Act*”. Another of the exceptions provided for in subsections 50(3)(f) and 50(5)(f) of the *Act* is where “a consent is given to convey, mortgage or charge the land or grant, assign or exercise a power of appointment in respect of the land or enter into an agreement in respect of the land.”

Subsection 50(12) of the *Act* goes further to create the concept of “once a consent, always a consent”. It provides:

Where a parcel of land is conveyed by way of a deed or transfer with a consent given under section 53, subsections (3) and (5) of this section do not apply to a subsequent conveyance of, or other transaction involving, the identical parcel of land unless the council or the Minister, as the case may be, in giving the consent, stipulates either that subsection (3) or subsection (5) shall apply to any such subsequent conveyance or transaction.

This provision became effective March 31, 1979 and while there is plethora of legal cases questioning the retroactivity of subsection 50(12), it is clear that a consent to create a parcel land granted after March 31, 1979 continues to apply and be valid provided that it is “the identical parcel of land” that is being conveyed or otherwise dealt with. The ownership of abutting lands is therefore irrelevant in such instance. This only applies to the lot being severed and not to the retained parcel.

The foregoing is confirmed by subsection 50(6) of the *Act*, which provides as follows:

Despite sections (3) and (5), where land is the remaining part of a parcel of land, the other part or parts of which parcel have been the subject of a consent given under clause (3)(f) or 5(f), the whole of the remaining part may be conveyed or otherwise dealt with before the other part or parts are conveyed or otherwise dealt with, provided that the remaining part is conveyed or otherwise dealt with before the consent mentioned above lapses under subsection 53(43).

The importance of the foregoing came to light in the Ontario Superior Court of Justice decision in *1390957 Ontario Ltd. v. Acchione*, 2000 CarswellOnt 4755, 101 A.C.W.S. (3d) 1187, 38 R.P.R. (3d) 176, 51 O.R. (3d) 635<sup>1</sup>. In that case, one Mrs. Orfi, who was the owner of a property described as Parts 1, 2 and 3 on Reference Plan 65R-17557 in the Town of Richmond Hill, obtained approval permitting the severance of Parts 2 and 3 from Part 1. In January 1996, she completed the severance by transferring Parts 2 and 3 from herself to herself, with the Transfer containing the appropriate Certificate of Official (confirming that severance approval was obtained). Two months later, Mrs. Orfi conveyed Part 1 to Acchione. Acchione owned what was Mrs. Orfi’s retained parcel for four years and then entered into an Agreement of Purchase and Sale with 1390957 Ontario Ltd. This latter transaction did not close as the solicitor for the numbered company argued that the deed from Mrs. Orfi to Acchione was void as at the time of the Transfer, Mrs. Orfi retained ownership in the abutting lands, being Parts 2 and 3. Subsection 50(21) of the *Act* provides “an agreement, conveyance, mortgage or charge made, or a power of appointment granted, assigned or exercised in contravention of this section or a predecessor thereof does not create or convey any interest in land.” It was further argued that subsection 50(6) of the *Act* was of no assistance as the remaining parcel of land was conveyed “after” the registration of the deed for the severed parcel.

Notwithstanding a previous decision of the Ontario District Court in *Baker v. Belleville Collectors Market Ltd.* (1987), 60 O.R. (2d) 157 wherein Justice Lally, D.C.J. found that the conveyance of the remaining parcel of land after the

*cont’d on page 10*

conveyance of the parcel for which the consent had been obtained was void under the Act, in *Acchione*, Madame Justice Croll did not follow it and found as follows:

Even if one were to accept Ontario Limited's position that the language of subsection 50(6) is clear as to the necessary order of the conveyances from Orfi, there would still be a problem with this approach. The problem is that this approach leads to an absurdity. Where the language of a statute is plain and unambiguous, the Courts do not have the right to amend such statute, either by eliminating words or inserting limiting words, except to the extent of avoiding absurdity, inconsistency or repugnancy. It would not be sensible to suggest that because the consent given to Orfi in 1995 was a consent to sever Parts 2 and 3 from Part 1, and Part 1 was conveyed after the consent of Parts 2 and 3, the purpose of the *Planning Act* was offended. ...

I take the remedial or purposive approach to subsection 50(6) of the *Planning Act* and echo the words of Dunn J. in *Barber v. Butler*. The conveyance of Part 1 by Orfi to Acchione is not the type of transaction meant to be affected by the Act. It was entirely fortuitous that the conveyances by Orfi occurred in the order that they did. This was not a sophisticated scheme to divide a parcel of land into smaller lots in contravention of the *Planning Act*. To suggest that the result of this chance ordering of conveyances by Orfi is that Orfi was not able to convey good title to Acchione would be absurd in light of the overriding intention of the *Planning Act* to regulate subdivision control in Ontario.

Justice Croll's decision was appealed to the Ontario Court of Appeal. (see 2002 CarswellOnt 29, [2002] O.J. No. 22, [2002] O.T.C. 368, 110 A.C.W.S. (3d) 1145, 154 O.A.C. 160, 209 D.L.R. (4<sup>th</sup>) 248, 46 R.P.R. (3d) 163, 57 O.R. (3d) 578 (Ont. C.A.).<sup>2</sup>) The Court of Appeal agreed with Lally D.J.C.'s interpretation of subsection 50(6) in *Baker v. Belleville Collectors Market Ltd.* and relied upon the Supreme Court of Canada's decision in *Rizzo & Rizzo Shoes Ltd. (Re)*, [1998] 1 S.C.R. 27 with respect to the fundamental approach to statutory interpretation, being, "Today there is only one principle or approach, namely, the words of an Act are to be read in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament." The Court of Appeal found that there was no mystery to the ordinary meaning of the word "before" in subsection 50(6) and Justice Croll's decision would require the court to ignore the word "before" or to have to interpret it as meaning "before or after". The Court found "the provision cannot fairly bear such an interpretation" and the Court therefore allowed the appeal and granted a declaration that the conveyance from

Orfi to Acchione violated section 50 of the Act.

Ironically, the Court of Appeal's decision contained the following footnote:

This transfer did not contain the statements from the grantor and the grantor's solicitor as permitted by s. 50(22) of the *Planning Act*. Where subs. (22) applies any contravention of s. 50 "shall be deemed never to have had the effect of preventing the conveyance of any interest in the land."

That is, had the *Planning Act* statements contemplated by subsection 50(22) been made on the Transfer from Mrs. Orfi to Acchione, the *Planning Act* contravention would have been cured.

The ownership in abutting lands should therefore continue to be of primary concern for surveyors and lawyers. If an owner has two abutting parcels of land, one of which was created with a consent granted after March 31, 1979, it is only that severed lot that can be dealt with without *Planning Act* concerns. If it is the other parcel that is being dealt with, the severed lot must be firstly transferred to another party, or both parcels of land must be dealt with, or a further consent must be obtained.

Sidney H. Troister, LSM of the Toronto law firm Torkin Manes LLP is known as the preeminent authority on the Act, having written the third edition to *The Law of Subdivision Control in Ontario*, (Toronto: Thomson Reuters, 2010). Only last month he issued a Real Estate Update, one section of which provided as follows:

Many lawyers still don't understand "once consent, always a consent." The *Planning Act* is clear: only the land previously conveyed with an unstipulated consent gets the benefit of the once a consent exception in section 50(12). There is no exception for land that abuts land previously conveyed with consent. It is not enough to say the property was severed. The *Planning Act* only recognizes the land that was conveyed with an unstipulated certificate of consent attached to or endorsed on it as being exempt from further *Planning Act* compliance.



Robert Tchegus is the Partner responsible for the Real Estate Group at the Kingston, Ontario law firm of Cunningham, Swan, Carty, Little & Bonham LLP. He has been Certified by the Law Society of Upper Canada as a Specialist in Real Estate Law. He is an appointed Part-time Member of the Payments in Lieu of Taxes Dispute Advisory Panel for Canada and was a Part-time Member of the Ontario Assessment Review Board for 10 years. He designed the real estate curriculum for the Ryerson University Law Practice Program (alternative to articles). He can be reached by email at [rtchegus@cswan.com](mailto:rtchegus@cswan.com) for further information.

<sup>1</sup> <http://www.canlii.org/en/on/onsc/doc/2000/2000canlii22720/2000canlii22720.html>

<sup>2</sup> <http://www.canlii.org/en/on/onca/doc/2002/2002canlii23579/2002canlii23579.html>

# A Presentation on Managing Utility Risks at the 124<sup>th</sup> AOLS AGM in London

By Lawrence Arcand, P. Eng.

It was a cold wet day on February 25<sup>th</sup> when I sat gathering my thoughts before my morning presentation at the 124<sup>th</sup> AOLS AGM in London. As an engineer, there is always something that makes me a little nervous standing up in front of a group of land surveyors. Both professions share a lot of common traits; both are very technical, analytical, detail oriented, and yet both possess their own areas of focus and strength. My biggest fear - getting very technical survey-based questions from the crowd that would go right over my head. It was a packed house, which is always great to see as a presenter. There were many familiar faces, but many more that I did not recognize. Out of the corner of my eye I caught Ophir Wainer from our office starting to video the presentation. Last deep breath to calm the nerves ... and it was go time!

Thankfully, the topic of the day was something I am very passionate about: using practices and processes to most effectively manage the risks associated with existing utilities on capital infrastructure projects. Heck, I have spent the last 13 years of my life dedicated to improving the processes that we use in Ontario and across Canada, with the hope of improving the industry as a whole.

I started out with a great story that exemplifies what *not* to do. It was an Urban Transit project in Toronto, and not enough attention was paid by the team working on the Environmental Assessment/conceptual stage. The result - a \$14M dollar project turns into a \$105M dollar project mainly due to all the complexities that arose from dealing with the existing Utilities. The key lesson learned is that we have the tools to do better and we, as professionals, need to implement those tools to ensure it does not happen on the next project.

The idea of professional collaboration is one that is gaining a lot of momentum across North America. The American Society of Civil Engineers (ASCE) recently started a brand new group called the Utility Engineering & Survey Institute (UESI). UESI's goal is to be the worldwide leader in generating products and services that promote and reward excellence in the engineering, planning, design, construction, operations, and asset management for utility infrastructure and engineering surveying. I thought it was great to see the ASCE recognize the strong relationship between civil engineers and surveyors. I also thought it was great when I found information from the AOLS Insurance Advisory Committee that has made some very distinct and



Lawrence Arcand (left), Ophir Wainer (centre) and Josh Cowan from T2 Utility Engineers pose in their T2ue Hockey Jerseys at their exhibit booth during the AGM in London

relevant observations that I decided to share during the presentation:

- Losses occur because of an error or omission
- Errors and omissions occur because of a mistake
- Mistakes occur because the proper process/procedures were not followed or important steps were skipped.

When I read these points I thought they were great. For me, it underlines how engineers and surveyors need to work together on these projects, each understanding our strengths and weaknesses and doing our specific part in the process to get to the end product.

At this point in the presentation, I was getting a lot of head nods and obvious acceptance of what I was talking about. It was great, but I was still talking at the 10,000 ft level. It was time to dive into some of the specifics and highlight some of the standards that we utilize to manage utilities. Talking about standards and guidelines is always a challenge. How can you be informative and yet not put your audience to sleep – not always easy!

There are 3 important guidelines in the utility world that I wanted to focus on:

- ASCE 38-02 – Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data
- TAC - Guideline for the Coordination of Utility Relocations
- CSA S250-11 - Mapping of underground utility infrastructure

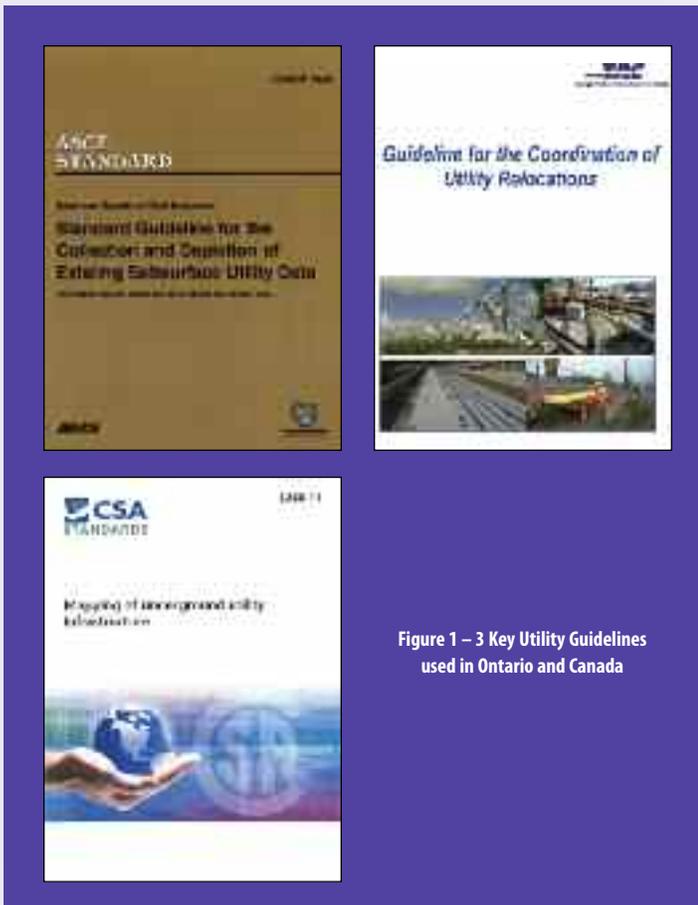


Figure 1 – 3 Key Utility Guidelines used in Ontario and Canada

I started with the Transportation Association of Canada (TAC) guideline which is brand new ... so new it is not even published yet. We are hoping to see it come out from TAC in late spring, and I am excited to say that due to some persistence on behalf of our Public Utilities Management Subcommittee (PUMS) and some generous sponsors, we will be able to distribute it for free. This free distribution will hopefully accelerate the awareness and use of the standard across the country and hopefully push it towards acceptance and adaptation as the “go to” document. At the heart of the guideline is a flowchart which helps to lay out the general processes to be followed for managing Utility Coordination efforts on projects. Having this flowchart benefits Utilities because it provides consistency for Utilities that operate within many jurisdictions and municipalities. It benefits municipalities and other ROW owners

because they are able to learn from and leverage the best practices of others into their operations.

The TAC Guideline will be used more by engineers and coordinators than surveyors, but the guideline does lay out the use of the ASCE 38-02 and CSA S250-11 guidelines which require collaboration between the two professions.

The ASCE 38-02 has been around since 2002 and it has become the “go to” document for engineers, creating composite utility drawings showing the location of existing utilities on a project. The real value of the standard is the way it lays out the various Quality Levels that can be used for depicting the Utilities on the drawings. The engineer can work with a surveyor to collect the field data, then take that data and through analysis, review and interpretation, assign it a Quality Level, which is dependent on how the information was collected and the reliability of that data.

Quality Level D – Information derived from existing utility records.

Quality Level C – Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information.

Quality Level B – Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities.

Quality Level A – Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point.

The use of the ASCE 38-02 standard and the proper execution of Subsurface Utility Engineering (SUE) processes has revolutionized the way we create composite utility drawings in Ontario and throughout Canada. It is improving our engineering designs, reducing risks on projects and ultimately saving project owners money. A study by the University of Toronto in 2006 showed a savings of \$3.41 for every \$1 owners spent doing SUE. The Centre for the Advancement of Trenchless Technologies (CATT) at the University of Waterloo is about to update that study and dig even deeper into the cause and effects.



Figure 2 – Flowchart from the TAC – Guideline for the Coordination of Utility Relocations

The last guideline that I reviewed with the group was CSA S250-11. This guideline is probably the one where Surveyors had the most opportunity to get involved and provide valuable input. One key aspect of CSA S250-11 is assigning Accuracy Levels to as-built and record drawings.

cont'd on page 14

Accuracy level	Description	Reference
1	Accurate to within +/- 25 mm in the x, y, and z coordinates, and referenced to an accepted geodetic datum with a 80% confidence level.	Absolute
2	Accurate to within +/- 100 mm in the x, y, and z coordinates, and referenced to an accepted geodetic datum with a 95% confidence level.	Absolute
3	Accurate to within +/- 300 mm in the x, y, and z coordinates, and referenced to an acceptable geodetic datum or topographical and cadastral features with a 95% confidence level.	Absolute or relative
4	Accurate to within +/- 1000 mm in the x, y, and z coordinates, and referenced to an acceptable geodetic datum or topographical and cadastral features with a 95% confidence level.	Absolute or relative
5	Accurate to within +/- 1000 mm in the x and y coordinates, and referenced to an acceptable geodetic datum or topographical and cadastral features with a 95% confidence level.	Absolute or relative
0	No information available related to spatial accuracy.	

Figure 3-- Accuracy Level Chart from CSA S250-11

One of the primary reasons why we need the ASCE 38-02 standard is that we have poor records of our underground Utilities. CSA S250-11 aims to rectify the issue on a go forward basis, by preparing better records, so that future generations will know where the infrastructure is underground. Surveyors need to play a big role in collecting that accurate data and helping to depict it in a way that can be shared with future generations.

At this point of the presentation time was running out and it was time to wrap things up. Time to sum up the key points of my talk:

- Utilities pose one of the major risks on Infrastructure Projects
- Ontario Land Surveyors and Professional Engineers need to work together to focus on their unique strengths and manage these Liabilities
- There are great new guidelines that can be followed which will help to guide us:
  - TAC- PUMS Guideline
  - ASCE 38-02 (UESI)
  - CSA S250-11

The hour was now up. I had made it through and not only were all the people still there, but I think that the room was even more crowded than when I started. There were a lot of great questions, but I think that the ultimate acknowledgment that the presentation was well received was when I got the e-mail from Maureen Mountjoy a month or so later. Her e-mail said that she heard good things about the presentation and wanted me to write an article so that all those who were not able to attend could benefit.

Now you know why you are reading this article. I hope that all who attended the presentation took at least one new piece of knowledge and information away from it, and I hope that is the same for everyone reading this article.



Thanks Maureen for inviting me to share!

Lawrence Arcand, P. Eng. is the President of T2 Utility Engineers. He can be reached by email at [Lawrence.Arcand@t2ue.com](mailto:Lawrence.Arcand@t2ue.com) for further information.

# Traffic Protection for the Surveyor on the Road

By Mario Guindon, C.E.T., CRSP (2005-2016), CHSC (retired)

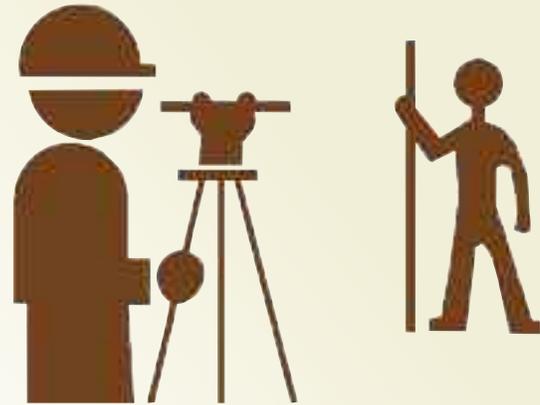
Summer is here. Along with the warm weather comes the cottage and tourist traffic and that means more dangers are out there on the road for Ontario Land Surveyors. It seems that regardless of what Traffic Protection Plan (TPP) you have developed for the crew, a large number of close calls occur each year, I'm certain of that, just with my limited amount of experience as a member of a survey field crew.

Working at land surveying does have hazards, and in every geographical area those hazards are a little different. Accidents can happen anywhere - by anything from working near wildlife in the north or near domesticated pets everywhere, to working around rock cracks, cliffs, swamps, gravel pits, insect nests and hogweed, and around blow downs from a wind damaged forest. Oh yes, let's not forget the general confusion when working near construction zones or school zones and then add in the Cottage Country commuters and those just wanting to get out of the hustle and bustle of their work lives. The one common hazard however seems to be traffic.

So how do you get ready for the summer traffic season and make sure you get home safe at the end of your workday? Above all the other hazards you encounter and prepare for, you need to protect yourself from that person who is driving down the road, in that metal box called a vehicle that can weigh in at 10 to 100 times more than you, and that you hope is alert enough to see your signs, your flashing lights and your presence, to slow down and proceed with caution. We all hope that every driver on the road is attentive and sees our work zone and is not distracted by the radio, the cell phone, children or the pets in the vehicle, or any other reason, while he or she is driving towards the instrument set up and the Field Person who is focussing on his/her work.

It sometimes seems to me that motorists believe the person doing land survey work on the travelled portion of the road is interfering with their right to drive on the road. We aren't there by choice; we need to be there to get the job done. Perhaps, they are not aware that you have as much right to be there as any motorist or any other worker, similar to that of a cyclist or pedestrian. However, without a doubt, if something does go wrong, you may not be at fault, but for certain you will not like the outcome of "person versus vehicle".

So you need to be as cautious as you can be and as proactive as possible and develop Traffic Protection Plans (TPPs). TPPs need to not only be well communicated amongst your staff, but be well equipped with the proper devices, the correct layout, identified Personal Protective Equipment (PPE), which is needed to be seen, and to have a safe set up



and take down procedure for your work area.

A Traffic Protection Plan (TPP) not only specifies what Traffic Layout (TL) to choose from the Ontario Traffic Manual( OTM) Book 7, but it identifies several additional safe measures and precautions while setting up what is required for a safe work zone and then later taking it down at the end of the job. Each work site may be different and therefore just opening Book 7 is not adequate. A corresponding hazard assessment is needed in conjunction with the selected TL. This is known as your Traffic Control Plan, which is discussed later on.

The OTM Book 7 manual's latest revision was in 2014 and it is a well written document which explains how to develop such a Plan. After choosing a Traffic Layout and selecting the devices required and the distances to place these devices, all that is left to do is to document the safe approach. Now that sounds easy doesn't it? Well perhaps there is a little more to it than that. Traffic Protection Plans can be as complicated as the road you are working on.

If you are in the country on a small gravel road, your TPP will be less complicated than the TPP that is required to work on a multi-lane road. The location of the placement of the work area ahead sign, which signals an early warning for drivers, is determined by the Normal Posted Regulatory Speed (NPRS). Plus if you are performing Very Short Duration (VSD) work instead of Short Duration (SD) work, then once again, the TPP is less complicated. But that isn't always the case is it? In this province, we not only have gravel roads set at 80 km/h, we have highways, freeways and roundabouts. Then, we have 50 km/h town roads to 90 km/h highways, not to mention the higher speeds on our 400 series highways. We can top all that off by adding additional trucks on the road, like you would find on Huron Church Road in Windsor, Ontario or the pedestrian and cyclist traffic encoun-

tered in most of our major cities. All of this must be taken into account as this is your responsibility as an Ontario Land Surveyor/Business Owner in this province. You are to “take every precaution reasonable for the protection of the worker” as per the Occupational Health and Safety Act (OHSA).

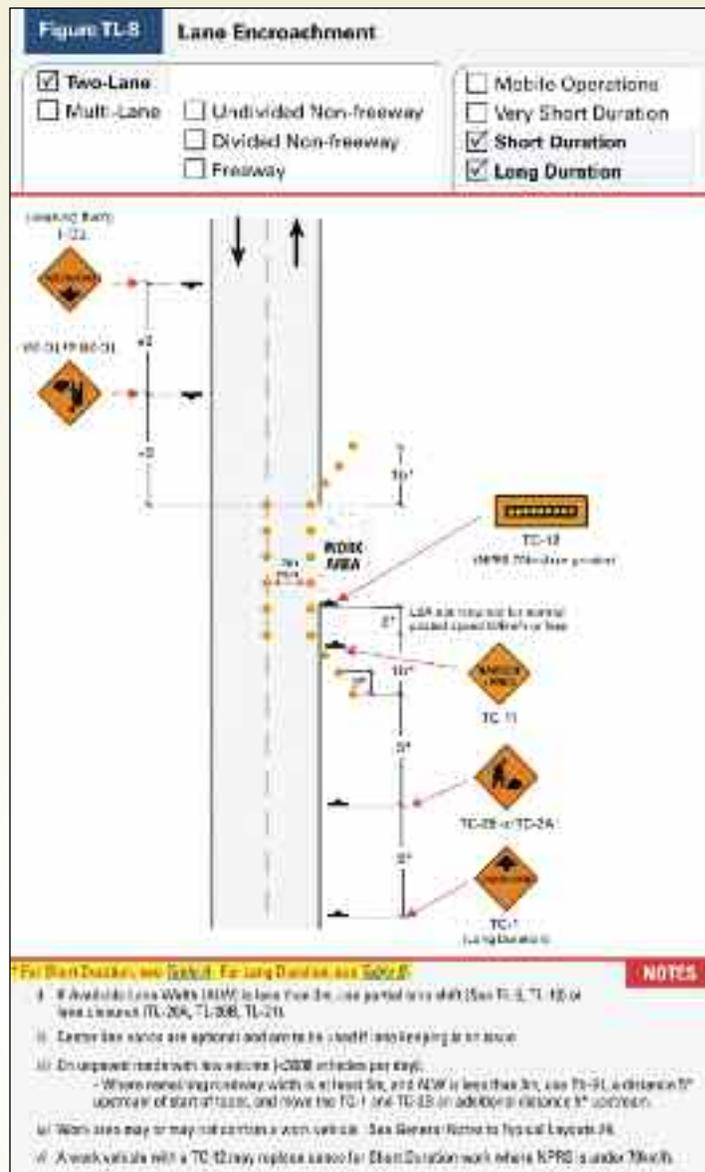
So how do you do all of this safely, and correctly? Well, completing your training outlined in the Ontario Occupational Health and Safety Act and knowing your responsibilities is a good start. Most of you, if not all, have taken training in this area as an Employer, Supervisor or Worker. You are all likely familiar with OTM Book 7, perhaps just not familiar with the latest changes. Now is the time to take out those Traffic Protection Plans (TPP’s) and update them to include any changes in the OTM, Book 7, 2014, the latest revision.

To complete a Traffic Protection Plan, choose the correct Traffic Layout (TL) from OTM Book 7, (free online at [www.otc.org/research/download-manuals](http://www.otc.org/research/download-manuals)) and describe a safe set up and take down of the device requirements, then complete your hazard assessment; this constitutes a Traffic Control Plan.

Your Traffic Control Plan should cover all of the details needed to establish a safe work environment. It identifies the location of the work, its parameters, such as visibility, and devices needed. Ask yourself; is the work area near an intersection or over a hill? What activity will take place and will there be work on or near a “live lane”? The time of year takes into consideration the traffic volume. There is far more traffic during the summer months. Is it low or high traffic volume? Traffic volume and how to estimate volume are set out in Book 7. Continue on with your Traffic Control Plan by identifying the Personal Protective Equipment (PPE) to be used and the placement of the work vehicle, being careful not to add to the congestion. And speaking of congestion, make sure to specify the correct placement of the warning devices, without hiding the view of existing signs. As you describe the set up and take down of the devices at the work area, keep an eye open on traffic. This is the most crucial time for potential harm. Set up begins with the furthest sign and cone(s) away from the work area and take down is performed in reverse, keeping your PPE on till the very last. Finish off by adding potential environmental hazards, such as weather and road conditions, and taking into account safe stopping distances.

Once you’ve completed the Traffic Control Plan, put everything together and this makes up your Traffic Protection Plan. This document is a living document that needs to be continuously reviewed and most importantly, its contents communicated to those using it prior to starting the work. A TPP is not much use at the office or on the computer. As per the Occupational Health and Safety Act, Regulations for Construction Project, a TPP must be kept with you at the job site for review and be available if required.

A good addition to the Traffic Protection Plan is emergency measures. Not too much of an issue in a 911 community, but what about outside of a town or outside city limits that don’t have this service available? Do you have the



numbers to call to get assistance quickly and the knowledge to stabilize an injury until help arrives? If this is all that you need to update your TPP, I can see you are prepared for a schedule of work to begin, all the while doing it safely.

I’ve worked in the Safety Profession for over 35 years and unfortunately have seen a few accidents. I’ve been fortunate not to have witnessed or required to investigate motor vehicle fatalities, but I have investigated many near miss incidents with vehicles. Sometimes I think the only thing that separates these two is luck and timing. Accidents involving motor vehicles tend to be the most severe for injury and are mostly due to inattention from one party or another. From my experience, after reviewing TPP’s from multiple companies, it’s an area that everyone has room for improvement. Motorists do have the responsibility to drive carefully, but who wants to be “dead right” when it comes to whose fault it was? So in this case, your best protection is a good TPP that involves time, distance, high profile and good measures.

Working safely isn’t a luxury, it’s a responsibility and a necessity. It’s also part of your due diligence to have Traffic Protection Plans. It’s worth the cost.



# METROLINX-GO Transit Electrification Project

By Scott Paterson

## Overview

In November of 2015 Tulloch Engineering's Mapping group was contracted to provide a complete engineering survey of six Metrolinx railway commuter corridors originating from Union Station in Toronto. Tulloch used a unique combination of mobile LiDAR, static LiDAR, and conventional infill ground survey to complete the project. The survey is in support of the engineering design for Metrolinx's \$4 billion Electrification Project.



Example Electrified Railway

## Metrolinx

Metrolinx is a crown corporation responsible for the GTA's Go Transit rail and bus commuter system. Go Transit trains currently carry 190,000 commuters per day. Electrification of Metrolinx's GO Transit rail commuter rail corridors requires the upgrading of infrastructure and providing a means of getting the electricity to the trains which includes new electrical substations, overhead power lines and new equipment. The benefits for Metrolinx to convert from conventional diesel to electric are:

1. Operating saving are estimated at \$18 million annually.
2. Improved travel times (an average of 2.5 minutes to the average passenger travel time, 10 minutes on longer routes) due to quicker acceleration and deceleration. This should attract more riders.
3. Electric locomotives are less expensive to maintain



Metrolinx Study Area

and more reliable than diesel locomotives.

4. Electric locomotive trains produce less Greenhouse Gas emissions and do not emit Critical Air Contaminants.

## The Electrification Project

Electrification is planned for most of Metrolinx's commuter rail corridors by 2022-2024, commencing with portions of the Kitchener and Stouffville lines in 2022-2023, followed by the Barrie and Lakeshore (GO's original route from 1967) lines in 2023-2024. The infrastructure cost of the Electrification project is over \$4 billion (2010 prices).

## Project Details

### Overview

An initial requirement for Metrolinx's Electrification project is an up to date engineering survey to enable the preliminary engineering design. Our survey project involves surveying approximately 260 kilometres of railway corridor for portions of 6 GO Transit tracks originating from Union



Nic Hinsperger setting Control for the Mobile LiDAR Survey

Station in downtown Toronto. The six corridors are;

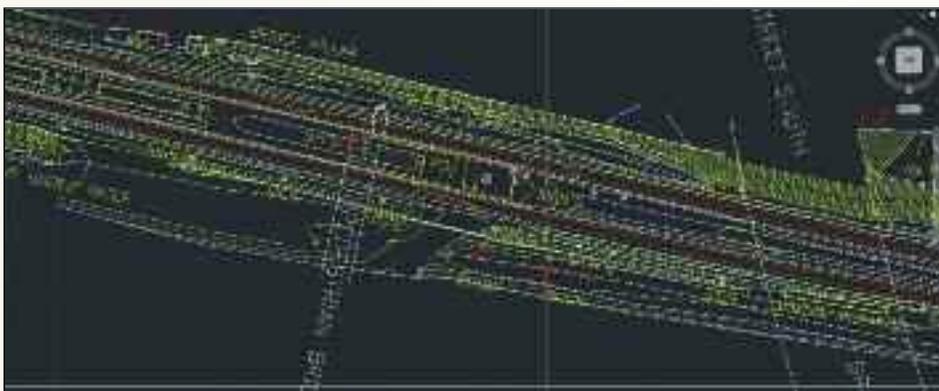
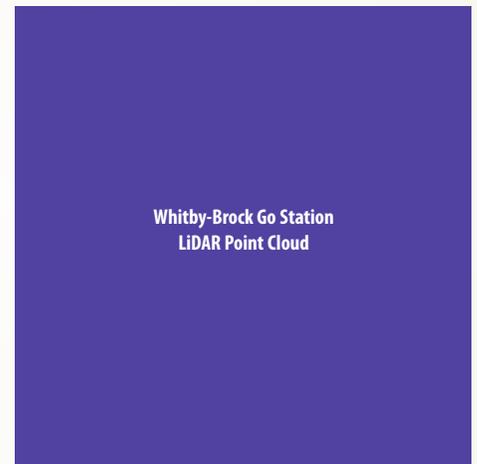
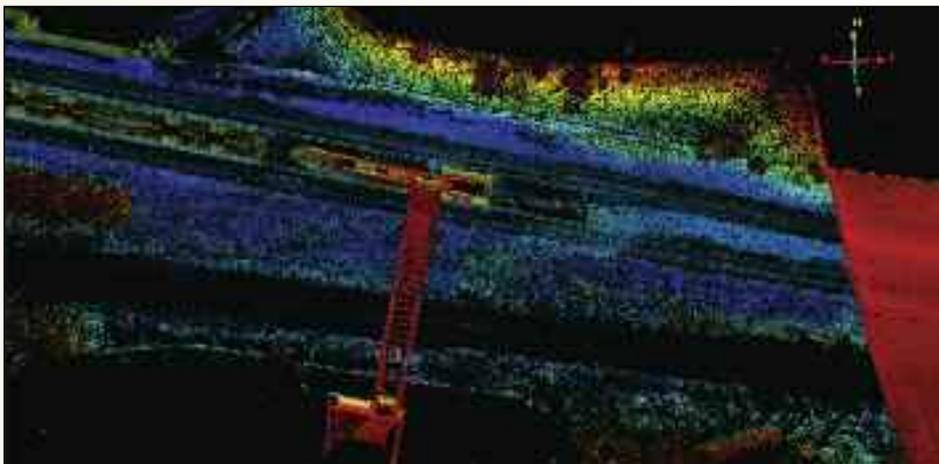
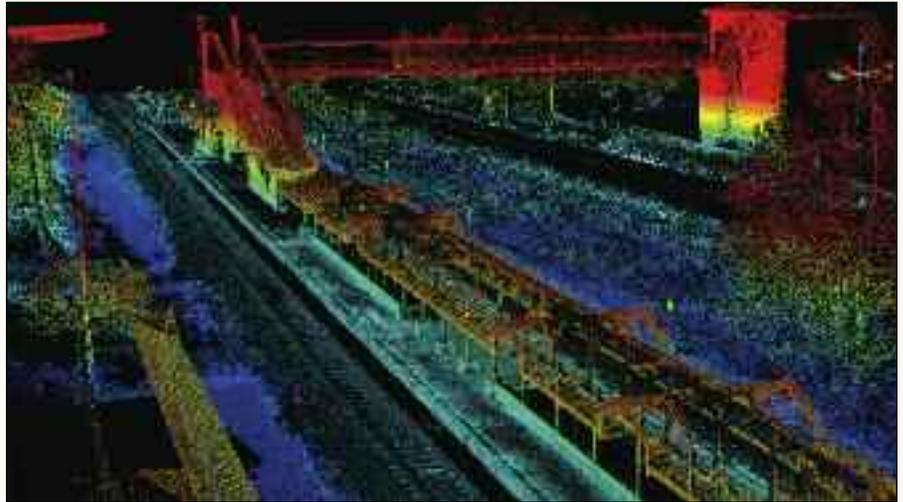
- ▷ Union Station
- ▷ Lakeshore West Corridor
- ▷ Kitchener Corridor
- ▷ Lakeshore East Corridor
- ▷ Barrie Corridor
- ▷ Stouffville Corridor

Tulloch provided a unique hybrid surveying approach, using mobile LiDAR surveying to collect all the visible features in the corridor, followed by conventional ground surveys to fill in missing features obscured from the LiDAR system's field of view and static LiDAR surveys for some of the bridges inaccessible with mobile LiDAR.

## Control

The first phase of this survey project entailed setting high accuracy control throughout the rail corridor prior to collecting the mobile LiDAR. The survey control or "registration points" were set at 300 metre

using the sensor's tightly coupled trajectory which is differentially corrected in post-processing. In order to correct the trajectory, dual-frequency GPS base station receivers were placed on existing project control (such control would also be used to tie the registration points) and occupied during the LiDAR mission collection.



Whitby-Brock Go Station LiDAR Final Mapping

## Mobile LiDAR Survey

A Riegl VMX-250 mobile LiDAR system was used for this survey and was mounted on a hi-rail truck. Mobile data collection took place during the night within optimal GPS windows and no significant system issues or errors were encountered. A primary control point was occupied with a Sokkia GRX1/GRX2 GNSS receiver during data collection. The missions were collected at approximately 40kph with at least two passes. The LiDAR data

intervals along the rail bed and on structures. These registration points are used to validate the LiDAR data's accuracy and, if required, to adjust any vertical bias. Closer spacing was required in tunnels and obstructed areas.

The three dimensional LiDAR point cloud is georeferenced

were processed, checked, and verified for completeness, coverage, and relative integrity. On average, point densities of 3,000 pts/m<sup>2</sup> were observed on the hard surface features.

In the calibration phase, the LiDAR data missions are

*cont'd on page 20*

checked in detail for relative alignment (laser to laser within passes and driveline pass to driveline pass) to ensure the data meets system and project specifications. At each registration point location and wherever else necessary, reference

planes are defined throughout the project area common to multiple passes in order to provide adjustments to the system trajectory and ensure relative alignment. The data are then constrained to the registration points and thus the project control through a localized transformation. The final data are compared to the registration points through a vertical control report.



Tulloch's Mobile LiDAR System mounted on a Go Transit Hi-Rail Vehicle

## Products

The primary deliverables for the project were detailed base maps, which will be used for engineering design along the corridors. The base mapping is accurate to 2.5 cm on hard surface features, and the mapping encompassed the bulk of the corridor width along each track, as well as stations and sidings along the routes. Mapping was delivered in DWG format, with logical plan breaks along each corridor.

In addition to the base mapping, a number of other products were

A promotional poster for the 150th anniversary of the Surveyors Association of Canada and the Association des arpenteurs-géomètres du Québec. The poster features a central graphic with the text 'JOIN US MARCH 1-2, 2017 IN OTTAWA' and 'REJOIGNEZ-NOUS 1-2 MARS 2017 À OTTAWA'. It includes logos for the Surveyors Association of Canada, the Association des arpenteurs-géomètres du Québec, and the 150th anniversary of Canada. The background shows a view of the Ottawa skyline with the Parliament Hill buildings. At the bottom, there are website URLs: 'WWW.SURVEYORS2017.CA' and 'WWW.ARPENTEURS2017.CA', and social media handles: 'FOLLOW US #SURVEYORS2017' and 'SUIVEZ-NOUS #ARPENTEURS2017'.

generated from the data, including horizontal and vertical clearances and utility assets for all stakeholders along the corridors. Several key bridges were identified as needing additional surveying and mapping beyond the rail corridor, and these were delivered as separate CAD files.

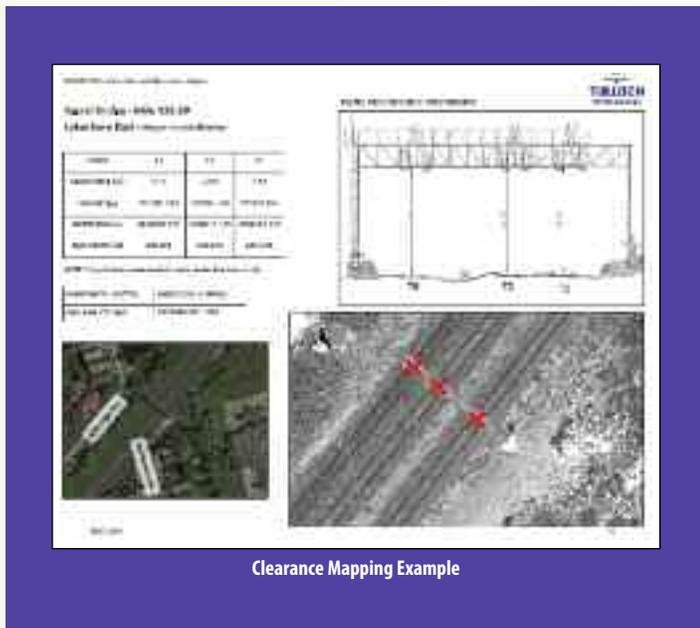
## Mobile LiDAR Advantages for Metrolinx Project

Our mobile LiDAR system was mounted on a hi-rail vehicle so we are able to get on and off the tracks easily. This survey approach reduces delivery timelines, limits track disruptions, and greatly improves safety. A major advantage of mobile LiDAR surveying for the GO-Transit rail corridors is that collection can occur at night when train activity is low and in a fraction of the time it takes to survey using conventional ground crews.

The approach taken on this project allowed project schedules to be advanced, as base mapping was completed in about 60% of the normal time required for this task. Using Mobile Scanning on the tracks reduced safety risks associated with on-track field surveys. In addition, the resultant LiDAR point cloud can be revisited in the office, and additional features and critical information picked up without having to send field crews back to do so. The homogeneous nature of the point cloud, combined with the conventional in-fill survey provides a rich, full feature data set that can be used at various stages in the design process.

## Other Metrolinx Work

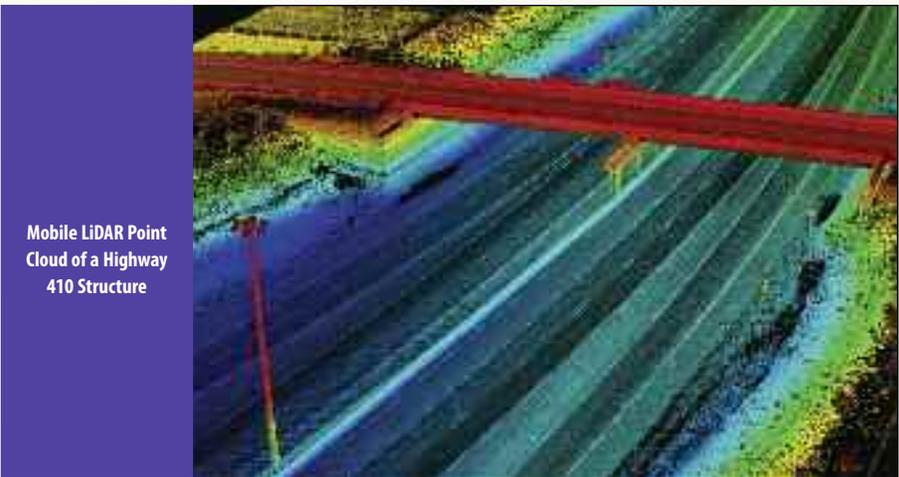
This was Tulloch's second major mobile LiDAR project with Metrolinx. The first project was a temporal survey for the new Union Pearson Express rail line, to characterize railway encroachments during construction of the rail line.



This involved analyzing the 3D LiDAR point clouds of the track and infrastructure to determine if a locomotive/train car profile can successfully pass through all existing rail infrastructure and meet clearance requirements.

## Mobile LiDAR

Tulloch has completed 34 engineering surveys for MTO where mobile LiDAR data was used for the hard surfaces. MTO has recently included a new section on mobile LiDAR specifications in their MTO Engineering Survey Manual published in January of 2016. Mobile LiDAR has a significant advantage over conventional ground surveying for 400 series Highways and busy municipal roads. Traffic control



and lane closures are not required during mobile LiDAR collection. Thus there are no disruptions to traffic or costs associated with blocker trucks. Also mobile LiDAR can save weeks of field time in a project's schedule.

Mobile LiDAR surveying generally has several significant advantages;

- ▷ Mobile LiDAR data collection is much safer than a conventional ground-based survey.
- ▷ No surveyors are required to be directly on the road or intersecting roads during data collection.
- ▷ No road lane closures or blocker trucks are required during data acquisition.
- ▷ The data is collected using a standard vehicle or ATV at posted speeds.
- ▷ The speed of survey data collection is significantly faster than conventional surveying methods.
- ▷ The accuracy of the survey data is equivalent to conventional survey methods.
- ▷ The detail and extent of survey data capture will exceed conventional surveying methods.

**Scott Paterson is the Business Development Manager for Tulloch Mapping Solutions in Ottawa. Scott has 15-years' experience working with both mobile and airborne LiDAR applications. For the past 5 years he has been marketing Tulloch's mobile LiDAR services.**

**SCHEDULE “A”**

**ALLEGATIONS OF PROFESSIONAL MISCONDUCT**

<b>CANADA</b>	)	<b>IN THE MATTER OF the <i>Surveyors Act</i></b>
	)	<b>R.S.O. 1990, Chapter S.29, as revised.</b>
	)	
<b>PROVINCE OF</b>	)	<b>AND IN THE MATTER OF David S. Dorland, O.L.S.</b>
	)	
	)	
<b>ONTARIO</b>	)	<b>AND IN THE MATTER OF a Disciplinary Hearing of the</b>
	)	<b>Discipline Committee of the Association of Ontario Land</b>
	)	<b>Surveyors held in accordance with sections 26 and 27 of the said Act.</b>

I, **WILLIAM D. BUCK, O.L.S., C.L.S., P. ENG.**, of the City of Markham, in the Region of York, am the Registrar of the Association of Ontario Land Surveyors.

1. The Council of the Association of Ontario Land Surveyors (AOLS) pursuant to Section 25(7)(a) of the *Surveyors Act*, by a Motion dated June 17, 2015, directed the Discipline Committee to hold a hearing in respect of allegations of professional misconduct against David S. Dorland, O.L.S.
2. It is alleged that David S. Dorland, O.L.S. (herein referred to as “Mr. Dorland”), in his personal capacity, and as the official representative for the firm D. S. Dorland Limited, Ontario Land Surveyors, is guilty of professional misconduct within the meaning of Section 35 of Regulation 1026, R.R.O. 1990, as amended, the particulars of which are as follows:
  - a) On or about November 12, 2014 the AOLS received an official complaint from Mr. Lawrence Fannon (herein referred to as “Mr. Fannon”) alleging that Mr. Dorland had failed to communicate confirmation on his project’s scope, costs and timeline, that he had yet to receive any survey plans or sketches that he had requested and that almost all of the original estimate of fees had been spent.
  - (b) On or about May 8, 2008 Mr. Dorland was retained by Mr. Fannon to act as a consultant in determining the developability (sic) of certain lands. Having received no communication from Mr. Dorland for several months, Mr. Fannon visited Mr. Dorland’s office on or about February 4, 2009 and received an invoice in the amount of \$525.00 for services rendered. Mr. Fannon was unclear about what services Mr. Dorland had provided.
  - (c) On or about April 22, 2013 Mr. Fannon met with Mr. Dorland and signed a Work Order for surveying services on a portion of his lands, which services Mr. Dorland estimated would cost \$2,000.00.
  - (d) On or about May 1, 2013 Mr. Fannon met with Mr. Dorland to review the progress of his survey. During this meeting Mr. Dorland suggested to Mr. Fannon that he increase the scope of the project and with added fees to an additional cost of \$6,000.00. Mr. Fannon agreed to this and gave Mr. Dorland a cheque in the amount of \$4,183 payable to the City of Sudbury and a second cheque payable to Mr. Dorland in the amount of \$3,000.00 as an advance on his fees.
  - (e) On or about May 2, 2013 Mr. Fannon cancelled the said cheques and contacted Mr. Dorland to advise him that he did not wish to proceed with the \$6,000.00 project but only wanted his original work order completed. Mr. Dorland stated that he had not started the \$6000.00 job and that he would not proceed with it.
  - (f) On or about May 17, 2013, not having received his survey, Mr. Fannon travelled to Mr. Dorland’s office in Sudbury with the intention of paying him for the work performed to date and severing their relationship. During this meeting Mr. Dorland convinced Mr. Fannon that his survey would soon be completed and Mr. Fannon gave Mr. Dorland a cheque in the amount of \$2,000.00 plus \$500.00 in cash, with the understanding that this was payment for the original work order.
  - (g) During their May 17, 2013 meeting Mr. Dorland proposed to Mr. Fannon that he should increase the scope of the project further and that for a fee of \$10,000.00 he would perform all of the survey work required and that this would result in some cost savings with the City of Sudbury.
  - (h) Mr. Fannon agreed to Mr. Dorland’s new \$10,000.00 proposal, which included a requirement that Mr. Fannon contact several owners adjoining his lands before Mr. Dorland could begin his survey work.
  - (i) On or about September 16, 2013 Mr. Fannon emailed Mr. Dorland to advise him that he had been unable to make suitable agreements with any of the adjoining owners and that he therefore wanted to proceed only with the original \$2000.00 work order.
  - (j) On or about October 9, 2013 Mr. Fannon emailed Mr. Dorland again to request a meeting and to confirm that he only wanted the original \$2000.00 work order done.
  - (k) On or about October 11, 2013, having received no response to his October 9<sup>th</sup> email, Mr. Fannon went to Mr. Dorland’s office, at which time an employee of Mr. Dorland’s informed Mr. Fannon that his September 16,

*cont’d on page 24*

2013 and October 9, 2013 emails had not been received, and that he owed an additional \$6,400.00, bringing the total cost to date to \$9,400.00.

- (l) On or about October 11, 2013 Mr. Fannon visited the project site and could find no evidence that any survey work had been done on the project which had a budgeted amount of \$10,000.00 as per work order dated May 17, 2013.
- (m) On or about October 21, 2013 Mr. Fannon's son, Dan Fannon, telephoned Mr. Dorland and directed him to stop all work on the project and provide him with a detailed breakdown of the costs to date. Mr. Dorland agreed to provide a report "in a couple of days."
- (n) On or about October 31, 2013, following several more phone calls and emails from Mr. Fannon, Mr. Dorland provided an invoice and a computer printout detailing the cost of his survey work.
- (o) Mr. Fannon sent emails to Mr. Dorland on or about November 13, 2013, November 18, 2013, November 28, 2013 and December 5, 2013 asking for clarification of several elements of Mr. Dorland's invoice.
- (p) On or about December 6, 2013, Mr. Dorland provided a more detailed invoice to Mr. Fannon containing dates worked and short descriptions of work performed on those dates.
- (q) On or about December 12, 2013, December 14, 2013, December 29, 2013 and January 18, 2014 Mr. Fannon emailed Mr. Dorland requesting an explanation of why Mr. Dorland had continued to work on the project after their telephone call on October 21, 2013 at which time Mr. Dorland had agreed to stop work on the project. In these emails Mr. Fannon summarized his view of the original work order and the expanded work order, the current status of the project, the substantial delay in completing the work and he questioned how this situation could be resolved. Mr. Dorland did not respond to any of these emails.
- (r) On or about March 20, 2014, still not having heard from Mr. Dorland, Mr. Fannon had his son Dan Fannon call Mr. Dorland. In his complaint, Mr. Fannon noted that during this conversation Mr. Dorland stated that he could not proceed with much of the work because Mr. Fannon had not made agreements with buyers, while on the other hand Mr. Dorland had spent almost all of the estimated \$10,000.00 cost of the work order on the project.
- (s) On or about June 25, 2014, concerned that Mr. Dorland had still not responded to him, Mr. Fannon emailed Mr. Dorland a detailed offer that would allow him perform less work for the same \$10,000.00 fee.
- (t) On or about July 15, 2014, as Mr. Dorland had not responded to Mr. Fannon's offer, Dan Fannon called Mr. Dorland again. During this call Mr. Dorland offered to send Mr. Fannon a "layman's friendly report" detailing where the \$9,000.00 had been spent, what remained to be done, and at what cost.
- (u) On or about July 15, 2014, Mr. Dorland provided Dan Fannon with a one page hand written transmittal form that did not provide the requested details as discussed

during their recent telephone call.

- (v) On or about July 28, 2014, Mr. Fannon emailed Mr. Dorland stating that he no longer needed his services.
  - (w) On or about September 15, 2014, having received no further communication from Mr. Dorland, Dan Fannon called Mr. Dorland and requested that Mr. Dorland provide him with an email detailing what Mr. Dorland believed would be an acceptable exit agreement to end their relationship. Mr. Fannon's complaint, received on November 12, 2014, noted that Mr. Dorland had not responded to this request as of the date of his complaint.
3. It is alleged that the member failed to comply with the Standards of Practice of the AOLS as in Section 34(2)(i) of Regulation 1026, R.R.O.1990, as amended, which states that "every professional member shall keep and make available to his client, on request, an itemized and accurate record of the cost of a project;" Failure to comply with the *Standards of Practice* constitutes Professional Misconduct within the meaning of Section 35(3) of Regulation 1026, R.R.O. 1990, as amended.
  4. It is alleged that the Mr. Dorland failed to comply with the *Code of Ethics* of the AOLS in that he has repeatedly failed to ensure that his client was aware of the complexity of the type of surveys recommended and the nature of fees for service, all of which is contrary to Section 33(2)(e) of Regulation 1026, R.R.O. 1990, as amended. Failure to comply with the *Code of Ethics* constitutes Professional Misconduct within the meaning of Section 35(3) of Regulation 1026, R.R.O. 1990, as amended.
  5. It is alleged that the member failed to comply with the Standards of Practice of the AOLS as in Section 34(2)(g) of Regulation 1026, R.R.O.1990, as amended, which states that "every member shall comply with any written or oral request received from the Association, the Registrar, the presiding officer of any committee of the Association within the time specified in the request and shall supply such information and copies of such material, other than material concerning a member's health or financial status, as may be requested", in that he failed to comply with his written undertaking to the Complaints Committee on March 1, 2008 that he would "... review on an ongoing basis, billing summaries to enable us to be aware of any overruns of estimated fees and communicate the same to our clients in a more regular manner." That prior written undertaking dated March 1, 2008, and given by Mr. Dorland to the Association of Ontario Land Surveyors and its Complaints Committee, remains in full force and effect to this day. Failure to comply with the *Standards of Practice* constitutes Professional Misconduct within the meaning of Section 35(3) of Regulation 1026, R.R.O. 1990, as amended.
  6. It is alleged that Mr. Dorland has committed acts of professional misconduct as defined by Section 35(21) of Regulation 1026, R.R.O. 1990, as amended, in that his actions as detailed above in this Notice, would be reasonably regarded by members of the Association of Ontario Land Surveyors, as dishonourable and unprofessional.

Dated at Toronto, Ontario, this 8<sup>th</sup> day of September, 2015.

# DISCIPLINE DECISION

IN THE MATTER OF *the Surveyors Act*, R.S.O. 1990, Chapter S.29, as amended  
AND IN THE MATTER OF David Dorland, O.L.S.  
AND IN THE MATTER OF a Disciplinary Hearing  
Of the Discipline Committee of the Association of Ontario Land Surveyors held in  
accordance with Sections 26 and 27 of the said Act

## Order and Reasons

This Panel of the Discipline Committee convened on March 23rd, 2016. The Member had retained Mr. Barry Poulson, Counsel, and both Mr. Dorland, O.L.S. and Mr. Poulson were present. Mr. Dorland's son was also present. The Association was represented by Mr. Izaak de Rijcke, Counsel; both Mr. de Rijcke and the Association Registrar, Mr. Bill Buck, were also present. The Panel was assisted by Counsel, Carol Street.

On convening, the Panel was advised that the parties proposed to proceed by way of a guilty plea by Mr. Dorland, O.L.S., followed by a Joint Submission with respect to what the parties jointly proposed was an appropriate penalty for consideration by the Panel.

The allegations against Mr. Dorland were as set out in Schedule A to the Notice of Hearing, marked as Exhibit 1 by the Panel. After hearing submissions from both Counsel and from the Member, the Panel recessed and considered whether it was prepared to accept Mr.

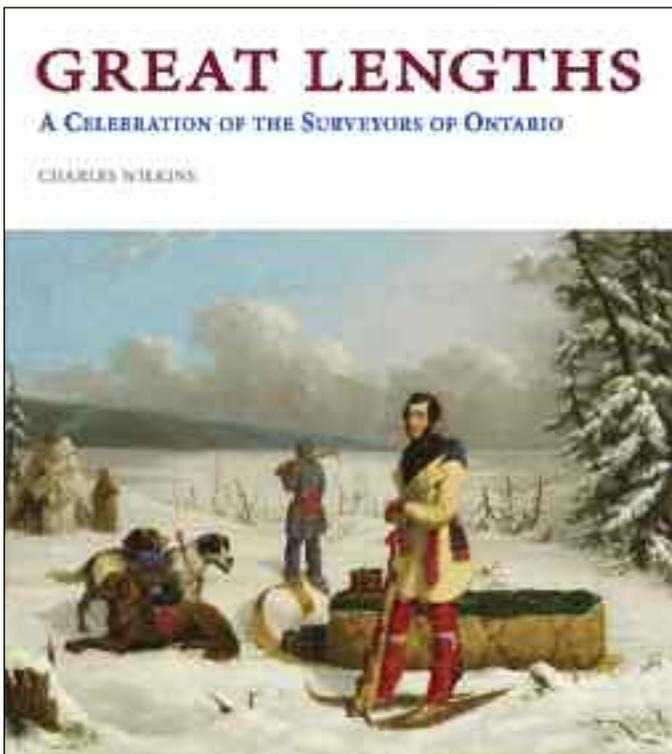
Dorland's plea of guilt to the allegations. The Panel comments that it would have been helpful to it to have been provided with an Agreed Statement of Facts to assist it in its consideration of whether there were sufficient agreed facts to support the Member's plea.

The Panel gave due consideration to all submissions and after a thorough discussion agreed that it was appropriate to accept the Member's plea of guilt to the allegations in Schedule A to the Notice of Hearing.

The Panel was also presented by the parties with a Joint Submission that was the agreed position of both parties as to the appropriate penalty for this Panel to impose in the circumstances. The Joint Submission was marked as Exhibit 11 at the hearing, and a copy is attached to this Order and Reasons, marked as Appendix 1.

The Panel reviewed the Joint Submission and asked the parties whether they were prepared to agree to two additions to it. The parties agreed. Those additions are:

*cont'd on page 26*



### SPONSORSHIP OPPORTUNITIES

Great Lengths is being prepared with the generous support of our professional community.

All sponsors will be acknowledged in the book.

There are several ways to participate:

<b>Members Package - \$900</b> 1 hardcover copy 3 softcover copies 1 coupon for schools and libraries additional copies - \$40	<b>Suppliers Package - \$2,300</b> 3 hardcover copies 3 softcover copies 11 coupons for schools and libraries additional copies - \$40
<b>Firms and Regional Groups</b>	
<b>Platinum Package - \$10,000</b> 10 hardcover copies 200 softcover copies 10 coupons for schools and libraries additional copies - \$50	<b>Gold Package - \$7,000</b> 10 hardcover copies 100 softcover copies 10 coupons for schools and libraries additional copies - \$50
<b>Silver Package - \$3,500</b> 10 hardcover copies 50 softcover copies 10 coupons for schools and libraries additional copies - \$40	<b>Bronze Package - \$1,500</b> 3 hardcover copies 15 softcover copies 7 coupons for schools and libraries additional copies - \$40

To become a participating sponsor go to  
<http://www.aols.org/resources/sponsorship-opportunities>  
For more information contact Blain Martin • [blain@aols.org](mailto:blain@aols.org)

Once costs are recovered, additional revenue generated through sales of this book will benefit the AOLS Educational Foundation.

**Charles Wilkins** has been a fulltime writer for more than 30 years. He is the author of 15 books, including, most recently, *In the Land of Long Fingernails* (a memoir about a summer spent working in a large Toronto cemetery) and *Little Ship of Fools* (about his 2011 row across the Atlantic Ocean). His journalism has earned five National Magazine Awards, and he has been a finalist for half a dozen national literary awards. Four of his books have been named to the *Globe and Mail's* annual Top 100 Books. Charles is writing *Great Lengths – A Celebration of the Surveyors of Ontario* for the 125<sup>th</sup> Anniversary of the Association of Ontario Land Surveyors which will be celebrated in March 2017 in Ottawa. To aid in the book's preparation, several sponsorship opportunities have been made available. Please see above.

1. Paragraph's 2 and 7 of the Joint Submission, read together, say that the Member's Licence and Certificate of Authorization are suspended for one year, starting from the date of the hearing on March 23, 2016, but the effect of which is 'deferred'. This 'deferral' will be revoked, and the suspension will come into effect, only if the Member fails to comply with the terms of this Order and Decision, and in particular the terms of the Joint Submission which is incorporated into this Order.

The parties agreed that the intention of these paragraphs is that if the Member fully complies with the terms of this Order and Decision, and the incorporated terms of the Joint Submission, for one year from the date of the hearing, he will at all times be entitled to continue to actively practice. Put another way, the potential threat of a suspension as a result of the facts before the Panel will come to an end as of March 23, 2017, provided the Member fully complies with all agreed provisions of the Joint Submission and this Order and Decision.

2. Paragraph 3 of the Joint Submission refers to the Member obtaining the Registrar's approval to a client confirmation form to be used by the Member before undertaking a project for a

client. In addition, as a result of the Panel's request, the parties agreed that the Member will also provide a communication policy to the Registrar for approval, to then be used by the Member. The Panel directs that such a communication policy be provided to the Registrar within 30 days of this Order and Decision, if it has not already been provided.

Subject to these two agreed additions to the Joint Submission, the Panel accepted it as an appropriate resolution of the allegations. Pursuant to paragraph 5 of the Joint Submission the Member was reprimanded by the Panel, and pursuant to paragraph 8, the allegations forming the Charges, as well as this Order and Decision shall be published in the next issue of The Ontario Professional Surveyor magazine and on the AOLS website.

This Order may be signed in counterparts.

Ophir Dzaldov, O.L.S.

Dan Quinlan, O.L.S.

Leslie Higginson, O.L.S.

David Wilton, O.L.S.

Patricia Meehan, Lieutenant-Governor Appointee

## **APPENDIX 1**

### **JOINT SUBMISSION TO DISCIPLINE COMMITTEE PANEL ON CONSENT OF ALL PARTIES**

The Association of Ontario Land Surveyors (the "Association") and the Member, David S. Dorland, O.L.S. (the "Member"), make joint submission to the Discipline Committee panel under the *Surveyors Act* in respect of this matter by asking the Discipline Committee panel to issue a consent Order on the following terms:

1. The Member pleads guilty to the charges and allegations of professional misconduct against the Member (the "Charges") as alleged.
2. The Member's Licence and Certificate of Authorization shall be suspended for a period of one year from March 23, 2016, such suspension to be deferred for a period of one year.
3. The member shall provide a written undertaking that he will consistently and uncompromisingly use an approved client confirmation of scope of engagement form before undertaking a project for a client, using a form that has been approved by the Registrar of AOLS, which form shall identify the specific project or tasks to be undertaken by the member, including a quote, cost estimate, or schedule of fees and also, where applicable, identifying any tasks or projects that were discussed with the client but not undertaken by the member. Written direction shall also be obtained from the client each time that the scope or nature of the terms for the project are changed.
4. The member shall provide a written undertaking that he will complete the work that D. S. Dorland Limited was retained to complete for Mr. Lawrence Fannon in a timely manner at the agreed upon price or in the alternative that he will refund the monies paid to him by Mr. Fannon and agree to make his

notes and records available at no charge should Mr. Fannon wish to retain another surveyor to complete his project.

5. The Member shall be reprimanded and the reprimand will be recorded on the Register of the Association.
6. The Member shall pay to the Association, the sum of \$10,000.00 for costs, payable in 10 equal instalments by postdated cheques from March 23, 2016, to January 23, 2017, both inclusive.
7. The Member shall be required to comply with the terms of the Order or Decision in all respects, failing which, the deferral of the suspension referred to above shall be revoked.
8. The allegations forming the Charges, as well as the Order or Decision of the Discipline Committee, shall be published in the next issue of The Ontario Professional Surveyor magazine and on the AOLS website.
9. The terms of this Joint Submission are fair and reasonable and protect the public interest.
10. The Member acknowledges having been advised to obtain and has had the benefit of independent legal advice, or, has voluntarily declined to obtain same.
11. This Joint Submission and agreement thereto by the Member may be set up as a complete bar and answer by the Association to any appeal or judicial review of the Order or Decision of the Discipline Committee resulting therefrom.

DATED at Toronto, Ontario, this 23rd day of March, 2016.

# NEWS FROM 1043

## Changes to the Register

### MEMBERS DECEASED

Guenter Bellach	1099	Apr. 6, 2016
James W. Nicholson	1094	Apr. 9, 2016
Douglas G. McMaster	1170	Apr. 24, 2016
John C. Milne	888	May 1, 2016
William E. Bolan	1051	May 24, 2016

### RETIREMENTS/RESIGNATIONS

Robert L. Rishchynski	CR154	Dec. 31, 2015
Julius Palladino	CR201	Dec. 31, 2015
Conor McGuire	1981	Dec. 31, 2015
Robert J. Fencott	1424	Dec. 31, 2015
Bruce E. Thachuk	CR138	Dec. 31, 2015

### CANCELLED

Walid Belal	CR202	Apr. 4, 2016
Tony Sroka	CR182	Apr. 4, 2016
Tony D'Amico	CR133	Apr. 4, 2016

### SUSPENDED

Frank B. Delph	1306	Mar. 30, 2016
Steven C. Ruttan	1671	Mar. 30, 2016
Svetomir Stojanovic	1843	Mar. 30, 2016
Patrick X. Sun	CR127	Mar. 30, 2016
Wojciech J. Zurek	CR177	Mar. 30, 2016

### COFA'S REVISED

Was: Barich Grenkie Surveying Ltd.

Is: Barich Grenkie Surveying Ltd. (A division of Geomaple Canada Inc.) Toronto, Ontario, June 3, 2016

## Surveyors in Transit

**Michael J. Simpson** has not retired.

**J. Russell Hogan** is no longer with **Ministry of Transportation of Ontario**.

**Peter J. Stringer** is no longer with **Vector Geomatics**.

**W. Bruce Clark** is no longer with **McElhanney Land Surveys Ltd.** and is now with **Valard Geomatics Ltd.** in Edmonton, AB.

**Nath Segaran** is now with **Barich Grenkie Surveying Ltd. (A division of Geomaple Canada Inc.)** in Stoney Creek, ON.

**Paul L. Church** is no longer with the **Ministry of Transportation of Ontario**.

**Amy Kwok Ying Li** is no longer with **Public Works and Government Services Canada**.

**Francis Lau** is no longer with **Annis O'Sullivan Vollebekk Ltd.**

**Barich Grenkie Surveying Ltd. (a division of Geomaple Canada Inc.)** has opened a new office with **Seyed Majid Fathi** as the managing OLS. The office is located at 6075 Yonge St., Unit 100, Toronto, ON, M2M 3W2, Phone: (416) 444-1100.

**Michèle M. Pearson** is now with **Pearson and Pearson Limited**, which is now located at 10933 Jane Street, Unit B, Vaughan, L6A 1S1. Phone number remains the same.

**Bruce G. McPherson** is no longer with **City of Toronto, Engineering & Construction Services Land and Property Surveys**.

# Calendar of Events

## September 7 to 9, 2016

### **InterDrone**

*Las Vegas, Nevada*  
[www.interdrone.com](http://www.interdrone.com)

## September 26 to 28, 2016

### **Geomatics Atlantic 2016**

*Fredericton, New Brunswick*  
[www.cig-acsg.ca/events](http://www.cig-acsg.ca/events)

## October 11 to 13, 2016

### **INTERGEO**

*Hamburg, Germany*  
[www.intergeo.de](http://www.intergeo.de)

## October 18 to 21, 2016

### **Joint 3D Athens 2016**

*Athens, Greece*  
<http://3dathens2016.gr>

## October 31 to November 3, 2016

### **GIS-Pro 2016 – URISA's 54th Annual Conference**

*Toronto, Ontario*  
[www.urisa.org](http://www.urisa.org)

## November 16, 2016

### **GIS Day**

*Discovering the World Through GIS*  
[www.gisday.com](http://www.gisday.com)



# EDUCATIONAL FOUNDATION

## Lifetime Members at June 30, 2016 (Individual)

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

### Individual Sponsoring Members

BRUCE BROUWERS	RON EMO
PAUL FRANCIS	NANCY GROZELLE
BILL HARPER	TRAVIS HARTWICK
RUSS HOGAN	GEORGE WORTMAN
DAVID WYLIE	

### Corporate Sponsoring Members

D. CULBERT LTD.
CUNNINGHAM MCCONNELL LIMITED
ADAM KASPRZAK SURVEYING LTD.
KIRKUP MASCOE URE SURVEYING LTD.
TRIMBLE CANADA LTD.

### Sustaining Corporate Members

A.J. CLARKE & ASSOCIATES 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
<b>Members as of June 30, 2016 (Individual and Corporate)</b>
BILL BUCK
ROBERT MCCONNELL
A.T. McLAREN LIMITED
RON M. JASON SURVEYING LTD.
JAMES SWINNERTON
PAUL TORRANCE
LESLIE M. HIGGINSON SURVEYING LTD.

## EDUCATIONAL FOUNDATION NEWS

### Congratulations to our Spring 2016 Award Winners

**Fleming College – Alexandria Bailey** received the **GIS Award**, which is presented to the student in the GIS Applications Specialist Program who exemplifies leadership in project management. **Alexandra Milanetti** received the **Kawartha-Haliburton Surveyors Scholastic Award** which is co-sponsored by the Kawartha-Haliburton Regional Group and is presented to a student in the GIS-Applications Specialist Certificate program who attended Survey Camp and exemplifies leadership in the participation of assignments, and prepared exemplary field notes. Gerald Hickson attended the awards ceremony on behalf of the regional group.

**Loyalist College – Cole Barrett** was the recipient of the **Eastern Regional Group Award**, which is co-sponsored by the Eastern Regional Group and the Educational Foundation. This award is presented to a graduating student for scholastic achievement and

leadership in the Survey Technician Program.

### Announcing the John Duncan Barnes Multimedia Award

Celebrating the Educational Foundation's commitment to surveying education and in honour of its founding donor John Duncan Barnes O.L.S., this one time only, \$5000 juried award will be selected from the current group of articling students or recently commissioned members with the number 1973 or higher who apply with a multimedia submission. The award will be presented at the 125th AGM in 2017.

### South Central Regional Group (SCRG) Events

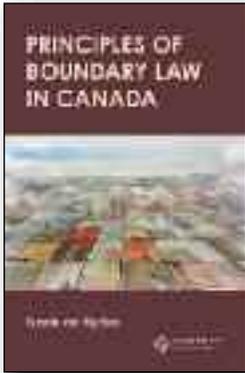
The Foundation would like to thank Ron Stewart for donating his fee for his presentation on Water Boundaries at the SCRG spring meeting. The Foundation would also like to thank Shawn Hodgson, Graham Bowden, Ron Querubin and Al Jeraj who raised \$940 through their sales of mulligans at the 44<sup>th</sup> Annual SCRG golf tournament at The Club at Bond Head. Thanks to everyone who participated.

The Educational Foundation would like to recognize with thanks donations made in the memory of  
**Jim Nicholson and Doug McMaster.**

# BOOK REVIEWS

## Principles of Boundary Law in Canada

By Izaak de Rijcke



Published by Four Point Learning

ISBN 978-1-927693-16-2

This comprehensive treatment of the principles of boundary law lies at the intersection of law and land surveying. Although this textbook has its foundation in the law of real property in Canadian common law jurisdictions, it is intended as a resource which bridges two professions. For real estate lawyers, it connects legal principles to the science of surveying and demonstrates how surveyors' understanding of the parcel on the ground has helped shape efficient systems for property demarcation, conveyancing and land

registration. For land surveyors, it provides a structure and outlines best practices to follow in the analysis of boundary retracement problems through the application of legal principles. This textbook is not meant to be used as a "how to" guide for the answering of specific questions about boundary problems. Rather, it is intended to serve as a reference tool to support the formation of professional opinions by clarifying the framework for evaluating boundary and survey evidence.

*Information taken from the back cover.*

## Keeping Ontario Moving The History of Roads and Road Building in Ontario

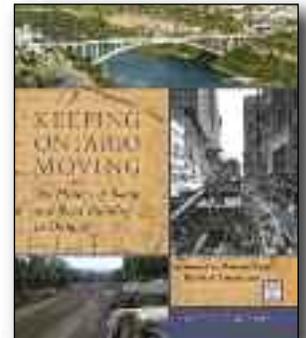
By Robert Bradford

In this beautifully illustrated book, virtually every facet of the road building industry in Ontario is discussed, from labour relations to safety, politics, and financing. Follow the history of road-building technology from the first crude trails hacked through dense forests by homesteaders to the corduroy roads, plank roads, stone roads, macadam pavements, hot mix asphalt pavements, and concrete roads. See how the engineering and construction of bridges has progressed from the first jack pine logs placed across a stream to the complex structures that span international waters and thousands of rivers today. Follow the development of construction equipment from the first steam shovels and

cable-operated machines of the late 1800s to diesel-powered machines in the 1940s and later hydraulics. Meet the companies that made the equipment and the people who sold and rented it.

From the 1930s forward the early story of roads is told largely by the people who lived and made the history. Over 120 contractors, engineers, government officials, and others were interviewed and the last eighty years of the industry's history unfolds in the way they remember it. Share their memories and stories, some hilarious and some tragic, as they talk about their projects, their businesses, their successes, and their hardships.

*Information taken from the publisher.*



Published by Dundurn  
ISBN 978-1-45972-363-4



Published by Dundurn  
ISBN 978-1-45973-220-9

## Discover Ontario Stories of the Province's Unique People and Places

By Terry Boyle

Using updated and archival material from Discover Ontario, a popular radio show that ran from 1987 until 2004, author Terry Boyle invites you to explore the hidden, unusual, and unknown sites and stories from around Ontario.

Revisit an era of mobsters and rum-runners during the years of prohibition. Traverse the deadly waves of the Hudson Bay and visit the watery graves of shipwrecks scattered among the province's water-

ways and coastlines. Learn about Project Magnet, the Canadian government's top secret mission to observe and study UFOs. Discover the Ontario connection to the mysterious Crystal Skull of Indiana Jones fame. Or explore the beauty of the natural world and the rich history of many of Ontario's communities.

*Information taken from the back cover.*

# The Last Word

## The Ministry of Transportation (MTO) celebrates 100 Years

Up until the late 1800s, the major transportation routes throughout Ontario were the rivers and lakes, and when travelling by land, most people got around by horse and wagon, or by sleigh in the winter. By the early 1900s, there was a marked increase in the popularity of motorized vehicles. In January 1916, in response to the demand for better roads to accommodate the 54,000 licensed automobiles that rattled and bounced along a series of gravel roads, the Ontario government established the Department of Public Highways of Ontario (DPHO). It was placed under the direction of road builder and Ontario Land Surveyor William Arthur McLean, who was appointed as the first Deputy Minister of Highways.

One of McLean's first priorities as the head of the department responsible for public highways was to determine which roads would qualify to become provincial highways. In 1917 the first official section to be designated was Kingston Road (Hwy #2), which ran 46 miles between Highland Creek in York County and Port Hope. The following year it was

extended east to the Quebec border. DPHO's vision was to connect the whole province with a network of paved highways. By 1920 the roads that constituted the first Ontario highway system totaled a distance of 1,134 miles (1825 km).

As our own association prepares to celebrate its 125th anniversary next year, we must not forget that the trailblazers who carved out Ontario's roads were the early Ontario Land Surveyors. They faced many obstacles; difficult terrain, severe elements, sickness and sometimes even death. Many of their biographies and accounts of their surveys can be found in the AOLS Annual Reports. Over its 100 years, the DPHO has been a great training ground for young surveyors. In the earlier days, many were articulated and received their OLS commissions while working there. Today MTO, as the ministry has been known since 1987, employs 21 Ontario Land Surveyors in five regional offices around the province.



Kingston Rd. looking W. from Victoria Park Ave. - Oct. 16, 1922.  
Credit: Toronto Transit Commission / Library and Archives Canada / PA-054241.

Reference: The Ministry of Transportation 1916-2016: A history: <http://www.mto.gov.on.ca/english/about/mto-100>



### 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	903
Other Professional Affiliations	263
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:  
August 15, 2016**

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

