

On September 28, 1992, the following Open Letter was mailed to all Ontario Land Surveyors:

Dear Member;

The Institute of Survey Technology of Ontario was established in 1987 to provide a home for the paraprofessional working in the field of surveying in Ontario and to provide education and training for those members. It was perceived as the "technical wing" of the AOLS.

The AOLS has recently agreed to a request from the Board of ISTO to allow the AOLS Executive Director, Peter Jacobs, to be appointed General Manager of ISTO. It has also agreed to provide financial assistance to allow ISTO to hire a coordinator.

The 1991-1992 recession has had a serious impact on the voluntary membership of ISTO. Forty percent of the 1991 members have not renewed their membership and there is a definite pessimism amongst members and firms as to the future of ISTO. We believe that the root of these continuing problems affecting the viability of ISTO is not related so much to the economy as it is to the divided focus of ISTO. Is ISTO a home for the survey technician or is it an educational institute? We think that it is now clear that it cannot be both. Nevertheless both of these roles must be addressed and in order to do so properly, a fundamental change is necessary in the character of ISTO.

The Educational Role

ISTO has a necessary role and a viable future within our profession as the educational arm of the AOLS responsible for the provision of training, continuing education and technical certification for both the professional and technical members of our profession. With the inclusion of the disciplines of hydrography, photogrammetry and geodesy and

with the impact of information systems on our profession, the need for better educational services has never been greater. ISTO, in a single role as the Association's training institute, could focus on:

- * training and certification of technicians and surveyors except in the legislated areas governed by the AOLS through the AERC,
- * continuing education for surveyors and technicians in all disciplines of surveying,
- * provision of seminars for lawyers, real estate agents and others,
- * promotion of the profession to users and prospective new surveyors and survey technicians.

The Technical Associate Role

The technical members of our profession are a vital link in the provision of services in all of the fields of surveying. The professional surveyor and the technician work side by side complementing each others' activity for the benefit of their common product. Should such close ties not be encouraged outside of the workplace while still providing for some focused interests of each group? The answer is an obvious "yes" but the use of ISTO as an association for technicians has not worked. We believe that the AOLS should provide for an associate classification that will address the needs of the survey technician while including him or her in the family of the professional surveyor. The Surveyors Act, 1987, has provisions for the setting of classes of persons whose interests are related to those of the Association. Current classes provided for in our Regulations are Junior Associates, Retired Associates and Honourary Members. A Technical Associate classification,

while voluntary, would provide a home for the survey technician within the AOLS and would allow for classification and training through ISTO. It may bring no statutory rights or privileges but would associate the technician directly with his or her professional brethren. Hydrographers, geodesists and photogrammetrists have never traditionally differentiated between professionals and technicians. Land surveyors and their technical partners have resisted close ties. We believe that the time has come for change through the provision of a technical classification within the AOLS.

In summation, we believe that the current double duty of ISTO is counter-productive. ISTO with a single focus on education for all members of the survey industry can become a viable, productive and self-funding entity. A Technical Associate classification within the AOLS would provide a career focus and a home for the technical members of our profession.

We solicit the support of the members of our Association for further work toward the implementation of this concept. Should such support be received it would be our intent to bring recommendations forward at the 1993 Annual General Meeting. In the meantime, we would ask for your response directly to any of the undersigned. We offer our services for discussion at regional group meetings.

Talson Rody
David Searles
Doug Simmonds
Jim Statham
Harry Whale

TECHNICIANS AND TECHNOLOGISTS

Have you been laid off? Do you know of someone who has?

The ISTO Registry Referral Program can help you get back in the surveying business. If you are interested in positions on a part-time, full-time or contract basis, fill in an information sheet (on the back of the December issue of ISTO Info) and return it to the ISTO office. Submit your 1-page resume and join the Royal Resume Service. There may be a job waiting for you!

A Question for ISTO

If you have a question or a comment about articles that have appeared in the ISTO pages of the Ontario Land Surveyor or the ISTO Info Newsletter, send them into our office. We will do our best to answer them.

Question:

The Ministry of Natural Resources in my region says that the Occupational Health and Safety Act concerning loggers (and therefore requiring a chainsaw certificate) does not apply to us.

Answer:

This question is a result of an article in Newsletter #16 ("Getting Your Cutting Certificate").

The article was based on conversations with and materials provided by the Forest Product Accident Prevention Association. According to one of their trainers, the Ministry of Labour is interpreting the Act to define a logger as ANYONE involved in felling trees. Therefore, if in the course of your work, you use a chainsaw to fell trees, you must have a certificate.

However, according to Ken Johnson from the Ministry of Labour, the Ministry is generally interpreting the Act to include those people who cut down trees *and then* sell them.

Mr. Johnson acknowledges that the surveying profession falls into a grey area of the Act. If you were to cut trees on a semi-regular basis, then you may require the certificate.

Regardless, do not overlook the consequences of NOT getting your cutting certificate. Given the harsh penalties, should an accident occur, not only may the company and the O.L.S. be liable but also all of those people the accident victim works under. If an accident did occur, then the Ministry of Labour would look at the safety training the victim received and follow-up steps taken to ensure that safety procedures were followed.

Since chainsaws are generally not used on a daily basis, it may be even more important for you to get your chainsaw certificate.

Similar rules apply to construction sites. We will explore this topic in the next issue.



ISTO PANEL DISCUSSION

Held October 16, 1992 : Admiral Inn, Lindsay

Moderator:

Adrian Maes, C.S.T. (c)

Panel:

William Mates, Sr.
Tom Mifflin, O.S.T.
Harry Farmer, O.S.T., C.S.T.

The following questions and answers are excerpts from the [oral] Panel Discussion at the ISTO Annual General Meeting.

Question

In regard to the Total Station Guidelines:

- The observation of any point from a minimum of two known points and verification of all measurements by at least one redundant measurement to each observed point is required. Why?
- Why are the Guidelines so vague, why were they not written giving explanation? There should be seminar(s) explaining all new standards, guidelines, technologies.
- The Guidelines indicate that a hard copy ("dump") must be kept - this is an incredible amount of paperwork which now has to be stored somewhere. Why can this not be kept in computer format, disk or otherwise?

Answer

- You need the extra check to make sure your measurements are correct. "All measurements, whether recorded manually or electronically, must be verified by mathematical closure or independent measurement." You can't just let the tool do the work for you. For example, are you sure the total station is calibrated properly?
- If you need clarification on some point - call the office. If you want to see a seminar on a specific topic - inform the office.
- When writing the Guidelines, it was assumed that everyone still maintained field notes and sketches, even though total stations were being used. You don't have to keep a hard copy ("dump"), an edited abstract of raw field data (computer printout) in a readable format must be available if requested.

Question

How should you properly refer to a bar found, but unidentifiable, that is shown on another plan? In other words, you found the bar where the previous plan indicates it to be, but you cannot be completely sure of the origin of the bar.

Answer

Has the field crew tried every trick in the book to identify this bar? Are you positive it is an SIB or SSIB (whichever the case may be)? If the answer to both of these questions is "yes", then, according to the new Monumentation Regulation - O.Reg 525/91, you should reference this bar as follows.

"Section 3.(2)

- the letters of designation for the monument set out in the Table [see page 4 of Regulation], or if there are none, a full description of the monument; and,
 - the identification numbers, letters, words or symbols found on the monument, or if there are none, the name of the surveyor who planted the monument or prepared the plan of survey in respect of which the monument was planted.
- (3) Clause (2)(c) does not apply if it is impossible to determine the identification numbers, letters, words or symbols or the name of the surveyor who planted the monument or prepared the plan of survey."

Now, what do you do from here? At this point, it is acceptable to define the bar as "OU", however, it would be in your best interest to reference it with a note along the line of "as shown on Plan #99-9999, prepared by J. Doe, O.L.S."

Question

We quite often work on plans prepared by architects, sometimes containing 20-50 corners. When the layout on these plans is impossible to follow and we are required to make changes, how do you suggest we go about making these changes? What do we do when the construction crews are waiting to start, and we're saying - hold on, these plans are wrong.

Answer

[I] Always keep in constant contact with the architectural firm. Any notes you have regarding required changes - **USE INK!!!** There have been instances where changes made in pencil have been changed. Keep in mind that you should not have to take on this kind of responsibility - it's really up to your O.L.S. The O.L.S.'s have all the correct forms and paper work required to make changes and/or advise of changes to the architectural plans. The architect(s) should review changes and be made to sign and stamp any changes.

A quick "by the way" - phone the client and explain the discrepancies (sometimes you will find out that

someone else's copyrighted plans are being used).

When you're on a panicked job site - remain calm, and explain that you have found discrepancies, that it won't work as is and you have to have this resolved before you can continue. For any construction, demand a complete set of plans. Do not let yourself be rushed - this will only result in mistakes.

Question

Will the O.L.S.'s hear about what we've discussed here today?

Answer

The idea is to print the minutes of this first Panel Discussion, provided no one has any reservations about doing so.

Question

I've run into problems with the O.L.S.'s where they feel that due to technology, we should be able to do the work that much faster, eg. with EDM's and total stations, the O.L.S. seems to think we can do the job twice as fast. How can they be made aware that this is simply not the case?

Answer

That again is one of the reasons why we feel so strongly that ISTO should be the educational institute for O.L.S.'s and technicians. This will allow for continual communication and cooperation.

Question

Is ISTO fully supported by the AOLS? If so, why are there so few people here today? Sometimes the O.L.S. reacts as if ISTO is under the wing of the AOLS and should stay there. It seems that the O.L.S.'s don't necessarily want ISTO to flourish.

Answer

The AOLS Council has given their complete support to ISTO. In regard to the O.L.S.'s themselves - that's an age old question. You can see from the attendance here today, some O.L.S.'s are giving full support. Other O.L.S.'s still respond with to the mention of "ISTO" with "who?". ISTO members need to become more active as well. However, as far as the AOLS's support goes, the President, Mr. Jim Statham, has given his commitment to ISTO.



ISTO AND THE IMPORTANCE OF TRAINING

BY: BRIAN MUNDAY, PROGRAM COORDINATOR

Welcome back to the ISTO pages in the Ontario Land Surveyor. We took a hiatus from ISTO news and reports in this magazine during the AOLS Centenary in 1992. But now we are back providing the ISTO members and Ontario Land Surveyor with technical reports and updates.

You will notice a great deal has changed since the last ISTO report in the Quarterly. You are hearing more about the Institute in recent months and have seen more activity from it. One of the most apparent changes (apparent from my point of view) is that I have been hired to be ISTO's Program Coordinator and administer the Institute events and manage its plans and changes. I would like to take a few moments to discuss some of those changes with you and give you my impressions and thoughts about the last few months. I would like to give you a short biography of myself and then review where the

organization has been, where it's going, and where it might fit in with the surveying profession.

To begin, my history involves organizing a wide variety of special events and seminars as a volunteer for a number of groups. I have worked, again as a volunteer, as a writer and editor for student magazines when I was at university. Again, at university, the focus of my work in my final year was on the state and the development of continuing training and education programs in Canada. My "real world" experience includes marketing a conference centre in London; administering pension records for corporate clients in Toronto; and consulting to an insurance broker's office in Mississauga.

The only other thing you really need to know about me is that I am a classic movie buff. One of my favourite movies is Mr. Smith Goes

To Washington. At one point in this movie, Jimmy Stewart is making his speech in the American Senate and he turns to one of his accusers and says: "Senator Paine knows all about lost causes. He used to say they were the only causes worth fighting for." Some people have tried to tell me that ISTO was a lost cause; that it couldn't possibly work. To which I say ... BUNK!

ISTO has to work. There is no other choice. The education of the technicians and technologists is too important to give up on.

Let me tell you what others have said about the importance of training in Canada.

"Our future prosperity will rest heavily upon the quality of our human resources.... Greater investment in training and education is a requirement that faces most businesses and workers." (From a report by the Ontario Training Corporation

titled As Training Moves Toward the Next Decade.)

Peter Lawson of the Conference Board of Canada said, "... this is a time when the key element in competitiveness is people not markets, technology, access to raw materials or financial resources."

While I'm on this subject, let me give you a few figures. The average Canadian corporation spends a mere \$80 per year on training for non-management staff. Front-line supervisors receive an average of 6 days per year on training. To compare, for a moment, to other countries, Canadian firms are lagging behind. Canadian firms train half as much as U.S. firms and the U.S. spends a fraction of what Japan and Germany do. In France, by law, firms must spend 1.3% of their salary base on training and re-training.

So why is this important? It is important because firms, companies, partnerships have to be, must be competitive. If Smith and Jones down the street can do a project cheaper, in half the time, with the same or better quality than who is going to get the business? The technological advances we have seen have made it possible for more firms to become more competitive in a short span of time. Think of all the things we can do now, and are doing now, with computers; computers that did not exist ten or twelve years ago. Twenty years ago they said it was practically impossible to get a satellite feed from Moscow back home so we could watch the Canada-Russia hockey series. Today, we have GPS systems. Look at all the fancy features you can put on telephone systems these days: fax machines, call display, automatic redial. Think how easy it is for a potential customer to phone you and all your competitors. Information. We have so much information at our disposal these days that it is impossible to keep all that information in the heads of just a few people.

The solution, many say, is to have employees that are flexible and able to adapt to the changing environment around them. The academics call this 'empowerment'. I call it having the trust and confidence in the workers and their tasks so Ontario Land Sur-

veyors can spend time on theirs. The way to have confidence in employees, from chainman through to Party Chief, is to ensure they are trained and re-trained on the technical issues out there. The time to start training a Party Chief is not when they become a Party Chief but when they start with the firm. It is all part of developing confident flexible workers.

So far I have tried to impress upon you the importance of training and development and developing flexible workers regardless of what business you're in. Now, I want to bring it back a little closer to home.

"The solution
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able to adapt."

The surveying profession, has long had the foresight for technical training for their staffs. ISTO was established in 1987 with the objective of "defining, developing, recognizing and promoting a body of knowledge, skills and standards ... that are or may be of assistance to surveyors in their practice...." As an aside, this foresight predates ISTO, with the establishment of ACCSTO as many of you probably know. ACCSTO has recently become part of OACETT and are no longer focused on those of us in the surveying profession. Anyway, the need for technical training has long been recognized.

But anytime you get such a large task with so many tentacles, it can become quite overwhelming. It is a little like a jigsaw puzzle with more than 800 pieces and not being quite sure if you have all the pieces and how they fit together. When you add in the additional factor that people were trying to get ISTO up and running on a part-time volunteer basis (while still looking after their own business) you can understand that things would be chaotic at best. Growing

pains is what they were. Nevertheless, ISTO had started to move in some interesting directions. A newsletter was produced on a regular basis. Seminars, particularly the Party Chief series, had been a success. The process of getting the technical staffs classified and the whole issue of classification was underway and being looked at. And finally, discussions with the Ministry of Skills Development began to look into the possibility of establishing a formal apprenticeship program.

Individually, each of these tasks takes a great deal of time and commitment on the part of the volunteers/ Board members. Even researching magazine articles takes time. When you try to accomplish all these tasks at once, it easily becomes overwhelming.

These directions that ISTO had set for itself are still easily the most important issues for us to take a look at because they fit with what I mentioned earlier about the importance of human resources, their education and your ability to compete.

So now what direction is ISTO going to take for 1993 and where will our efforts be focused? Let me again concentrate on each of the major areas of ISTO: newsletters and information, classification, and seminars.

With information, ISTO members receive two publications: the AOLS Quarterly, which usually features longer technical articles; the ISTO newsletter, recently christened ISTO Info, highlighting projects that I am working on, information that I have come across and notice of upcoming events. These publications are designed to present important information to our members. In the October ISTO Info we wrote how someone can get their chainsaw certificate.

Future newsletters will announce the results of board meetings, upcoming seminars and classification awards. Future Quarterly issues will contain articles on WHMIS, Total Station Guidelines, using an architect's plans, properly referring to bars found, and the Right of Entry problem. Many of these issues were raised at the Panel Discussion during our Annual Meeting in Lindsay.

Allow me to spend a few moments now discussing the ISTO Classification program. Recently, we classified two members at the highest level of Office Technologist II, which is the approximate equivalent of being an Office Manager. In all, we have nine classification levels which range from the approximate equivalents of Chain-person through to Party Chief to Office Manager. For those who successfully complete the written exams and practical assignments, we award the designations Ontario Survey Assistant, Ontario Survey Technician and Ontario Survey Technologist.

The classifications are intended to provide a means of recognizing those people who have demonstrated a required level of ability; regardless of whether they are in Southern Ontario or Northern Ontario; regardless of the different types of surveys they might be working on. Classification gives technicians and technologists a sense of accomplishment, a sense of confidence in their own skills and abilities. For the Ontario Land Surveyor, our classification system gives them the confidence in their employees' abilities, skills and knowledge on current issues in the surveying profession. In this economy, with staffs pared down to the bone, classification is an easy method of ensuring that the people you do have working for you, are capable and up-to-date in their skills and knowledge.

Seminars are another means of staying current and helping employees improve their level of knowledge. We have had a number of people put on seminars for us in the past. Our seminar leaders have dedicated a great deal of time, effort and money into researching and presenting these seminars which, I am sure, many people have benefitted from. We had moved away from putting on seminars recently but I had asked a number of people to make presentations at our Annual Meeting in Lindsay and I am pleased to say many of them accepted. The topics included the panel discussion on problem solving in addition to the ones on Research Methods and Boundaries and the Law. For 1993, we have

already presented a workshop on Total Stations in Sudbury. Murray Purcell and Bill Harper have agreed to present a seminar on Title Searching at the AOLS AGM. I am always on the lookout for more topics and presenters.

Our goal is to turn seminars and training from a support function and a day-off from work into a proactive operation generating profits for the member organizations by documenting savings related to reduction in waste, turnover, and mistakes. ISTO, as I see it, is a crucial part of that proactive operation. If you want more detailed seminars, then we will provide them. If you want different topics, we will provide them or, at least know who can provide them.

"Classifications
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level of ability."

One of the most exciting initiatives for ISTO has been the establishment of a Registry Referral Program for unemployed technicians and technologists. Besides that, I have looked hard at many ways of making ISTO self-sufficient. For the sake of space, I will leave those concerns to another time. If you would like to know more about them, please call me at the office. We do have three brochures available for you. One explains the benefits of becoming an ISTO member. One describes our Classification Program. One lists Community College programs. All are available from our office, if you have not already received them.

What I have wanted to accomplish in these few sentences is to give you a sense of the future and the vision of ISTO. I believe with all my heart that what we are trying to achieve is crucial to the future of the surveying profession- for without capable staff to assist the Land Surveyor, the Land Surveyor is left to do and question all

the work. Now, I want to let you know that I very much recognize the economic turmoil we all are facing. I understand that you have tried to cut costs to the bone; making ends meet on the instalment plan; and paying Visa with your Mastercard. I recognize that and appreciate your dilemma.

By the same token, I am asking you to commit to a learning environment for the people that are on your staffs. I wrote earlier about the study that front-line managers receive, on average, 6 days of training per year. I am asking you and your staff to commit to 1 day of ISTO training per year; whether it be one day at our next seminar in your area, or a commitment to have at least one person on your staff classified. It is the commitment I am looking for to that continuous training atmosphere. Once you have made that commitment, I am asking you to talk to everyone around you about it. Encourage them to get classified or attend seminars. Your participation in ISTO will benefit the land surveyors and the technical staffs; indeed, the entire land surveying community. It is not going to change economy around; I am not naive enough to say that. But it is one small step forward. It is, perhaps, allowing you to cope better with these economic times and preparing you for when the times do get better.

To close my remarks, I have wanted to come to grips with the importance of continuous training. It has to be an integral part of any business that wants to compete. As far as ISTO is concerned, maybe it did seem like a lost cause to some. But I am still fighting for this cause because it is worth fighting for. I believe in it. I am working hard for ISTO; giving some legs to it. I believe that the programs we have in place will make 1993 the most successful ISTO year ever. And who knows, perhaps like Jimmy Stewart in that movie, we will all live happily ever after.

If you have other questions you would like asked in the Quarterly pages, write in to the ISTO Program Coordinator.

