

**SLSA**

# CORNER POST

**Spring 2010**  
**Volume XXXI - Number 1**



## Centennial Edition

Quarterly Newsletter of the Saskatchewan Land Surveyors Association



**#1 - The Entire Group - Includes all current members and visitors**  
(Recommended minimum size - 11" x 17")



**#2 - The Members Group - Includes all current members of all categories**  
(Recommended minimum size - 11" x 17")



**#3 - 28 Past-Presidents**  
(Recommended minimum size - 8" x 12")



**#4 - Life Members**  
(Recommended minimum size - 8" x 10")

## Centennial Group Photos Are Now Available

Copies of the group photos taken at the SLSA Centennial AGM can now be ordered by FAX or e-mail through the SLSA office. **Please specify photo # and size when ordering.**

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Office hours are:  
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on all regular business days.

**In this Issue**

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SIAST Poised to Eliminate Geomatics Training in Sask.....7  
Centennial Highlights - Booms and Echoes ..... 8  
Centennial Highlights - 25 Year Pin Recipients ..... 9  
Centennial Highlights - The Interview ..... 10  
Centennial Highlights - Sister Associations Help Commemorate ..... 14  
SLSA History Book in Schools ..... 15  
Is The Crown Bound by the Copyright Act? - W. O'Hara & S. Thiele . 16  
Lindsay McEachern - SLSA Scholarship Winner at U. of C. .... 22  
CSRS-PPP: A web tool - Pierre Tétreault and Pierre Sauvé ..... 23  
Keeping Young Works Safe - Workers Voice ..... 27  
Access to Beaches - Izaak de Rijcke..... 28  
Succession Planning - SK. Chamber of Commerce ..... 30  
Energy Management - Jennifer Walinga..... 32  
Lead, Follow or Get Out of the Way - Seven Boddecker ..... 34  
First Impressions - From the Scrivener..... 36

**Regular Features**

President's Message - Ron Eichel..... 2  
Council Highlights - A. Carl Shiels ..... 4  
Councillor's Corner - Justin Meyer..... 6

**Cover Story**

One of the many highlights of the 2010 Centennial AGM was the ice sculpture that greeted members, partners and guests as they entered the Regency Ballroom for the President's Ball on the evening of Friday, March 26. According to Convention Chairman Pat Maloney, the mysterious creation arrived at the ballroom in a number of pieces, none of which looked particularly impressive at the time. However, once 'glued' together with water and then gently bathed with more water, the crystalline form of the new SLSA logo sprang to life. Back lighting provided an even greater look of majesty and elegance and became the focal point of numerous photos throughout the evening.

The prevailing question following the initial admiring stares? "So how *did* they get the frosted effect of the logo embedded in the crystal clear ice?" But as with all works of magic, it is probably more fun if we never know for sure.

*(Photo courtesy of Pat Maloney)*

# President's Message



Ron J. Eichel  
SLS, P. Surv., ALS, P. Eng., CLS  
President

## Upcoming Events

- Jun. 14 - 20 Canadian Geomatics Conference, Calgary, AB
- Jun. 18 - 19 APEILS AGM, Brackley Beach, PEI
- Sep. 14 - 16 AMLS AGM, Clearlake, MB
- Sep. 24 - 26 OAGQ AGM, Lévis, PQ
- Oct. 25 - 29 ANSLS AGM, Truro, NS
- Feb. 23 - 15 AOLS AGM, London, ON



## Celebrating the Past and Anticipating the Future

As with every Annual General Meeting we make history, but the history came alive at the 100<sup>th</sup> Anniversary celebration with the wonderful historical vignettes that our life members shared with us. The stories reminded us that we have helped shape the great province of Saskatchewan and that we should all be very proud of the accomplishments of our fore-surveyors and also each of our own contributions. The 100<sup>th</sup> Anniversary celebration will be reignited by installing and dedicating the new plaque to the existing surveyors' monument in Wascana Park in September.

The attendance at our AGM was phenomenal. We have received many compliments from the visiting delegates. I also thank Past President Dave Gurnsey and Brenda Schwartz, Pat Maloney and the convention committee, and Carl Shiels for the extreme amount of planning and attention to detail that provided us with an event that was beyond compare.

The visiting delegates were very impressed by the number of students in the articling process and also how active the younger members are in our Association. They were very appreciative that many members introduced themselves and were genuinely interested in the sister professional association. It is great to see so many members embracing the tools learned at the educational seminar and putting them into practice so quickly! The SLSA is fortunate to have a so many young, energetic and intelligent members engaged in our profession.

As a membership we have accomplished a few landmark tasks over the past year, including a new logo to launch us into the next century, the surveyor in a crate is being shipped to various associations, and complying with the Labour Mobility provisions of the Agreement on Internal Trade.

Welcome to the new members. Commissions were granted through the Mutual Recognition Agreement to Rob Pinkerton (301), Aaron Clapperton (302), Brad Pollard (303), and Lana Bily (304). Lana also has the distinction of doubling the number of ladies in our fine association.

Thank you to outgoing council – past president Ravi Shrivastava and councillors Lee Andersen and Jack Redding. Your contribution is greatly appreciated.

I look forward to working with the new members of council; vice-president Wayne Adams, councillors Brian Burridge and Ryan Maloney.

The CCLS AGM took place on the Sunday and Monday immediately following the SLSA AGM. That event included a full day of workshops on Sunday. The Monday session dealt with how the CCLS will transition to Professional Surveyors Canada (PSC). There has been an impressive amount of work and tireless dedication by many volunteers to create the new association. I strongly urge every member of the SLSA and other sister associations to support PSC by first becoming a member and also taking advantage of all of the services PSC will be providing. SLSA members stand to gain a lot from this organization when it becomes fully functioning. I will provide more information about PSC as it becomes available.

Since our meetings were held approximately two months earlier than normal, Past-president Dave will be attending the ALSA AGM in Jasper and NSLS AGM and National Surveyors conference in Nova Scotia. This will provide Dave a full year of meetings.

A very recent unfortunate event that indicates Saskatchewan is not immune to the global recession is the suspension of enrolment of the Geomatics course at SIAST. This is the second time in my recollection that enrolment was suspended for the Geomatics program at SIAST. The former occurrence was about ten years ago which coincided with a change to the course syllabus. Personally, I believe this time is different and there is no intention of a suspension, I think it is a termination. As an association we need to act quickly to decide what commitments we can make to SIAST to keep this program viable. Since this closure will affect each and every one of us that employ highly qualified SIAST graduates, council needs your input to provide a solid case to keep the Geomatics program in Saskatchewan.

I am excited to be representing the association As we move into our second century. It will be a challenging and rewarding experience. ♪



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# Council Highlights



Carl Shiels, M. Sc., P. Eng.  
Executive Director

## 2009/2010 - Meeting #4, Feb. 10

### CCLS Report

- Planning for the transformation of the CCLS into Professional Surveyors Canada (PSC) continued. Both the governance model and draft bylaws were being refined but seemed to be receiving general approval.

### Registration of Cemeteries

- The Minister has assembled a small working group to consider how best to register the location of cemeteries. Recommendations that are likely to come from the committee include:
  - a requirement for signing to identify a cemetery
  - the provision of some form of map
  - establishment of regulations for non-destruction
  - provisions for access
- Promotion of the project could be through a public participation in "Map Day" where volunteers are invited to provide information – possibly GPS coordinates – of private cemeteries.
- ISC are fully behind the project and are prepared to provide free title searches to confirm ownership.
- There is good potential for publicity for the SLSA.
- It will be appropriate to have a conventional survey carried out on those cemeteries that are near a property boundary.
- Work on this project will continue as a 2010 SLSA legacy project.

### Practical Experience Reports

- In light of the growing consolidation of survey companies, a policy was adopted whereby members of council must declare a conflict of interest and remain silent in the discussion of, and abstain from voting on, practical experience reports of land surveyors in training employed by the same company.
- Practical experience reports of Prakhar Shrivastava, Dan Codling, Scott Colvin, Ian Isackson, Suresh Rajakumar were approved.

### SIAST

- A letter was received from Palliser Campus Dean of Technology questioning the rationale behind the CBEPS decision to deny their application for credits for their geomatics technology courses.
- It was agreed that the questions raised in the letter from Dean Boldt were valid and would form the basis for a letter from the SLSA to CBEPS questioning their decision.

### Administrative Bylaws

- Article VIII, SECTION 1 of the administrative bylaws was amended to include the Government Relations Committee as one of the standing committees of the association.

### Applications for Commissions

- New commissions were granted to three labour mobility candidates who passed their exams. They were Aaron Richard Clapperton, commission #302, Robert Brad Pollard - commission #303 and Lana Michelle Bily - commission #304

### Surveyors Museum

- M.L. Waschuk had renewed discussions with the Western Development Museum in North Battleford regarding a possible surveyor display in their facilities.

### Professional Surveyors Canada

- The following motion was passed:

*WHEREAS the Board of Directors of the Canadian Council of Land Surveyors – Conseil Canadien des Arpenteurs-Géomètres, in consultation with the Member Associations and through the work of many dedicated leaders and insightful individuals, has developed a new and future focused strategy for the profession of surveying in Canada which includes implementation of a new national, member focused organization to replace Canadian Council of Land Surveyors – Conseil Canadien des Arpenteurs- Géomètres, and*

*WHEREAS the new organization, to be named Professional Surveyors Canada – Géomètres professionnels du Canada,*

has been developed near to the point of incorporation, and

*WHEREAS it is recognized that the support of the leadership of each surveyors association in Canada is imperative to the success of the new organization and the future development of the surveying profession through a strong national focus, voice and advocate,*

*BE IT RESOLVED that the Saskatchewan Land Surveyors Association will endeavour to support Professional Surveyors Canada – Géomètres professionnels du Canada*

- *by joining as a corporate member,*
- *by encouraging individual surveyors to join as regular members,*
- *by considering opportunities to assist and support specific programs and initiatives of Professional Surveyors Canada – Géomètres professionnels du Canada as they are developed and launched, and*
- *by actively participating in the Professional Association Liaison Committee.*

### **New Members**

- A Land Surveyor in Training Agreement between William John Gavinchuk and M.G. Radoux, SLS was approved.
- Rachel Kohlman of Lloydminster had become registered as a student land surveyor with L.A. Andersen, SLS as her mentor.

### **Education Committee**

- The education committee audited of a sample of mandatory continuing education reports and found none lacking.
- The recommendation of the Education Committee, that no changes be made to the point values assigned to professional development credits was approved.

### **2010 Budget**

- The 2010 budget included a net deficit of \$21,263 but the entire amount would be covered by funds intended for use during the centennial year.
- There was no anticipated need for a change in membership fees for 2011.

### **Suggested Schedule of Fees**

- A suggested schedule of fees, submitted by the practice committee, was approved for 2010.

### **Centennial History Book**

- Council was advised that the centennial history book had been finalized and submitted to the printer.

## **2009/2010 - Meeting #5 - Feb. 24, 2010**

### **Practical Experience Reports**

- Practical Experience reports from Jamie Lehmkuhl, Carlo Monette and Steven Drew were approved.

### **CBEPS Core Curriculum and Electives**

- The revised syllabus being proposed for adoption by CBEPS, was approved.

## **2009/2010 - Meeting #6 - March 24, 2010**

### **CCLS Report**

- Accreditation of the U. of C. Geomatics Engineering program had been extended to 2011 to accommodate final ratification of the new CBEPS syllabus.
- The CCLS AGM, which was to be held immediately following the SLSA AGM, was expected to be the final CCLS AGM before transformation to Professional Surveyors Canada (PSC).
- A report on developments vis-à-vis PSC would be provided during the business meeting of the SLSA AGM.

### **Registration of Cemeteries**

- The Ministerial Task Force was expected to provide a report by the end of March. Once that report is available, it will become clearer what the next steps will be for the SLSA.

### **Re-appointment of CCLS Director**

- G.D. Craig's appointment as SLSA director on the CCLS board was extended until elections can be held for a Saskatchewan director on Professional Surveyors Canada.

### **Public Relations Committee**

- On the recommendation of R.J. Pominville, retiring SLSA representative on the U. of Calgary's Geomatics Engineering Liaison Committee, J.S. BurrIDGE was appointed his successor.

### **Centennial Projects Committee**

- Although work on the history book is now complete, the committee will remain constituted throughout 2010 in order to complete some of the other projects undertaken as part of the centennial anniversary. ☺

## Councillor's Corner



Justin Meyer  
SLS, P. Surv.  
Councillor, Year 2

### “My Most Satisfying Survey Job”

It would be interesting to know how many Saskatchewan Land Surveyors perform field work regularly. I know that many of us are managers; that is we manage projects from our offices. We deal with clients, supervise crews, spend time on the phone, but trips to the field are rare. Project and office management offer their own challenges and rewards, but these are different from those of field surveying. I took on a little surveying job recently that reminded me how captivating field work can be.

My brother Scott lives in Ottawa and has coached his son's Little League baseball team for a couple of years. Something that had bothered him during his time as coach was the layout of the bases. He or his opposing coach would bring their bases to a game, but there were no markings on their field suggesting where to place them. They would plop the bases down in whatever spot looked right and leave it at that. Scott is a statistician, and something about throwing the bases down willy-nilly didn't sit right with his mathematical mind. While I was in Ottawa for a visit, he asked me if I could help him out.

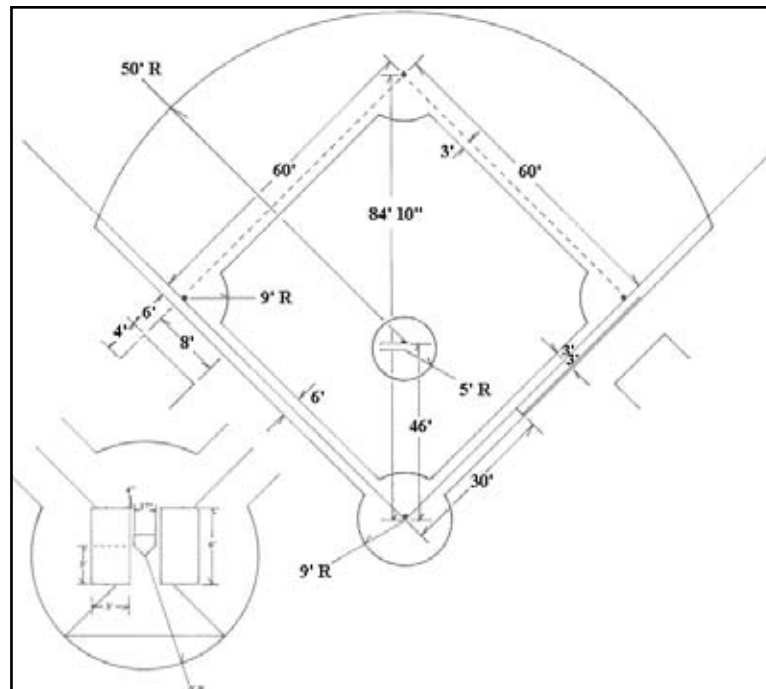
A Little League baseball diamond is 60' square, and Scott had only a 30' tape meas-

ure, but he did have a length of rope. We measured and marked the rope at 60' and at 84'10" (the length of the diagonal) and set out for the ball field. Home plate and the pitcher's rubber were already in place, so we ran the rope from the tip of home plate out through the centre of the pitcher's rubber to mark the spot for second base. We scratched out short arcs in the dirt at 60' from home plate and second base. One pair of arcs intersected at first base and the other at third. I insisted we measure the diagonal from first to third to check our work. It was good.

For permanent markings at each base, we tied a short piece of yellow nylon rope to a ten inch spike which we counter-sunk well below ground level. The portion of rope dangling above ground marked the spot where each base should be placed. We thought the rope pieces would withstand routine maintenance (“dragging” the infield) and so far they have. We also made reference measurements from steel posts in the fence along each baseline to first and third base just in case our nylon ropes got buried in dirt.

Scott and I were quite pleased with the job we had done. I've wondered since

then about why this simple task was so satisfying. Maybe it was the fact that I was able to share a little bit of the fun and usefulness of our profession with my brother and nephews. Maybe it was just a nice change of pace to work outside. At any rate, something about that ball diamond layout made me think about the early days of my survey career, when surveying first captured my imagination, and for that I'm thankful. ♡



A standard little-league baseball diamond  
(from [turf.missouri.edu/stat/baseball/littledimbase.htm](http://turf.missouri.edu/stat/baseball/littledimbase.htm))

## ***SIAST Poised to Eliminate Only Source of Geomatics Training In Saskatchewan***

**By Carl Shiels, Executive Director**

In a news release dated April 16, SIAST's David Walls, senior vice president, academic, announced plans to suspend intake to six of their programs. One of those slated for suspension was the Geomatics Technology program at Palliser Campus - the only source of geomatics training in Saskatchewan.

SIAST cited "relatively low student or employer demand" as the basis for axing the programs.

What has been overlooked in the move is the strong and growing demand for geomatics technology graduates and the potentially devastating impact the move could have on land surveying in this province. In the past twenty years, the SLSA has granted 28 new commissions. Of those, six were granted under labour mobility provisions to candidates who already held commissions in Alberta. Of the remaining 22, eight had begun their academic training at SIAST and one more at a technical school in Ontario. That means that almost 40% of the first-time commissions in this province started at the technical school level.

And that is just one component of the land survey picture. A recent poll of the land survey offices in Saskatchewan revealed that 40% of their operations managers came through SIAST and another 10% through similar programs in other provinces. For project managers, the percentages was 67% with none from another province. In the case of party chiefs, the percentages were 25% and 22% respectively.

The educational path from SIAST to a Canadian Board of Examiners (CBEPS) certificate of completion, required for admission to the profession, was also evident from the survey. Of the eleven party chiefs who are currently enrolled with CBEPS, 81% started at SIAST or another technical school such as SAIT, NAIT or BCIT.

The tenuous nature of the program at SIAST was first highlighted a number of years ago when intake was suspended for one year. During the following summer, Leland Peterson, an instructor at SIAST, took to the road in order to promote the program at schools in Southern Saskatchewan. That fall, enrolment increased to near capacity. That was also the time when the SLSA realized that it needed to become more pro-active in promoting the program.

Faced with declining membership and an increasing proportion of members heading for retirement, the SLSA undertook three major initiatives to promote the survey industry and the survey

profession as attractive career choices for school students. The three initiatives were:

- **Attendance at high school career fairs.** For the past four years, the association has been actively promoting careers in surveying at all of the major career fairs in the province. A key component of this promotion focuses on the Geomatics Technology Program at SIAST as an attractive way to get into the industry and the profession. Graduates of that program are eminently qualified to head up survey crews working under the supervision of Saskatchewan Land Surveyors. But they also have the option of continuing their studies through programs such as that offered by BCIT, to obtain the academic qualifications necessary for entry into the survey profession. For those who prefer the more direct route into the survey profession, Geomatics Engineering degree programs such as those offered at the U of C and UNB are promoted.
- **Development of "Location Location Location."** This resource kit for teachers (often referred to as "The Surveyors Crate") uses survey-related examples to demonstrate real-world application of math and science concepts at the grades 6 - 9 levels. If all goes according to plan, these resource kits will be available to teachers for the 2010 - 2011 education year.
- **Distribution of the association's centennial history book.** Complimentary copies of the association's book *Land Surveying in Saskatchewan - Laying the Ground Work for Property Rights and Development*, have been provide to every high school library in the province.

Loss of the Geomatics Technology Program at SIAST will severely undermine the association's efforts to increase interest in the field of land surveying. With the only sources of training for survey technologists and professionals being out of province, it will be difficult to attract graduates back to Saskatchewan.

Sadly, this is all happening at a time when the province's economic growth is expected to continue and the demand for land survey services has been at an all time high. If we were concerned about wait times of up to six months for lot surveys over the past couple of years, the problem could get even worse when the economies of our neighbouring provinces improve and we are on an uneven playing field when it comes to recruiting new land surveyors and survey technologists. <sup>φ</sup>

This centennial year is seeing a total of seven licensed Saskatchewan land surveyors reach their 25 year milestones with the SLSA. Of those, four were present to receive their pins at the President's Ball on Friday, March 26. One other commission was granted in 1985 and that went to Peter Walker who continues to be licensed as a land surveyor in Alberta.

As Figure 1 demonstrates, there have been significant fluctuations in the number of new commissions granted over the past 100 years. Following the initial formation of the association, there was a large number of former Dominion land surveyors who received their commissions. This was followed by some very lean years with only 28 commissions being issued between 1914 and 1947. Two World Wars and the Great Depression clearly left their marks on Western Canadian development and the land survey profession.

**Saskatchewan Land Surveyors Association  
# of New Commissions By Year**

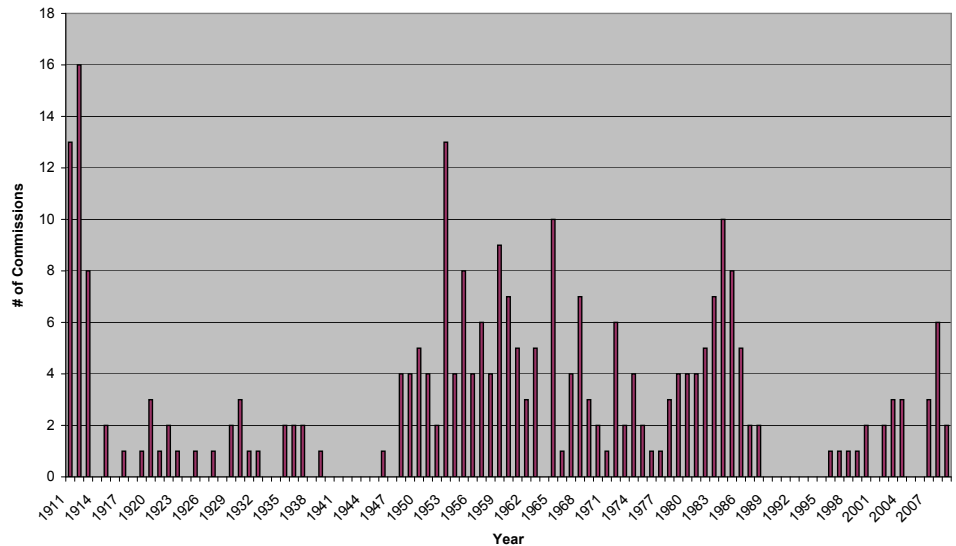


Figure 1

Then, in 1949, the province began to experience its second wave of economic activity with massive improvements in infrastructure and development of the north. In 1953, thirteen new commissions were granted - the highest number since the early influx of predominantly DLSs in the three years following formation of the association. Between 1949 and 1988, there was an average of 4.5 new commissions granted each year as the rate of economic development remained relatively constant.

The mid-1980s saw a major influx of newly commissioned members as the Baby Boom generation of articling students rushed to complete their field experience and write their professional examinations before plans for the new degree-equivalency admission requirements came into effect. The peak came in 1984 when ten new commissions were granted. In the five years from 1982 to 1986, a total of thirty five new commissions were granted.

**Saskatchewan Land Surveyors Association  
# of Active Members by Commission Year**

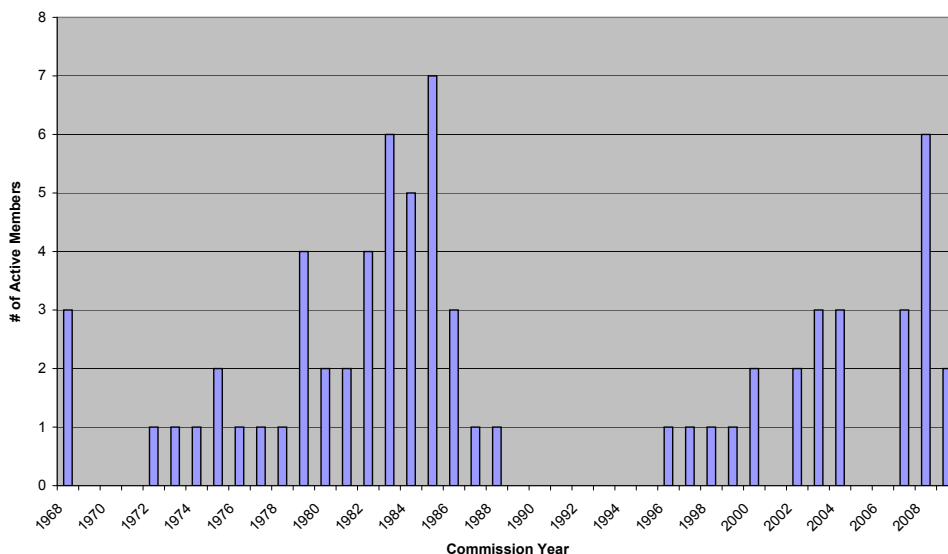


Figure 2

Then, from 1989 to 1995, there were no new commissions issued, partly because of the shadow created by the Baby Boom bubble and partly because it took that long for students entering degree and degree-equivalency programs to complete their academic studies and their periods of practical experience. Even then there was only a trickle of new commissions granted as we headed into the new millennium.

In the mean time, it is that generation of surveyors from the 1970's and 80's (see Figure 2) who will be heading for retirement within the next ten years. Furthermore, it is probably fair to assume that the age demographic of the support staff in the survey industry closely mirrors that of the profession. And it is that prospect of an ageing industry that spurred the SLSA into become much more proactive in recruiting geomatics technology and geomatics engineering graduates into the industry and the profession.

Happily we are beginning to see evidence of the fruits of our initiatives with early signs of an *echo* from the boom years of the 1980s. Eleven new commissions have been granted in the past three years and 2010 is looking like a particularly exceptional year. Already there have been three new commissions granted by way of the labour mobility provisions and 10 out of eighteen Saskatchewan Land Surveyors in Training sat for their professional exams this spring. Another five labour mobility candidates, all of whom are currently based in Alberta, are currently 'in the queue' to challenge that exam.

Although this *echo* is very timely, it will need to be sustained for several years if the growing demand for land survey services is to be met while the Baby Boom generation slips into retirement.

It has been fortunate that the dramatic upturn in economic activity in this province came when it did and provided increased opportunities to retain and attract recent geomatics graduates to help meet the demand. On the other hand, as the economies of our neighbouring provinces begin to recover - as they surely will - we will need continued efforts to train and develop new candidates for the survey industry and profession in this province.

It would be naïve to think that Saskatchewan students trained in other provinces will inevitably return to Saskatchewan. Lindsay McEachern, the North Battleford native who won the 2010 SLSA scholarship at the University of Calgary, is a case in point (see announcement on page 18). Having left the province to take Geomatics Engineering at the University of Calgary, his future as a land surveyor is expected to be even further west, in BC.

All the more crucial that we retain the only educational program in Saskatchewan able to meet at least part of the need for new surveyors in this province. If the Geomatics Technology program at Palliser Campus in Moose Jaw is lost, the resounding echo that the survey profession and industry will need over the next ten years could be nothing more than a whisper. And that could pose a serious impediment to continued economic growth and development in the province. ♪

## Congratulations to the centennial recipients of 25 year SLSA pins:



Murray  
Marien  
#260



Barry  
Clark  
#261

(No photo available)

Scott Whit-  
ley  
#263



Barry Jor-  
dens #264



Conrad  
Swenson  
#265



Alan  
Jensen  
#266



Wayne  
Adams  
#267

Although the SLSA history book *Land Surveying in Saskatchewan - Laying the Groundwork for Property Rights and Development* is now in print, there is a lingering realization that there are a whole lot more stories to be told about the “unofficial” history of land surveying in this province than have been captured between the covers of that book. As the Centennial Projects Committee was discussing what should go into the book, the idea of capturing more of those stories was prominent in the minds of committee members. Even Ed Willett, the writer contracted to write the history book, noted that the unofficial history of land surveying in Saskatchewan would probably be a lot more colourful than the official version. But issues arose. Would this make the size of the book project unmanageable? Should those stories be left for a second book? How could we possibly collect the stories, particularly considering the reluctance on the part of most members to write them down?

In the end, it was agreed that any such effort would be beyond the financial and time resources available to the committee.

So that was the end of it . . . or it would have been except that, part way through the centennial AGM, Jill Burridge questioned whether there might be an opportunity to interview some of the life members and capture their stories on video. Why not give it a try? We had four of the five life members available and willing to give it a shot.

Jill promptly recruited Malcolm Vanstone to help her assemble some leading questions, and a high-definition digital movie camera was set up in what was thought to be a quiet corner of the Regency Ballroom at the Hotel Saskatchewan. The interview included life members; Jim Condon, Gord Webster, Jack Webb and Dan Babiuk.

For the next half hour, questions were posed and answers were given along with healthy doses of laughter and good-natured banter. What had not been taken into account was the continued clatter of hotel staff dutifully arranging the silver wear and preparing the tables for the Past-presidents luncheon. Had all of the voices been as powerful as that of Gord Webster, even



“The Interview” was conducted by Jill Burridge (left) and Malcolm Vanstone (right). Those interviewed were life members (left to right) Jim Condon, Gord Webster, Jack Webb and Dan Babiuk.

that may not have been a problem. But that was not the case and the background din quite mangled the voice recordings for much of the interview. However, the effort did prove a couple of things. First, given the opportunity, land surveyors—particularly in groups—are eager to share their stories. Second, the home video technology available today is quite capable of providing very high quality recordings if lighting and sound conditions are suitable.

With a bit of advanced planning and the boundless energy and enthusiasm of our newer members, the unofficial history of land surveying in Saskatchewan might yet be documented. As for the stories that came out of this first interview? Have a listen (read):

**Malcolm:**

“We’ve been hearing about some of the good time in the past couple of days, what were some of the not so good times?”

**Gord:**

“The first week I was surveying at Webb and Webster, I was working with an old party chief whose name was Jon Schmegelsky. We were out at the site and, as we got out of the truck, a guy drives up and says ‘If I had a gun, I’d shoot you!’. I really began to wonder what the H... I was getting into!”

**Jack:**

“Well, did he?” (Laughter)

**Gord:**

“Obviously not, I’m still here!” (More laughter)

**Jack:**

“We had a good time in those day.”

**Jim:**

“I did a job at Grandview Beach on Last Mountain Lake just north of Regina. There were a couple hundred cottages already there but none of them were on lots that had been registered so I had to fit them all into a plan that could be registered at Land Titles. So I’m out there surveying and this guy came up to me – he was a great big guy – and he says ‘You know, I paid for 60 feet and I’m going to get 60 feet no matter what!’ “

“I said ‘But that’s impossible.’ He said, ‘I don’t care, I paid the land owner for 60 feet and I’m going to get 60 feet.’



Jim (left) and Gord recall some of the not-so-good experiences in their survey careers.

“Again I said ‘It’s impossible. You can only get 35 feet because there’s another cottage right next to you.’

“The man who was secretary treasurer of their [cottage owner’s] association was a guy by the name of Scoop Lewry – a former mayor of Moose Jaw. He was also a newspaper man which is how he got the name ‘Scoop’. So I got a hold of Scoop and asked him ‘What’s up with that guy?’ Scoop said ‘Oh, watch out for that guy. He’s a former professional wrestler and he’s a real nasty so-and-so.’

“I said ‘But Scoop, there is nothing I can do about it!’ So Scoop said, ‘I’ll have a talk with him’ and somehow, he got it resolved but I’m just lucky to be alive because that guy was really, really upset.”

**Jill:**

“Jack, I understand there is a story about you getting bit by a dog.”

**Jack:**

“Well, that was the year I got rabies. We were in northern Alberta working on the 31<sup>st</sup> base-line and we had a dog team for the guy that was scouting for us. One night the dogs started howling so I got up to see if the handler would try to



Jack Webb describes his experience with rabies.

shut those damned dogs up so we could get some sleep. Stupidly, I didn’t put on any gloves before heading out of the shack—we were living in ATCO trailers at the time. It turned out that it was the lead dog that was making all the noise and, as he was jumping around, he bit me on the hand drawing blood. He was foaming at bit at the mouth and that was the same year that lots of wolves and rabbits in the area had rabies. So we shot the dog, cut off his head and flew it into Peace River. The doctor said ‘who ever that dog bit, get him out of there right away in case it got into his blood stream.’ So they flew me right to Edmonton where they gave me sixteen needles right in my belly. Well my belly swole up something terrible. And the only thing my wife said was ‘Now you know how I feel when I’m pregnant!’ Just no sympathy at all!”

**Dan:**

The worst job I had was at IPSCO when they were setting up the plant – the two-high and four-high rolling mills that had been brought over from England. Before these units were shipped to Canada, they covered them with about two inches of grease to prevent them from rusting. My job was to help with the leveling of the units as they were being put in place. Unfortunately,

the grease from the rolling mills soon covered everything around them. Well, it soon got to the point where my wife Dolly just hated it when I came home because I would be so completely covered with grease. It finally got to the point where she would make me go down stairs and take off all of my clothes as soon as I got home. I couldn't even go near any of the kids until I got those greasy clothes off. Eventually I started to buy all new clothes rather than trying to wash them because it was almost impossible to get the grease out of them – but that got kind of expensive after awhile.

“Another problem on that job was the overhead cranes that would be moving things back and forth in the plant and I would have to keep



Dan (right) recounted a greasy experience in his career.

ducking as these pieces of equipment would go shooting past my head. Fortunately I didn't have to work there very long but that was the worst job I ever had.”

**Jill:**

“Here's a question that's special to me, what do you think of women coming into the association?”

**Gord:**

“I think its great.”

**Jim:**

“I think its great too. Its been a long time coming. Ontario has had women in their association for years now.”

**Gord:**

“It brings a whole new perspective to the profession.”

**Jack:**

“But what about when it comes to digging a five foot hole?”

**Jill:**

“Once, early on when I was rodding, we were digging near a main road. The guys would let me dig until a car drove by and then they would grab the shovel and kick me out of the way.” (Laughter)

**Jim:**

“I had a woman rod-man a few years ago, and we were doing a real property report. The foreman called me that he was having trouble finding some evidence so a went to the site and while the foreman and I were sitting in the truck reviewing the notes, the lady was digging around in the yard. All of sudden, this man comes out of the house and starts giving us H.... left right and centre. ‘What are you guys doing sitting around in the truck

while that woman is doing all the digging!’ But she was the low one on the totem pole so ....” (Laughter)

**Malcolm:**

“We have heard lots of talk about the camaraderie in the profession and lots of friendships. But it may not have always been that way. Who were some of the most competitive surveyors in business or the association?”

**Jack:**

“We did have good competition but we also had great friendships. For example every year, we used to have Christmas parties, which we don't have any more, but we would go to everyone else's office. No, we never worried about Joe Blow down the street.”

**Jill:**

“What advice do you have for new land surveyors coming into the profession today?”

**Jack:**

“They have to know the history of our association and our profession. And they have to go through some of the rigamarole that some of us old surveyors went through. Sure, GPS is a wonderful technology but they have to get out in the field and feel what surveying is about. You can't just be in it for the pay. You have to have a love for surveying. Look at some of us old guys. Even after we are retired, we keep on doing things in surveying because we love it.”

**Gord:**

“I think one of the most important thing is, don't forget the shovel. If you aren't prepared to get your hands dirty, your in the wrong profession.”



Gord (second from right) emphasized the importance of being passionate about surveying.

**Dan:**

“You also have to do a lot of reading. Not just the major books like *Men and Meridians* but also things like the notes from the original surveyors that are in the archives. You have to learn about what went on back in those days. You can't just pass the professional exams and then rest on your laurels. You have to keep learning if you are going to be properly serving society.”

**Jack:**

“Ya, you should probably read some of Webb's books too.” (Laughter)

**Dan:**

“And its not dull reading. I found some of the old files in the archives to be really fascinating.”

**Gord:**

“You also have to learn what is available and where to look.”

**Malcolm:**

“If there was one question that needs to be put on the professional exam, what would it be?”

**Dan:**

“I would say it would have to do with Bulletin 38 and the manuals of instruction. I’m not sure if everyone fully appreciates the small changes that took place in the instructions being given to surveyors over the years that affect what we are doing today. I’m not sure if they should read all nine manuals at once but they should be aware of the changes that took place.”

**Jack:**

“One of the famous questions of the past was “How do you replace a witness monument?” That was always a tricky one.”

**Gord:**

“I don’t think there was a correct answer to that one.”

**Jack:**

“No there wasn’t. It depended entirely on the government of the day.”

**Jim:**

“I think a good question would be how to get more participation from more of the members in the association. We are a very small association. Somehow we need to convince more of the membership to get involved.”

**Gord:**

“I think one of the biggest improvements I have seen in my career is that more of the young members are getting involved. There are members who got their commissions around the time I did that have barely been to a meeting.”

**Dan:**

“I think that involvement is something that those of you who are recent graduates learned as part of your education. Those who learned through the old articling process did a lot more of their studying at home and did not socialize as much. I think that may be the difference.”

**Jill:**

“If you hadn’t become a land surveyor, what other career would you have liked to pursue?”

**Dan:**

“Well I wanted to go to university and become an engineer. But I worked for two surveyors, George Bennet and Bert Walsh, and they convinced me I would do much better as a land surveyor.

**Jack:**

“I spent four and half years in the air force and when I came out, I wanted to be an engineer so I took an upgrading class at the old Regina College and then went to university. But an RCAF councillor took me aside one day and said, ‘Why do want to be engineer?’ That would have meant going to Saskatoon when my wife was living in Regina. He said ‘I’ll get you a job in Regina articulated to the Chief Surveyor and you can become a land

surveyor.’ Well, that was good enough for me and I moved back to Regina.”

**Jim:**

“I was right out of high school when I started working to become a land surveyor. I haven’t known anything else. When I look at it now, I would like to have been in finance or something like that where I could have made some money at it.” (Laughter).

**Gord:**

“When I graduated from high school, I had full intentions of becoming a school teacher. But then I went to work for Jack and Al [Webb and Webster] as a summer job forty four years ago and it has been great ever since.”

**Malcolm:**

“At this meeting, we heard about the need to develop some new traditions. What traditions do you think should be kept and what new traditions would you like to see?”

**Jack:**

“What you’re doing right now is a tradition. Your getting stories from the old guys that may not be around in twenty year—although I’ll still be around.” (Laughter).

“Some of the old traditions are useless but some things, our new logo for instance—although I don’t entirely agree with it—is a step in the right direction.”

**Gord:**

“I think tradition is important. And I think its important that the membership realize that surveying has a tradition—that these things came from somewhere—that there’s a reason behind our tradition. I think its important that young surveyors learn that tradition because it has meaning.”

**Jim:**

“And our traditions go back a long way. They say that land surveying is the second oldest profession—well maybe that’s debatable. But, for example, George Washington was a land surveyor and it goes on and on. That shouldn’t be forgotten. Certainly we have newer modern equipment that is great but so is our history.”

**Jill:**

“I just have one last question. I think scotch is the surveyors drink of choice. What is your favourite drink?”

**Jim:**

Single malt or Chivas.

**Gord:**

Single malt - Glenmorangie.

**Jack:**

Single malt; Glenfiddich or Glenlivet

**Dan:**

I don’t drink the stuff.

**Jack:**

He thinks that scotch is just mouth wash! (Laughter.)

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And so ended what will hopefully be the first of many efforts to document the unofficial history of land surveying in Saskatchewan. ☽

# Centennial Highlights *Sister Associations Help Commemorate*

By Carl Shiels, Executive Director

The walls and display areas of the SLSA office will soon feature a grand array of new artistic works thanks to the kind generosity of sister land survey associations across Canada. The gift giving started off at the President's Ball with a presentation from ABCLS president Richard Wey. A hand-crafted oak gavel and sound block, designed and crafted by H.E. Hickman (BCLS #624) was presented in a matching oak box. The sound block features a circular brass cap engraved with the new SLSA logo and a brass plate with inscription.



Association of BC Land Surveyors

Next was a presentation from AOLS president Walter Kowalenko. This was a 14" x 18" limited-edition print by Ontario artist and retired Ontario land surveyor Robert (Bob) Garden. The original painting is an oil depiction of Samuel de Champlain taking an observation with his astrolabe on the banks of the Ottawa River in the year 1613.



Association of Ontario Land Surveyors

AMLS president John Kulchycki presented a crystal sculpture designed by Czechoslovakian born Jaroslav Vydra who is now a resident of Winnipeg. Vydra trained and worked in what is perhaps the most storied of the Czech glass manufactories, Moser Glass in Karlovy Vary. The crystal is engraved with the image of a Red River cart and congratulations from the AMLS.



Association of Manitoba Land Surveyors

A water-colour painting entitled *Island Beacon*, by Nova Scotia native and PEI resident Hugh Crosby, was presented by APEILS president Colin Atkinson. The painting depicts a lighthouse and light-keeper's cottage overlooking the PEI coast.



Association of P.E.I. Land Surveyors

That concluded the presentations on Friday evening but the generosity continued the next day at the Past-Presidents' luncheon when ALSA president Don George presented a framed graphic commemorating the 1938 survey that completed the plan and monumentation of the Alberta-Saskatchewan boundary. The graphic includes a number of photos taken in the course of that survey as well as the Plan of Survey across Townships 115 to 127 to latitude 60°-0'-0".



Association of Alberta Land Surveyors

Next was a beautifully framed photo of young surveyors working near a stream in a wooded area of New Brunswick. This presentation was made by ANBLS president Ron Robichaud.



Association of New Brunswick Land Surveyors

Rounding out the series of gifts was a presentation, by SAGT president Boyd McFarlane, of a work of wood burning art created by SAGT member Doug Cox.



Saskatchewan Association of Geomatics Technologists

These gift will become a treasured legacy for generations of Saskatchewan Land Surveyors to come. ¶



### ***SLSA History Book Receives Warm Reception in Schools***

As part of the centennial legacy, the Centennial Projects Committee decided to distribute copies of the book *Land Surveying in Saskatchewan - Laying the Groundwork for Property Rights and Development* to all high school libraries in the province. During the week of March 15, more than 400 books were mailed out. Along with each book went a copy of the Certificate of Recognition, signed by Minister of Justice and Attorney General, Don Morgan, proclaiming the week of March 22 Saskatchewan Land Surveyors Week.

This gesture was warmly received. In her speech at the Lieutenant Governor's Reception, Audrey Roadhouse, Deputy Minister of Education, acknowledged the valuable resource it would become in Saskatchewan Schools. In a follow-up letter from Ms. Roadhouse, dated April 13, she said:

"Thank you for inviting me to take part in the Saskatchewan Land Surveyors Association's (SLSA) Centennial Celebration Book Launch. I very much enjoyed attending and participating in the celebration.

"It was generous of the SLSA to provide your commemorative book, *Land Surveying in Saskatchewan - Laying the Groundwork for Property Rights and Development*, to school libraries across Saskatchewan.

"As I mentioned in my remarks at the centennial anniversary book launch, it is difficult to acquire resources that are just about Saskatchewan. Now, with this book, when students learn about the settlement of the West, they will have a Saskatchewan resource to reference. This resource builds knowledge and pride in students and shows them some of the career choices that are possible here in Saskatchewan.

"Thank you again for your association's generous gift to Saskatchewan schools and students. Best wishes to the SLSA as you continue to celebrate your centennial year." ¶



# Is the Crown Bound by the Copyright Act?

By Will O'Hara, with assistance from Stephen Thiele

Reprinted from "Ontario Professional Surveyor" Volume 53, Number 1, Winter 2010

Earlier this year I had the pleasure of speaking at the AOLS Annual General Meeting (AGM) on copyright and land surveys prepared by AOLS members. I expressed the view that plans of survey are covered by copyright as soon as they are created, regardless of any copyright mark or other indication of copyright protection on the plans, and that the land surveyor who creates a plan holds the copyright.<sup>1</sup> During questions the subject turned to Crown copyright and whether the Crown was bound by the provisions of the *Copyright Act*. It was observed that the provincial Land Titles and Registry Offices — and other government agencies — sometimes copy (or licence the right to copy) surveys registered in the provincial Land Titles or Registry Offices. It was my view that filing a survey with these offices transferred *possession* of the document to the Crown, but did not transfer *copyright* in the document, or indicate that the surveyor who created the survey has assigned, abandoned or otherwise lost his or her copyright in the document.<sup>2</sup>

The question lingered. AOLS members wanted to know whether the Crown can copy plans of survey in its possession, or licence others to do so, without paying royalties to the surveyor who holds the copyright.

The question brought an observation from a distinguished gentleman on the floor that the *Interpretation Act* gave the answer. Both the federal and provincial *Interpretation Acts*<sup>3</sup>, he said, clearly state that a statute does not bind the Crown unless it specifically says the Crown is bound. The *Copyright Act* does not say the Crown is bound, and therefore the Crown is not bound by the *Copyright Act*. Case closed!

It was a compelling argument made in a convincing way, but was it the last word in Crown immunity from copyright? Rarely is anything to do with the Crown simple, and copyright law is no exception. Our review of the *Copyright Act* and cases interpreting the *Act* indicates that the Crown is bound by the *Act* and must respect copyright belonging to others. In our view, the Crown has no legal right to flaunt the law of copyright.

## CROWN COPYRIGHT

Section 12 of the *Copyright Act*<sup>4</sup> gives the Crown the right to claim copyright in works it creates through its employees and agents. There is no doubt that the Crown has that right under the *Act*, and there is no doubt that it enforces the right. The section opens with a curious phrase: "Without prejudice to any rights or privileges of the Crown", and it goes on to say that the copyright

to any work prepared by or under the direction of the Crown belongs to the Crown.<sup>5</sup>

## PREROGATIVE RIGHTS

The "rights and privileges of the Crown" in s. 12 refer to the Crown's broad prerogative rights that date from the Middle Ages. Historically the Crown, as embodied by the Monarch, exercised the prerogative right to control *all* printing within the realm.<sup>6</sup> In this way, the Monarch is said to have controlled copyright. Those days are gone. Today, printing is open to thriving private interests that require no special Crown licence to set up shop. The former Crown prerogative to control printing a book — or a survey for that matter — has ceased to exist. In the words of one Canadian judge, "constitutional changes shattered the idea of prerogative."<sup>7</sup>

There may be some vestiges of Crown prerogative in relation to copyright, such as copyright in legislation, but it does not extend to works created by private businesses or professions. Powers and privileges which are enjoyed equally by persons other than the Crown do not form part of the Crown's special prerogative right.<sup>8</sup>

The prerogatives that remain in the Crown, most of which are irrelevant to the issue of copyright, are those powers relating to the legislature, powers relating to foreign affairs, powers relating to armed forces, appointments and honours, immunities and privileges, and the "emergency" prerogative.<sup>9</sup> It is difficult to imagine an "emergency" that would require the Crown to republish a survey without the need to recognize the rights of the copyright holder. Certainly they do not occur every day. In our view, the Crown has no prerogative rights to ignore copyright belonging to land surveyors.

So how does the Crown republish surveys or licence the right to republish copyrighted surveys registered in the provincial Land Titles or Registry Offices?

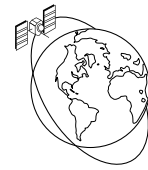
## CROWN IMMUNITY

Even if the Crown has no prerogative right to control printing and ignore a land surveyor's copyright, is the Crown protected from a claim for breach of copyright because of Crown immunity?

Crown immunity stems from the ancient proposition that the King was above parliament and could not be bound by acts of

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parliament. This rule has been codified by the *Interpretation Acts* in Canada and in the provinces. The general rule, as was pointed out at the AGM, is that the Crown is not bound by a statute unless the statute says it is bound. There is no question that the *Copyright Act* does not say the Crown is bound, so, according to the general rule, the Crown isn't bound by the *Act*. In that case the Crown would be immune from the *Act*. But that's not the end of it. There are well-recognized exceptions to the general rule and the principle of Crown immunity.

### ***BENEFIT/BURDEN EXCEPTION***

The main exception to this principle is the 'benefit/burden' exception. Even in ancient times the King couldn't have it both ways. The Supreme Court of Canada has stated the exception clearly. Where the Crown takes the benefit of legislation, it "will be treated as having assumed the attendant burdens, *though the legislation has not been made to bind the Crown* expressly or by necessary implication?"<sup>10</sup> In other words, the fact that the *Copyright Act* does not specifically or by necessary implication bind the Crown is not the end of the inquiry. It is a starting point for an exploration of the benefit/burden exception.

The benefit of the *Act* is that the Crown can have copyright in its own creations, by way of s. 12. The corresponding burden is being prohibited from infringing the copyrights of others, and as long as there exists a sufficient connection between the benefit and the burden - even in different statutes - the Crown will be bound, and its immunity will be displaced. In other words, the Crown can't have it both ways: it will be bound by the burdens whenever it takes benefits.<sup>11</sup> The Crown clearly enjoys the benefits bestowed by s. 12 and has engaged in court proceedings in the past to protect and enforce its own copyrights.

The Supreme Court of Canada held in *Sparling v. Quebec* (Caisse de depot et placement du Quebec)<sup>12</sup> that the Caisse, as agent of the Crown, was not immune from the insider trading provisions under the Canada Business Corporations Act (CBCA) in circumstances where it had become a shareholder in a company. When the Caisse purchased shares and took the benefit of the CBCA, it became bound by the burdens of the statute.

In a matter involving the Ontario Ministry of Consumer and Commercial Relations, a freedom of information request was made for the Ministry's copy of the ONBIS Database and the NUANS Database.<sup>13</sup> These databases contain specific information about all corporations registered in Ontario. The information is publicly available on a record-by-record basis and can be searched for a small fee. The Ministry vigorously opposed the release of the copies of the databases and argued that the Crown was entitled to copyright protection for them under s. 12 of the *Copyright Act*. The Information Privacy Commissioner agreed. But the Commissioner also noted that it was the *compilation* that was protected - not the individual data elements extracted from the forms or entered by Crown employees from other sources. Accordingly, the Crown may have a copyright in a database of surveys *as a compilation*, but that does not give it the copyrights to the individual

surveys that make up the compilation. The copyrights to the individual surveys still belong to the surveyors who created them.

The benefit/burden exception has been directly applied in a copyright case. In a 2004 case before the Federal Court<sup>14</sup>, the Ministère des Affaires sociales (MAS) was sued for copyright infringement with respect to the use of a literary work in electronic format. In defending the action, MAS contended that it could rely on Crown immunity since the *Copyright Act* did not state that it applied to the Crown. The Federal Court disagreed. It concluded that the MAS had made use of provisions of the *Act* and that there was a close connection provided by an exclusive licence to use the work of the plaintiff to the exclusion of any other person, and the burden not to infringe the rights which the plaintiff had chosen not to assign (i.e. the right to electronic application of its work).<sup>15</sup>

### ***NO IMPLIED LICENCE***

When a survey is registered in a Land Titles or Registry Office there is no contract entered with respect to its use. A surveyor does not voluntarily surrender his or her copyright in the survey. No assignment of rights takes place, and therefore the Crown ought not to be able to profit from the reprinting or licencing of registered surveys. In Australia, the High Court held that the State of New South Wales did not have the authority to reproduce registered survey plans and communicate them to the public since copyright belonged to the surveyors of the plans.<sup>16</sup> Similar to the system which exists in Canada, surveyors in Australia are registered to ensure that survey plans prepared by them meet state requirements. Plans of survey are then registered through the Department of Lands. A division of that Department then provides land administration services, including the registration of land titles and survey plans which are integral to the Torrens System.<sup>17</sup> Notwithstanding this process, the court held that surveyors had not given the state an implied licence to reproduce or communicate surveys merely as a result of the conduct of surveyors permitting their plans to be registered, even though they had knowledge of the uses to which they would be put.<sup>18</sup>

### ***PUBLIC POLICY***

In addition to the law on Crown immunity, the policy articulated by the Canadian government supports the broadest application of copyrights held by private individuals, businesses and professions. Government policy promotes the protection of intellectual property as a means of building a strong and sound economy. Strong intellectual property laws that afford protection to the creators of intellectual property are regarded as "promoting investments in research and innovation, international trade and investment, consumer protection and overall economic growth."<sup>19</sup> The Crown does not engage in conduct which threatens economic growth or flies in the face of government policy.

### ***CONCLUSION***

The bottom line is that a plan of survey is the creation of the surveyor. This creation and its antecedent rights are protected by our copyright laws. No one can profit by selling, licencing or

reprinting the work of another, unless the copyright owner has sold or assigned his or her rights. While in the case of surveys the Crown might contend that it has a prerogative right to reprint registered surveys or that it is immune from the provisions of the *Copyright Act*, the legal precedents indicate that any unauthorized reprinting or licencing of rights to reproduce surveys constitutes copyright infringement for which the Crown would be liable.

The case is not closed – it is wide open and in need of resolution. ¶

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**This article is not intended to provide a legal opinion on the issues discussed therein, but is intended for educational purposes only.**

<sup>1</sup> *Is There an Enforceable Copyright in a Plan of Survey?* by Will O'Hara and Anna Husa, Ontario Professional Surveyor, Volume 49, No. 4, 2006

<sup>2</sup> *What Happens To The Copyright In A Registered Plan Of Survey?* by Will O'Hara and Anna Husa, Ontario Professional Surveyor, Volume 51, No. 4, Fall 2008

<sup>3</sup> The Ontario Interpretation Act was repealed and has been replaced by the Legislation Act, 2006

<sup>4</sup> *Copyright Act*, RSC 1985, c. C-42

<sup>5</sup> *Section 12:*

*Without prejudice to any rights or privileges of the Crown, where any work is, or has been, prepared or published by or under the direction or control of Her Majesty or any government department, the copyright in the work shall, subject to any agreement with the author, belong to Her Majesty and in that case shall continue for the remainder of the calendar year of the first publication of the work and for a period of fifty years following the end of that calendar year.*

<sup>6</sup> David Vaver, *Copyright and the State in Canada and the United States*, www.lexum.umontreal.ca/conf/dac/en/vaver/vaver.html

<sup>7</sup> *R. v. Bellman*, 1938 CarswellNB 10 (C.A.), at para. 11

<sup>8</sup> Peter Hogg and Patrick Monahan, *Liability of the Crown*, 3rd ed. (Carswell: 2000), p. 16

<sup>9</sup> *Ibid.*, pp. 18-19

<sup>10</sup> *Sparling v. Québec (Caisse de dépôt et placement du Québec)*, 1988 CanLII 26 (S.C.C.), at para. 19

<sup>11</sup> *Ibid.*, at paras. 16 and 19

<sup>12</sup> *Supra* note 10

<sup>13</sup> *Re Ontario (Consumer and Commercial Relations)*, 1996 CanLII 7705 (On I.P.C.)

<sup>14</sup> *Eros-Équipe de Recherche Opérationnelle en Santé Inc. v. Conseillers en Gestion et Informatique C.G.I. Inc.*, 2004 FC 178 (CanLII)

<sup>15</sup> *Ibid.*, at para. 63

<sup>16</sup> *Copyright Agency Ltd. v. State of New South Wales*, [2008] HCA 35 (AustLII)

<sup>17</sup> *Ibid.*, at para. 4

<sup>18</sup> *Ibid.*, at para. 80

<sup>19</sup> Perrin Beatty, "Canada's law must be updated and toughened to combat piracy of intellectual property."



**Congratulations to**

**Lindsay McEachern**

**Winner of the 2010 SLSA  
University of Calgary Scholarship**

In his letter thanking the SLSA for the scholarship, Lindsay wrote:

*"I would like to take the opportunity to thank the SLSA for presenting me with this award.*

*"I come from North Battleford, where I graduated high school. As a recent graduate of Geomatics Engineering from the University of Calgary I will be pursuing a land surveying career; however my career is beginning in Vernon, BC as opportunity presented itself to me there. Thank you to the SLSA council for choosing me for this award."*

*Lindsay McEachern*

We wish Lindsay well in his career as a land surveyor and hope that he might find his way home to Saskatchewan some time in the future.



# CSRS-PPP: A web tool to facilitate NAD83 (CSRS) Integration

By Pierre Tétrault and Pierre Sauvé

Reprinted from "Ontario Professional Surveyor" Volume 53, No. 1, Winter 2010

Precise point positioning (PPP) was still a relatively new concept when the Geodetic Survey Division launched its GPS positioning web service, CSRS-PPP in the fall of 2003. Simplified field logistics and not requiring accurate coordinates for a reference marker rapidly made CSRS-PPP a viable alternative to the traditional phase-differential positioning technique. The PPP approach, which relies on error correction instead of cancellation, has the added benefit of reducing the cost of maintaining networks of ground control needed for differential techniques. In essence, the PPP approach bypasses the traditional ground networks of monumented control points maintained by the federal and provincial governments and accesses the reference in space using the network formed by the various GNSS constellations (including GPS).

tion, CSRS-PPP can also be used to process data from single-frequency (pseudo-ranges only observations) and dual-frequency (pseudo-range and carrier-phase observations) for either fixed (static) or moving (kinematic) receivers with expected accuracy as listed in Table 3.

Products (15 min. orbits & 5 min. clocks)	Delay	Static CSRS-PPP Positioning Accuracy	
		Horizontal (cm)	Vertical (cm)
IGS Final	12 to 19 days (made available 1 GPS Week at a time 12 days after end of week)	0.67	1.13
IGS Rapid	19 hours (made available 1 GPS day at a time 19 hours after end of day)	0.69	1.14
NRCAN Hourly	90 to 150 minutes (made available 1 hour at a time 90 minutes after end of hour)	0.89	1.41

The precise satellite positions and clock corrections listed in Table 1 which are updated several times a day, along with proper modelling of the effects listed in Table 2,

Estimated Parameters	Modeled Effects	Cancelled Effects
Position of antenna phase centre	Antenna offsets and phase wind-up	Ionosphere effects (by combining the two GPS observation frequencies)
Receiver clock	Solid earth and polar tides	
Tropospheric delay	Ocean loading	
Carrier-phase ambiguities	Earth rotation parameters	

make cm-level positioning accuracy possible. This article provides an overview of the current CSRS-PPP service along with information explaining its usage. While dual-frequency static positioning will be covered here, as it is the most appropriate for accurate survey integra-

Receiver	Observations	PPP Mode	Precision (cm)		
			Latitude	Longitude	Height
Dual Frequency	Code & Carrier <sup>(1)</sup>	Static	1	1	2
		Kinematic	5	4	10
Single Frequency	Code Only <sup>(2)</sup>	Static	10	10	100
		Kinematic	50	50	150

Notes: (1): Quoted PPP code and carrier performance is after convergence.  
(2): Quoted PPP code-only performance is for surveying grade receivers.

## How can I submit data to CSRS-PPP?

### Interface and Input

First, GPS observation data must be converted to the RINEX observation format (<ftp://igsceb.jpl.nasa.gov/pub/data/format/rinex212.txt>) for submission to CSRS-PPP. Either single or multiple RINEX observation files containing up to seven days of tracking can be submitted. In the case of multiple RINEX observation files, they are submitted as a single zip file. In either case, the overall size of the uploaded file must be less than 300MB. Additional information on the various compression formats accepted by CSRS-PPP can be found in the CSRS-PPP online documentation.

Two mechanisms are available for data submission: the online web interface and a command line Perl cgi script. The script interface was developed to simplify automation of regular submissions such as daily processing of an RTK base station or analysis requiring PPP processing of a large number of RINEX observation files. Although the input and output content is the same for either mechanism, access to the output URL links differs slightly depending on the submission mode. While URL links are included in the e-mail sent as a response to submissions made using the web interface, they are returned as direct output to the calling script in the case of the Perl cgi and can be accessed with an application such as wget.

The web interface is available at [http://www.geod.nrcan.gc.ca/products-produits/ppp\\_e.php](http://www.geod.nrcan.gc.ca/products-produits/ppp_e.php) while the Perl cgi script is distributed upon request. Although the automation script was originally developed in Perl, it can be re-written in other cgi languages as long as they support the HTTP protocol and provide the required input to CSRS-PPP. Before using either access method, users will require a valid account for GSD online products. The account is free and can be obtained online at [http://www.geod.nrcan.gc.ca/licence\\_e.php](http://www.geod.nrcan.gc.ca/licence_e.php).

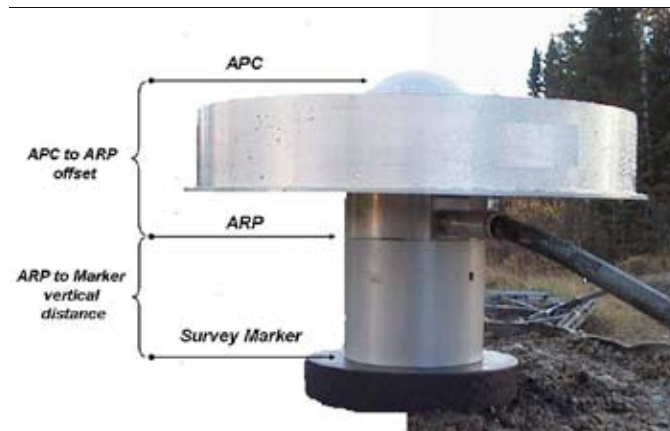
CSRS-PPP was designed to be simple to use and therefore requires minimum input. Users must specify the name of the RINEX observation file to process, the reference frame (NAD83(CSRS) or ITRF), and the processing mode (static or kinematic). The user's return e-mail address, as stored in our client database is appended by default, but can be modified. Finally, if coordinate estimates are required in NAD83(CSRS) the user is asked to select the epoch (observed epoch, 1997.0, 2002.0 or user specified).

### Additional Input

In addition to the user input fields listed above, information on the antenna used to collect the data and initial coordinates are extracted from the RINEX file header during processing. Initial coordinates are not mandatory. They can, however, be useful since they are used to compute all output position differences (graphical time series of coordinate differences in pdf file or numerical values in pos file). For example, when evaluating CSRS-PPP performance for a GPS receiver and antenna at a survey marker with known coordinates, providing those coordinates in the RINEX header will facilitate the interpretation of the results. If no approximate coordinates are present in the header, differences will be calculated with respect to a position estimated from the first valid pseudo-range contained in the user data set to initialize the PPP processing. The approximate coordinates in the RINEX header will also occasionally be replaced by the initial pseudo-range position estimate if they differ by more than 100m, to eliminate any gross user input errors. A comment near the bottom of the first page of the pdf report indicates if the RINEX header approximate position or a pseudo-range solution was used to initialize the solution.

The antenna information in the RINEX header, although not mandatory, is essential to reduce the computed position of the antenna phase centre to the survey marker. Two elements must be included in the header to ensure proper reduction of the phase centre position: the vertical height of the antenna above the marker ("ANTENNA: DELTA H/E/N" header record, note that horizontal offsets of that record are not used by CSRS-PPP), and the antenna model ("ANT # / TYPE" header record). The antenna model, which must conform to the International GNSS Service (IGS) naming convention (see [ftp://igsb.jpl.nasa.gov/pub/station/general/rcvr\\_ant.tab](ftp://igsb.jpl.nasa.gov/pub/station/general/rcvr_ant.tab)) is used to extract the antenna phase centre position from the CSRS-PPP antenna database. It is also used to obtain the azimuthal corrections specific to that antenna (see <http://www.ngs.noaa.gov/ANTCAL/images/summary.html>). Figure 1 shows the various points used to reference antenna measurements and naming conventions used by CSRS-PPP. It should be noted that the Antenna Reference Point (ARP) used by CSRS-PPP corresponds to the lowest point of the antenna, the point that would normally touch the top of the tribrach or force centering plate when the antenna is attached. This point may differ from the manufacturer indicated reference point on some antennae.

The bottom point is used in CSRS-PPP since it follows the convention used by the IGS to report antenna phase centre positions.



**Figure 1: The Antenna Phase Centre (APC) to the Antenna Reference Point (ARP) is provided by CSRS-PPP based on antenna model listed on the "ANTENNA: DELTA H/E/N" RINEX header record while the ARP to the Survey Marker vertical distance is provided by the user on the "ANT # / TYPE" RINEX header record. The ARP is usually the bottom of the antenna mount.**

The bottom point is used in CSRS-PPP since it follows the convention used by the IGS to report antenna phase centre positions.

### NAD83(CSRS) Reference Epoch

CSRS-PPP estimated positions correspond to the epoch of the GPS data used in the processing, the current epoch. This is true for either the ITRF or NAD83(CSRS) reference frame. Because Canadian provinces and territories adopted versions of NAD83(CSRS) referring to either epoch 1997.0 or epoch 2002.0, CSRS-PPP estimated NAD83(CSRS) coordinates may not always be in agreement with published coordinates. In order to facilitate integration of CSRS-PPP estimated positions, a velocity model has recently been added to CSRS-PPP to transform current epoch NAD83(CSRS) coordinates to 1997.0 and 2002.0 epochs. Additional information on the velocity grid can be found here [http://webapp.csrs.nrcan.gc.ca/field/nad83\\_epochs/PPP\\_Epoch\\_Transformation\\_e.pdf](http://webapp.csrs.nrcan.gc.ca/field/nad83_epochs/PPP_Epoch_Transformation_e.pdf).

It should be noted that the velocity grid only captures the changes due to real displacement of the Earth's crust. In Canada, this is primarily a vertical displacement due to glacial isostatic adjustment and can reach 1cm per year in some regions of northern Ontario, particularly around Hudson's Bay. The model does not account for any differences between realizations of NAD83(CSRs) stemming from adjustment variations. Therefore, although CSRS-PPP will provide epoch specific coordinates such as 1997.0 or 2002.0, it will not provide adjustment versions specific coordinates such as v2.0 or v3.0. The velocity model used in CSRS-PPP is intended primarily to remove vertical displacement which can quickly accumulate when comparing coordinates at different epochs of NAD83 realizations.

## How can I tell if my PPP solution is correct?

### Output

In addition to the expected position estimates and associated standard deviations, CSRS-PPP provides several output reports. Four reports are output for each RINEX file processed—the pos file containing the estimated positions, the sum file with the analysis summary, the res file listing all observation residuals and the graphical pdf report for a quick assessment of the solution.

Because CSRS-PPP is an automated service, user validation of the CSRS-PPP output is important and should be seen as the final step in the PPP process. Although the standard deviations provide good indicators of the solution quality, other aspects also need consideration to ensure the solution is acceptable.

### Why is proper convergence important?

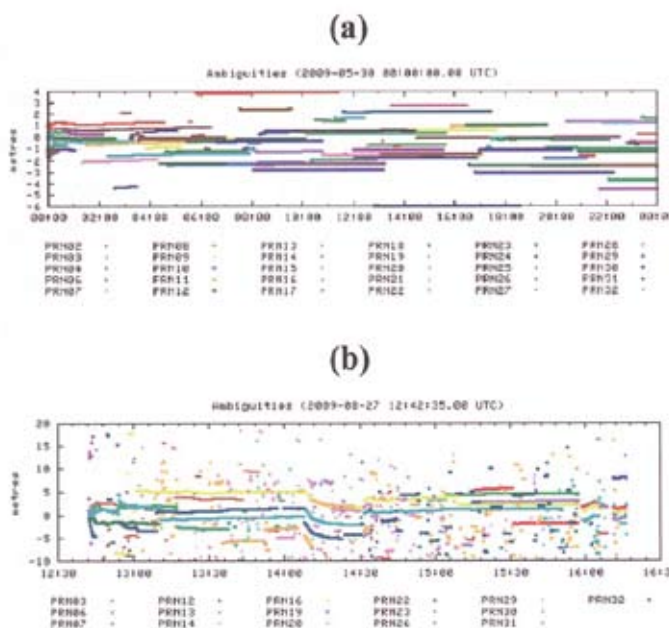
In addition to validating some of the important details of the CSRS-PPP solution outputs such as those listed in Table 4, it is critical to verify that convergence has been reached.

Validation	Function	Source
Standard deviation of position	To ensure it meets the required accuracy	Page 1 of PDF report or table 3.3 of sum file
Antenna information	To ensure antenna model properly entered in RINEX header and phase-centre offsets available in CSRS-PPP database	Page 1 of PDF report
Satellite coverage	To trouble-shoot weak PPP solutions	Page 2 of PDF report
Tropospheric delay	Could provide signs of possible processing problems	Page 5 of PDF report
Carrier-phase ambiguities	To ensure lock was maintained	Page 5 of PDF report
Start and stop time of processed data	To ensure that all collected data has been processed	Page 1 of PDF report or table 3.2 of sum file
Convergence	To ensure optimal accuracy was achieved	Page 4 of PDF report

Centimetre level PPP positioning accuracy is only possible if the full precision of the carrier-phase observations is achieved. A pseudo-range PPP solution without carrier-

phase observations will provide decimetre level position accuracy at best. In order to fully realize the carrier-phase observation precision, ambiguities must be estimated which normally takes between 60 to 90 minutes of data, the so called convergence period. Initial convergence takes this long since all carrier-phase ambiguities along with several other parameters, such as tropospheric delay, must be estimated simultaneously from approximate initialization values. This requires sufficient change in geometry to properly separate the various effects.

Because carrier-phase ambiguities are initialized with pseudo-range observations, PPP estimated positions will vary in precision from decimetres, equivalent to a pseudo-range only solution, to one cm or better. How long you should observe is therefore a function of the accuracy to which your project requires, the environment in which you work (satellite coverage) and the precision of your GPS equipment. A few datasets collected over periods of a few hours using your GPS equipment in a typical field environment over survey markers with known and accurate coordinates should help you answer that question.



**Figure 2: A strong PPP solution should have stable ambiguities such as those displayed in (a) while frequent ambiguity resets, such as those of (b), greatly weaken the PPP solution.**

Although achieving initial convergence is critical, it is also important to ensure that the estimated carrier-phase ambiguities are stable. Normally each carrier-phase ambiguity remains fairly constant over a full arc—the period between the times a satellite rises and sets. Each new arc for any given satellite will require the estimation of a new carrier-phase ambiguity. Following the initial convergence period, new ambiguities can usually be properly estimated with only a few epochs of observations once all other param-

eters, including other satellite ambiguities, are resolved. A strong PPP solution should have stable ambiguities such as those displayed in Figure 2(a) while frequent ambiguity resets, such as those of Figure 2(b), greatly weaken the PPP solution. In this particular instance, the multitude of ambiguity resets were caused by the receiver losing lock on the L2 signal resulting in PPP being unable to form the ionosphere-free L1-L2 observation combination, which is essential for a precise solution.

Tropospheric delay, normally a nuisance parameter which must be accounted for in PPP processing, can in fact be very useful in assessing the quality of a solution. Tropospheric delay normally varies slowly in time, in the order of 10cm or less per hour. Therefore, any large and rapid variations show signs of a weak or incorrect PPP solution, unless a severe weather front moved rapidly into the survey region. Figures 3(a) and (b) are examples of expected tropospheric behaviour while the large and rapid variations depicted on Figure 3(c) were caused by undetected cycle slips. While the CSRS-PPP observation

filters are tuned to eliminate all possible cycle slips, users should keep in mind that higher sampling rates, practically to a rate of about once per second, is preferred as it usually translates to improved cycle slip detection. This becomes more important during periods of ionospheric irregularities such as those associated with solar cycle maxima. As an alternate means of validation, it is also possible to use some of the other online GPS positioning services offered by various agencies such as OPUS from the U. S. National Geodetic Survey (NGS). Whenever comparing coordinates from various sources, however, it is important to ensure that the reference frames and epochs of the compared coordinates are compatible.

### Conclusion

The establishment of integrated survey control can be time consuming and costly. CSRS-PPP, NRCan's online positioning service, can help on both counts by facilitating access to NAD83(CSRs) coordinates with cm accuracy by submitting a single RINEX observation file. This capability has proven to be an effective way of reducing both the field logistics and processing complexities normally associated with differential carrier-phase techniques.  $\Psi$

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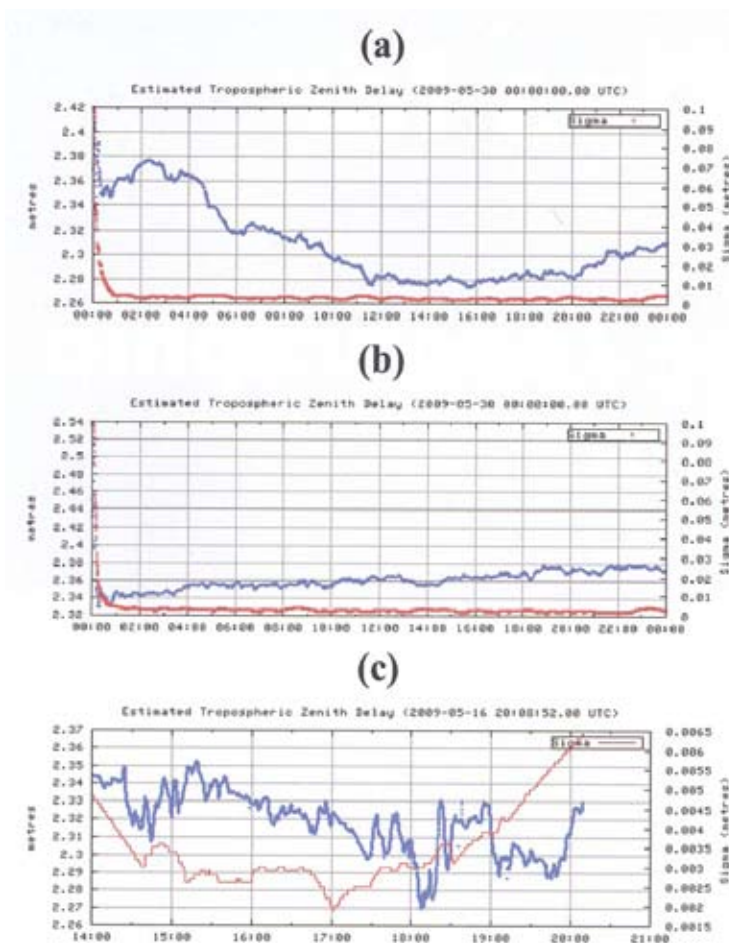
and

[pierre.sauve@nrcan.gc.ca](mailto:pierre.sauve@nrcan.gc.ca)

### Further Reading

"Precise Point Positioning Using IGS Orbit and Clock Products" by J. Kouba and P. Héroux in *GPS Solutions*, Vol. 5, No. 2. 2001, pp. 12-28.

"CSRS-PPP: An Internet Service for GPS User Access to the Canadian Spatial Reference Frame" by Pierre Tetreault, Jan Kouba, Pierre Héroux and Patrick Legree in *Geomatica*, Vol 59. No. 1. 2005, pp 17-28.



**Figure 3: Smoothly varying tropospheric delay of (a) and (b) are indicative of normal PPP estimation while the rapid and large variations in (c) are indicative of possible estimation problems such as uncorrected cycle slips.**



## ***Keeping Young Workers Safe - Creating a safe workplace for young workers***

Reprinted from *Workers Voice* - Volume 5, Number 1 – Winter, 2009/2010

**M**any young people are searching for temporary employment or entering the work force for the first time. Young workers are often at a greater risk of injury than their older co-workers and their injuries tend to occur during the first few weeks on the job. These accidents may be attributed to such things as inexperience: a reluctance to ask questions; a tendency to take risks; an eagerness to please -no matter what; lack of self confidence; lack of knowledge for recognizing workplace hazards; lack of task-specific training before getting started on the job; and lack of appropriate health and safety training.

To ensure a safe workplace, employers, supervisors, parents, educators and young workers all have to take action.

### **Employer responsibility**

As an employer, you have a moral and legal responsibility to protect your workers, whatever their age. When hiring young workers, for a temporary or permanent position. It is essential that they be assigned to work that is suitable for their age and appropriate for their level of skill. They should also be provided with the following:

- An orientation to job tasks, the work environment and safe work practices for their job and any job they may fill in for.
- Information about workplace hazards and how they are controlled.
- Information about their rights and responsibilities under occupational health and safety legislation.
- Any further required instruction and training.
- Proper supervision.
- Safe work areas, machinery and equipment.
- Knowledge of personal protective equipment and clothing.
- Access to those trained in first aid.
- Access to occupational health and safety committee members or the worker health and safety designates or representatives.

### **Working safely together**

This information about the workplace will give young workers the knowledge, skills and confidence essential to work safely. After training has been provided, it is important that it is updated

to fit any workplace changes. Workers should be monitored to ensure they fully understand and follow what has been taught.

As soon as new workers start their jobs, health and safety information and training should be provided. Young workers should be supervised to ensure they are following safe work practices. When any unsafe acts are observed, they must be brought to the young workers' attention and corrected. Young workers look to supervisors for guidance so supervisors should set a good example.

Educators and school counsellors can help protect young workers by informing them about health and safety hazards in the workplace. Any school-based work experience program should include information and training on workplace health and safety.

Parents should take an interest in their children's employment decisions. They should be aware of the rights of workers and ask their child and/or the employer about the job duties and the safe work practices in place. Young workers should be encouraged to stand up for their rights and ask questions or seek help if they feel work practices may be unsafe.

Young workers also need to take care of their own health and safety, and not put others at risk. These new workers have a duty to follow established safe work practices: use personal protective equipment; report hazards and violations; use equipment appropriately; take responsibility for their own safety; ask questions when in doubt about workplace hazards; use proper lifting techniques; and educate themselves whenever possible about workplace health and safety and know their rights and responsibilities to ensure they can recognize and respond to any hazards they may face.

### **Young workers safety programs**

It's important that young people learn about health and safety prior to entering the work force. There are a number of organizations that have programs aimed at educating young people about workplace hazards. For example, the Passport To Safety program is a national awareness program that supports and encourages the training required to eliminate needless workplace injuries and deaths among young Canadians. <sup>¶</sup>

*For more information, young workers and their employers should contact a local workplace safety organization in their area or visit Canada's national workplace health and safety website at: [www.canoshweb.org](http://www.canoshweb.org)*



# Access to Beaches: Some Recent Canadian Decisions

By Izaak de Rijcke

Reprinted from *Geomatica* - Vol. 63, No. 4, 2009

Useful access to a beach is an enormous benefit for landowners. Although proximity to water may afford a desirable view and a claim to water frontage may increase value, the practical result is most often, simply, a legal right to get to the beach. This is evident in the configuration of land subdivisions, which, along oceans or inland lakes, often include a walkway or street leading to a shore or “beach.” In other instances, beaches are treated as “shore roads,” “reserves,” or other public amenity areas that allow for enjoyment and recreation.

Not surprisingly, property owners have, at times, litigated the issue of beach access—especially when a parcel was clearly not waterfront or was set back some distance from the shore and without a public or privately deeded access route. Even with a public or legally deeded access route, physical access may not always be possible—either because of topography, geometry (e.g. width being insufficient for a motor vehicle), or for other reasons.

Three recent decisions treating this subject have issued from the Courts of Appeal in Nova Scotia and Ontario. In addition to the use made at trial of evidence from land surveyors, the decisions are interesting for their common search of legal principles that are applied to the facts in the law of easements. All three cases allow, in part, the appeals from the decisions at trial. This is a telling statement of how this legal subject appears to continue evolving, or is particularly difficult for trial judges to “get right.”

In *Knock v. Fouillard*,<sup>1</sup> a right-of-way had been established by grant (n.b. this is usually in the form of transfer or deed). The

wording in the deed regarding the permitted use, as well as the description of the right-of-way, was unambiguous. No conditions were found to apply that would limit or invalidate the right-of-way. There was usage enjoyed by motor vehicles, which was relatively recent but did not exist at the time of the grant. No specific mention was made of motor vehicles in the granting deed. The Court of Appeal held that the right-of-way granted by conveyance was limited to only such modes of usage that did not include motor vehicles. The right-of-way was initially described as having a perpendicular width of 10 feet.

At trial, the court held that the right-of-way no longer existed—it was uncertain in its legal description, it had fallen into disuse, and it was not consistently referred to in the deeds for both dominant and servient tenements. The plaintiffs also sought, in the alternative, a right-of-way by prescription, based on 20 years of use. This also failed since the level of intensity required for the use to be adverse was not met.

On appeal, the court held that the deed did validly create a right-of-way; the four essential elements<sup>2</sup> were present:

1. There must be a dominant and a servient tenement.
2. An easement must accommodate the dominant tenement.
3. Dominant and servient owners must be different persons.
4. A right over land cannot amount to an easement unless it is capable of forming the subject matter of a grant.

However, the use was limited to what was established at the time of the original grant and the court limited it to pedestrian enjoyment only.

In *MacDonald v. McCormick*,<sup>3</sup> subdivision plans in 1969 proposed a ten foot strip set aside for shore access by owners of other lots, as well as the lot in the ownership of MacDonald. Subsequent deeds by owners over time led to the inclusion of the strip in McCormick’s paper title. MacDonald and others had used the strip as a pedestrian thoroughfare to get to the shore. McCormick then constructed a shed on the strip blocking access for everyone. At trial, survey evidence was accepted to confirm that the disputed strip was included in the 1949 deed to a predecessor in title of MacDonald. However, this was rejected

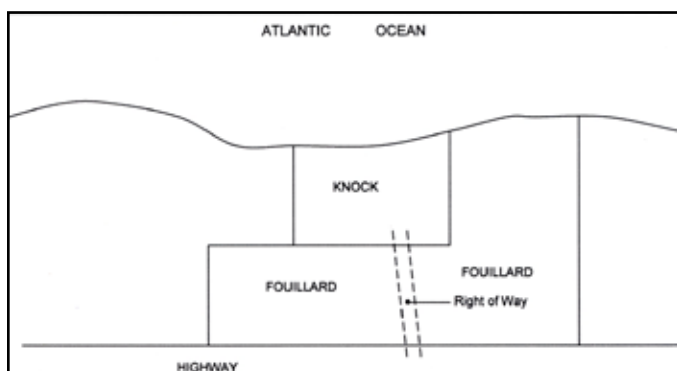


Figure 1: *Knock v. Fouillard*

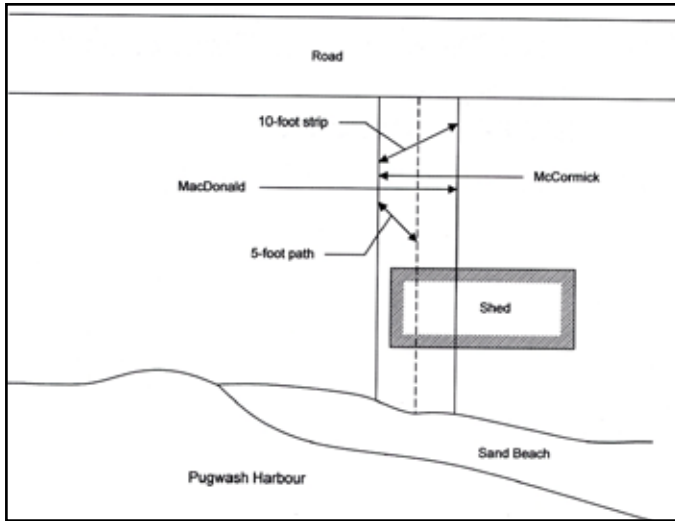


Figure 2: *MacDonald v. McCormick*

on appeal; McCormick’s survey plan was preferred since it was consistent with the unambiguous description in the deed. Nonetheless, MacDonald was still confirmed as having a right-of-way over five feet of the disputed ten-foot parcel for walking purposes only. This outcome is not surprising. The frequent pedestrian use by MacDonald and others was blocked by McCormick’s placement of the shed on the thoroughfare. Although the court did not specifically comment on such a self-help remedy, surveyors often find that clients take survey plans as rationale for proceeding with use and activity consistent with what is shown on their plans. Furthermore, like the importance to the parties in *Knock*, the litigation in *MacDonald* underscores the value, for landowners in close proximity to water, in having access to water.

In *Millstone Consulting Services Inc. v. Cleary*,<sup>4</sup> cottage property was situated close to Georgian Bay, but was not waterfront property. The configuration was interesting, but there was no real dispute about the boundaries. The properties had been surveyed many times; the only remaining dispute lay in respect of the legal rights that had been held or acquired by the plaintiffs

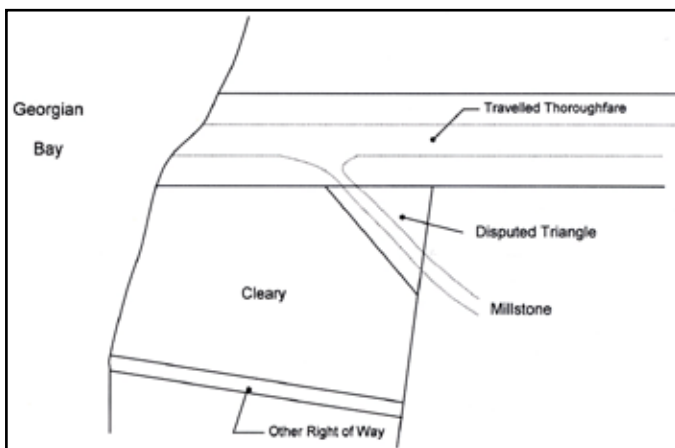


Figure 3: *Millstone v. Cleary*

(Millstone). The schematic sketch in Figure 3 illustrates the general configuration.

Millstone was the owner of land acquired through a tax sale; it claimed ownership to an adjoining triangle of land which had been used by previous owners of the Millstone lands. Cleary opposed, stating that they were prepared to let Millstone have an easement—but not fee simple title. As noted by the trial judge, “access to the beach was the driving force behind this litigation.”<sup>5</sup>

A conversion from *Registry Act* to *Land Titles Act* was effected as part of the Land Titles automation process in Ontario in 2001. The twenty-year period for prescription giving rise to a claim for an easement or right-of-way was held to be a twenty-year period running immediately before the date of conversion in 2001. At trial, the evidence was found to fall short of establishing the requisite elements of prescription for the twenty-year period immediately prior to 2001.

The court also considered the doctrine of lost modern grant. “Necessity” was held to mean access over the right-of-way as an essential component to its enjoyment. The doctrine was not considered available if alternative access through some other practical means was available. Ultimately, this meant that the right-of-way sought by the plaintiff only added value or other enhancement to the property, but this is not what the law requires. The test for necessity was one of just that: necessity, and not economic enhancement. On appeal, the court agreed that the twenty-year period could be any twenty-year period—it need not be immediately prior to conversion in 2001. There had been evidence of use beginning as early as 1948. However, the quality of use was not considered by the trial judge as sufficiently strong to justify a finding of intensity of use that would meet the threshold. The Court of Appeal was not prepared to disturb the trial judge’s findings of fact on this point; the appeal was dismissed, although clarification was allowed on the running of the time period for prescription relative to conversion from Registry to Land Titles.

As we approach another summer, owners of waterfront property are keen on guarding what many perceive as their own beach, or access to it. As these cases illustrate, the issue will—no doubt—surface again. ¶

#### References

- 1 *Knock v. Fouillard*, [2007] N.S.J. No. 77, 2007 NSCA 27 (CanLii) reversing, in part, trial decision reported at 2006 NSSC 143 (CanLii). Note: All figures are included for illustration and are schematic sketches only.
- 2 The four essentials were set out in *Re Ellenborough Park*, [1956] Ch. 131.
- 3 *MacDonald v. McCormick*, 120091 N.S.J. No. 35.
- 4 *Millstone Consulting Services Inc. v. Cleary*, 1200810.J. No. 3106.
- 5 *Ibid.* at para. 14.



# Succession Planning for Your Business Implementing an Action Plan

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## Strategic Vision

As outlined in the first article, it's important for small business owners to develop personal and professional goals prior to the succession planning process. Dependent on how far away the owner is from retirement, this should include a ten-year vision as well as a five-year business strategy.

In the written succession plan, business objectives from the ten-year vision and five-year business strategy should be translated into a detailed timeline and final decision making framework. The goals and objectives outlined will be an important part of creating a foundation from which the succession plan can be developed in the future.

Having these business goals and objectives accompanied by the timeline and decision making framework will also be valuable if an unforeseen circumstance arises that leaves the business owner incapable of running the business. The future of the business becomes far less uncertain if a comprehensive succession plan is already established for a new business owner.

## Creating the Ideal Exit Scenario

To create an ideal exit scenario, the business owner needs to be replaceable. If the continued success of a business is completely dependent on either the skills or knowledge of one owner/operator, then there really is no business to succeed.

Business procedures and policies need to be developed and documented to ensure that the business has continued success years after the business owner leaves. Creating the ideal exit scenario also necessitates hiring and training a strong management team that can manage the business when the owner isn't there.

A written succession plan should include a detailed organizational chart that defines the roles of both the business owner and key employees. This chart, and accompanying written procedures, should work as a stand-alone guide that can be passed down to new owners of the business. Key to the succession plan itself is the definition of both the roles key members of the staff play during normal operations, as well as the responsibilities they will be required to take on during the actual transfer of ownership.

## Choosing a Successor

If a business owner identifies ahead of time who will be the successor, they can better design a succession plan and transition strategy that suits the needs of that particular successor. Whether the chosen successor is a family member, a staff member, or an outside buyer, their different levels of experience with the business may warrant different types of transition strategies.

If the business owner starts developing the succession plan well in advance of exiting the business, it may not be feasible to choose a successor. However, when succession planning started early, the business owner can always identify the skills and abilities that the best successor will possess and create a set list of deciding criteria that can be used when the time actually comes to decide.

## Five Simple Steps...

The following are the five most important components of succession planning:

1. Establish a strategic vision for your business.
2. Create the best possible scenario for you to exit the business.
3. Open professional and personal lines of communication to facilitate choosing a successor.
4. Determine the financial implications of leaving/selling the business.

The fifth and final step involves defining procedures for each of the prior components and implementing your action plan!

## Financial Implications

Finally, the legal and financial implications of selling a business tend to be very complicated in nature. Depending on the business owner's level of expertise, they will likely require the assistance of professional advisors (e.g.

### Final Tips

- Make yourself replaceable.
- Be detailed in your planning!
- The value of your succession plan for a new business owner will be all in the details.
- Revisit your succession plan often, and make changes as the business changes.
- Involve professionals.
- Remember, it is never too early to start succession planning!

an accountant, tax specialist, lawyer, financial advisor, business broker, or business valuator) to evaluate related legal and financial issues.

There are a few key areas that will need to be dealt with to help ease the final transfer or sale of the business. First, business owners should consult an accountant to determine the most tax efficient way to structure the business. As well, closer to sale, business owners will need to clean-up their financial statements according to Generally Accepted Accounting Principles (GAAP) to ensure easy review by prospective buyers.

Another important step for the business owner will be reviewing their own financial requirements outside of the business to ensure that they have set-up the appropriate retirement compensation, likely including an independent pension plan. Finally, with the help of a financial advisor and business broker, a realistic valuation of the business needs to be prepared, taking into account the business's assets, earnings, intellectual property, market position, and reputation. ¶

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# Energy Management: Teaming to Thrive Not Just Survive Using integrated Focus

By Jennifer Walinga., PhD

Reprinted from *The Link* – Volume 32, Number 4, December 2009

*Member of Commonwealth, World and Olympic Champion rowing teams in Canada, Jennifer Walinga seeks to integrate the principles of peak performance, facilitation, and organizational development in her exploration of how people get ready to perform.*

*She has a PhD in Organizational Studies and is currently an Assistant Professor, School of Communication and Culture at Royal Roads University.*

Sustainability has moved to the forefront of corporate thinking as the implications of human, environmental, and economic strain and depletion become frighteningly apparent. In an increasingly fast paced, constantly changing corporate landscape, it can be difficult to find the time, the clarity, or the focus to refill the tank let alone re-read the map. Organizations can waste a great deal of time, energy, and resources solving the wrong problems or just putting out fires. Yet, adversity and change can also fuel performance. More than ever it is crucial to ‘thrive’ not just survive in an increasingly stressful workplace. In order to thrive amidst uncertainty and effectively navigate the turbulence of change it is important to get better, not at slowing down, but at speeding up.

According to the law of energy conservation, energy is neither created nor destroyed but can be transformed. Likewise, we can transform energy in the workplace to create a regenerative culture of stress thriving, not just surviving.

Grounded in a series of empirical studies with professionals facing the stress of uncertainty, change, and adversity, energy management demands that we manage energy, not time. To thrive amidst stress we must come to understand our perfect human system, learn to optimize our cognitive, emotional and physiological energy, and realize the power of a values-building integrated focus as opposed to a threat-controlling focus.

We all possess perfect human systems; our task is not to change, but to understand our system in order to optimize our energy under stress. The human stress response is perfectly designed to protect us under threat; however, relying on a short term stress response indefinitely actually works against us, depleting energy stores and distracting us from the values



Jennifer Walinga

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and goals that fulfill us. Fight or flight is a good idea when faced with a saber tooth tiger, but when workload and limited resources represent the major threats we face, our ability to brandish a stick or climb a tree may not result in the sustainable solutions we seek. Under long term stress scenarios like those we experience in the workplace we must learn to transform our short term threat response into a long term thriving lifestyle.

While our typical stress response does little to replenish and renew our energy sources, the stress response has much to teach us about where our true energy sources lie. Psychologists such as Eysenck and Easterbrook have concluded that our neurological stress response results in a cognitive bias and limits our focus. A stressor or problem triggers the limbic and hypothalamus centre of the brain. Failure, fear, perceived threat, and worry results in a deactivation of

the frontal motor cortex of the brain as the other half of the brain is activated.

According to Easterbrook’s theory of cue utilization, a threat or barrier focus makes us threat vigilant and unable to see our original goals or values - what we are actually trying to protect! For instance, elite athletes facing a particularly threatening opponent may focus on their competition so fully that they lose sight of their original goals of speed or technical precision. Likewise, faculty and staff at a small university we studied found themselves so consumed with trying to reduce the size of their inboxes that they had little energy left to devote to building the relationships they sought (and that their email was originally designed to foster!) We often find ourselves expending so much energy fighting those things that threaten our health, our hopes, and our happiness that we have little left to nurture the health, hopes and happiness that is threatened.

As well, a hyper-vigilant threat focus is often unproductive because it engages our energy in futile attempts to control things over which we have very little control such as bureaucratic systems, the nature of our competition, or the constant-

ly ticking clock. Elite athletes can no more effectively reduce the size or ability of their opponents than workers can stop the continuous arid fast paced march of change. Too often, when the demands of work and life seem insurmountable, we turn to unsustainable and threat-focused solutions. When stress mounts, we tend to simply ‘work harder.’ Downsizing and re-engineering efforts often result in longer hours and increased workloads in order to achieve greater efficiencies. Without investing in a process of replenishing and renewing personal resources, our gas tank reaches empty and we find ourselves running on fumes, damaging the engine permanently. While the stress response pulls our focus away from what we value most, in doing so it also links us directly to those values. We need only follow that link to find the values and goals that energize us most!

So how is it possible to use that which we find most stressful or threatening to reveal the energy we seek? A stress is only stressful because it threatens what we value most. We know that focusing on our strengths, what feeds us, our sources of energy, is empowering. But simply trying to ‘think positively’ is also a short term solution to stress. Researchers like Joseph Ledoux and Roy Baumeister have found that negative thoughts will always overpower positive thoughts and they have to; the threat response is part of our perfect system. Trying to block out stress consumes energy. We need a strategy that helps us regain a values focus despite the stress. Ironically, focusing on our stress, and using our stress as a springboard to what lies beyond it, will help us to regain a values-based focus.

**When participants regain a values focus, they find their source of true power and are able to unlock innovative and sustainable solutions to their stress.**

The key is to ask ‘what bothers us about our stress’, or ‘what is the stress actually threatening?’ From the many hundreds of interviews I have conducted, I have found that the process of following the threat helps people to drill down to the core values at stake. When participants regain a values focus, they find their source of true power and are able to unlock innovative and sustainable solutions to their stress.

One woman described the overwhelming number of tasks she had to complete and the lack of time she had to strategically plan for their completion. What bothered her most about not being able to make a plan was that she then didn’t know where to start. If she didn’t start, nothing got done. What bothered her about that was the impact that a lack of accomplishment had on her attitude. She believed she was the kind of person who could do anything she set her mind to. It became apparent that her core value and source of energy was her attitude. The challenge then became clear: How

could she sustain her ‘can do’ attitude despite her lack of planning time? She promptly stated it: in bed, in the morning, in the car! She did not ignore her stress, nor did she just try to ‘think positively’ but rather confronted her stress head on empowered by her core value of a ‘can do’ attitude.

An HR Director I recently worked with explained that her biggest stress in her new position was ‘trying to stay on top of everything’. She tried to delegate, but found that meetings with her team ended up looking like rapid fire to-do lists. When I inquired into what bothered her most, what this stressor was actually threatening, she described how she didn’t feel that she could do it all, that in fact she couldn’t even see it all, and in the end she was not meeting clients’ needs. Ultimately, her stress threatened all that she loves as an HR professional: interaction, responsiveness, learning, growing.... Suddenly she looked at me and said, “Aha! I can communicate better with clients – we can provide answers to frequently asked questions, we can better equip them with the tools they need to find the answers on their own, we can also communicate more clearly what each of us does so that they know who to go to in the first place, rather than always coming to me!” Her real challenge was not ‘staying on top of it all’ but rather involved building her values in the face of growing demands. Her solution was to develop systems to help her clients to meet their needs. Meetings could now be devoted to the creation of these systems. By following her stress to the values it threatened, she gained a more integrated focus that did not ignore her stressful reality, but used the power of her values to generate creative solutions in the face of her stress.

An integrated organizational strategy requires an integrated focus. Reconciling the costs associated with employee health and well-being with the financial demands of running a profitable yet socially conscious organization is a long-standing, systemic challenge. Solving this kind of multi-faceted organizational challenge demands a different way of thinking altogether. Managers not only require a solid grasp of organizational structures and systems, but also insight into the decision making process and the effects of change on both human and organizational cognition, emotion and physiology. A stress thriving culture is one in which people are supported to confront stressors head on, to acknowledge when and where they have little control, and to then use their stressors to lead them to their true source of power: their core values. When we ‘drill down’ on our stress, we regain a values building integrated focus rather than a threat controlling focus. With an integrated focus we find the energy and clarity to generate creative and sustainable strategies for addressing the challenges of uncertainty and change. ♪

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## **LEAD, FOLLOW, OR GET OUT OF THE WAY**

*Viewpoints from a company in the business of providing machine guidance and model building services*

**By Steve Boddecker, LS**

Reprinted from *Empire State Surveyor* - Vol. 46, No. 1 - Jan/Feb 2010

Just as the famous words of Lee Iacocca rang out with his efforts to bring Chrysler back from the brink some time ago and uttered earlier in history by Thomas Payne, we as surveyors are now faced with the same charge. This phrase echoes the thoughts reverberating through the surveying and construction community. Machine Guidance or Machine Control is here to stay. This is not a passing fad and as technology marches forward it will be continually enhanced allowing the completion of projects in a faster, less expensive and better fashion.

In an effort to keep land surveyors in New York apprised of changes that may affect the profession, either in a positive or negative manner, and in some cases both, NYSAPLS has recently provided a series of class sessions across New York. Those who chose to take the time to attend were treated to an introduction to this emerging technology by Rolf Witt of Admar Supply, Inc, Jayson Jones of Aubertine and Currier and myself, while obtaining 8 hours of continuing education credits. These classroom sessions only scratched the surface of this new technology that few surveyors are involved with, but many will eventually feel the effects of. The presentation included insights from a supply company (Admar Supply) that supplies the construction industry at the contractor level, a surveying firm (Aubertine and Currier) that has developed a business model that is very well positioned to provide these services to many contractors and myself (Fisher Associates) bringing both a view of experience of a company providing these services as well representing NYSAPLS.

During the presentation it was definitely driven home that the days are waning when you will drive down the road and witness a field of stakes defining the curvy road of soon to be developed subdivision or a vast parking lot of the latest super Wal-Mart with all of the flagging waiving in the same wind blown direction. Instead, GPS technology coupled with construction equipment and well trained individuals will be utilized to accomplish what a band of surveyors and countless trees had previously been used for. However, let's not rush out to purchase the engraved headstones marking the death to surveying and us surveyors. Instead, let's quickly examine our past and see how we might move into this changing future.

### **HISTORY**

Surveyors have traditionally been very conservative and reluctant to accept new technology due to our very nature. This is exacerbated by the cost associated with continual technological upgrades and the need to keep our clients happy while facing the continual pressure to meet financial constraints and budgets. However, and I wish to emphasize, many of us are envious of those few surveyors who broke from this stereotype either by having opportunities afforded them or by just jumping headlong out of the mold and embracing the now long past technology of Electronic Distance Meters, past technologies of GPS and GIS and recent technological advances in Digital Scanning, and parleying these into very successful business enterprises. This was accomplished by first identifying the potential, learning and investing in the technology, and then implementing a business plan that incorporated it into practice.

It should be noted that those who choose to sit on the sidelines, waiting for the price to come down or economics to pick up, usually jumped in late after the market has been saturated and the price for the various services had been diminished greatly creating a longer return on investment than if they jumped in first. Certainly there is a difference between cutting edge and bleeding edge technology that everyone must be aware of and take into consideration.

Additionally, the reluctance of surveyors to embrace a new technology has opened the door for other groups to grab a foot hold as we have seen in the GIS marketplace and to a lesser amount GPS and Scanning.

### **THE GOOD, THE BAD AND THE UGLY**

Certainly there is no perfect world. With this new technology comes a need to move outside ones comfort zone. The fact is that you may be required to address some staffing changes. This could possibly require the elimination your favorite construction crew chief that somehow just works on a daily basis, completing the assigned tasks, not making any waves and is forced to work with some snott-nosed punk who has discovered how to program his or her I-phone while surfing the net and tweeting a friend. For

most of us, this fact scares the %\$#& out of us. The fact is, this perfect crew chief is likely creeping very close to retirement. Everyday he or she shows up at the office or job site when the weather outside is terrible, gives us another day we do not need to be out scouring the earth for a competent replacement. Trust me, they are far and few between. So the actual timing of this technology might be just perfect.

## FACTS

My experience in this new technology has revealed that there are many opportunities for surveyors to expand their influence both in the field support and office modeling of projects. Additional insight has revealed what the attributes of a perfect person to take on this new position might be. Although this person may be younger, young age is not a requirement, but they should possess the following attributes:

- Thorough knowledge of GPS, how it works and the ability to know all of the major systems available. The big three at the moment are Trimble, Topcon and Leica.
- Ability to work within multiple computer programs, as required by the Big Three, and manipulates data from one of the software systems to another.
- Very proficient CADD person who has a thorough knowledge of at least one of the major mapping platforms, either Autocad or Microstation, with additional abilities with any of the smaller players being frosting on the cake.
- Possess good knowledge of construction drawings and details and having the ability to pull and decipher data from the drawings.
- Possess a good knowledge of construction techniques. Many times projects are completed that can never be built as designed.
- People who can communicate both verbally and in writing very well. We have all experienced plans that do not necessarily work and have had to make decisions that will allow for construction, the modeler will need to do the same. The difference is that the excavator might not be idling 10 feet away and the contractor screaming to get the stakes set. Someone must still come up with a solution and get the modification approved.
- Individuals that possess the skills to evolve with the market.

Certainly, this individual may not exist on the open market but the closer you find this person at the beginning the better you will be in the long haul by minimizing the learning curve and minimizing possible errors.

## HORROR STORIES

I would be remiss if I did not identify the pitfalls we have experienced on this road. However, I will say, they are really no different than those we have all experienced over the years while completing construction stakeout. These are as follows:

- Who are we dealing with? Many times those requesting modeling services have no idea what is required to accomplish this. The impression is you just push a button and the model is done.
- Equipment/software needs. Software is software. R & D people are always on the hunt, looking for advances and providing more bells and whistles. There is a continual learning curve.
- Plans that don't work. Digital or paper plans will always be plans. This does not need any additional clarification.
- Crazy deadlines.

## THE BENEFITS ARE REAL.

- New business opportunities. There is a potential for surveyors to grow their business in a different direction away from traditional pounding of wood in the ground.
- A wider work force with a larger group of highly technically trained individuals versus the stereotypical field personnel known for slopping through the mud.
- Highly technically challenging field. The new generations have indicated that they wish to be involved in a challenging field utilizing technology to a large extent.
- Revenues. No explanation needed here.
- Possibly a better image of surveyors bringing us up to, or at least closer to, the respectable level afforded engineers.

## CONCLUSION

The fact is, as we surveyors experience a diminishing of stakeout work due to the advances in and continued growth of the use of Machine Control; we can choose to sit back, do nothing and complain or find a way to replace it. Who better to take on the work generated by this new technology than the surveying community? ☺

*Stew Boddecker LS is vice president/manager of geomatics and survey for Fisher Associates PE, LS, PC, Rochester, NY with additional offices in Buffalo and Syracuse, providing a full spectrum of engineering and design services. He is also Executive Vice President of the New York State Association of Professional Land Surveyors.*



## *First Impressions*

*By Susan Davis, President, The Society of Notaries Public of British Columbia*

*Reprinted from The Scrivener – Volume 18, Number 4 Winter 2009*

It's said we cannot judge a book by its cover. Even though we know that is true, it doesn't prevent us from making judgments about others on first meeting or in an initial telephone conversation. As humans, we are innately prone to doing that. The first impression sticks. Opinions formed in seconds can last forever!

We judge people by the way they walk, dress, talk—what they say and how they say it, their confidence levels, and so on.

First impressions often turn out to be incorrect, once we actually get to know the person. In business, if you are the one being judged, you may not get the chance to change people's mind about you or your business. They may form an opinion and move on.

If the caller chooses to hire your services, you may be prejudged on your professional ability through the impression created by your staff.

You, the competency of your services, and the level of your professionalism are often judged by the appearance of your front line staff and their attitude toward the people entering your place of business and making contact by phone. Your frontline staff members represent you to your potential clients and your established business relationships.

***If your frontline people are not meeting your own level of preference, there's a good chance they are not portraying your business in a flattering light.***

Think about the way you like to be greeted when you enter a business and the way you like to have someone speak to you on the telephone. If your frontline people are not meeting your own level of preference, there's a good chance they are not portraying your business in a flattering light.

Make certain you select individuals who are capable of doing the job well and who are suited to their responsibilities.

I believe these are some of the qualities of competent frontline staff people.

- They treat all clients and fellow staff members with respect.
- They have the ability to be clear, conscientious, and courteous on the telephone.
- They answer calls promptly.
- They can handle multiple calls without anyone feeling they are being set aside.
- They take concise messages and record call-back numbers accurately.
- They deal with difficult clients in a polite and professional manner.
- They have excellent listening skills.
- They present an agreeable physical impression through appropriate dress and grooming and personal habits.
- They portray integrity on behalf of your business.

As the business owner, your responsibility to your business, yourself, your employees, and your clients is to choose staff who will make a favourable impression. In return, you treat your staff with respect, kindness, and gratitude.

And remember—the frontline often takes the brunt of any rude callers or complaints. It is essential that you are supportive of your staff and that they know you are. ☽

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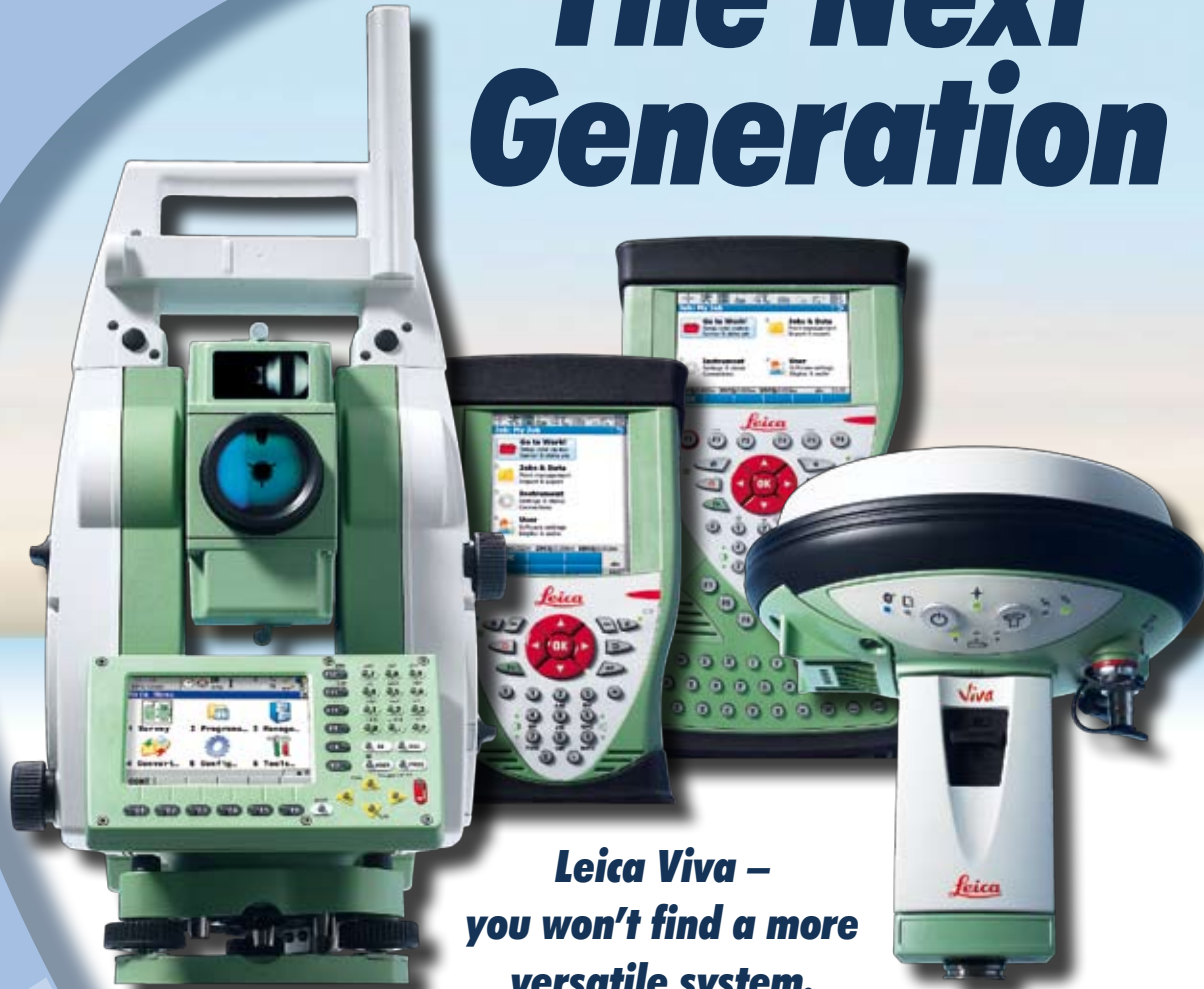
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