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# Message from the president of CAPULC

## JAMIE ANDERSEN



Completing the President's Message is a special opportunity for me to relay the important work that the CAPULC Board of Directors have been working on for this past year! It also gives me a chance to let our readers know what our goals are for the upcoming year.

This year was particularly busy for most locate companies as the construction season took off and new levels of workloads were created. It also brought heightened challenges for many communities across Canada that were affected by the insurmountable damages and interruptions caused by wildfires resulting in lost structures and landscapes, displaced families, exhausted firefighters, maxed out community services, fleeing wildlife, and other such chaos that comes with these terrible disasters.

CAPULC is incredibly proud to announce the release of the National Underground Locating and Marking Standard on February 8th 2023. It signifies our concerted effort and marks the beginning of unification and streamlining training processes, competency, assessments, and evaluation strategies. This achievement was not without challenges, and the priceless voluntary and demanding work of our committee and board members. Over time, this document will develop and lead to advancement in our industry. The damage prevention industry has readily supported and guided it to this point, and we look forward to the future progress we will make.

In this year's issue you will find many great articles discussing standards, training, damage prevention practices and changing processes. Our Advertising, Marketing and Communication Committee consistently generates ideas to promote CAPULC, raise awareness for events and news, and create a supportive interface for our members, all of which require resources and collaboration. This committee is solely responsible for the construction and planning of our Locator magazine, updates to our website, posts to social media, and organizing our participation at conferences and trade shows. I'm happy to report the traction and popularity that this magazine is beginning to attract. While printed material distribution is not as popular as the social forums that we design, it still has a valued place in our industry. The Committee continues to generate methods to communicate with our members, the public and foster relationships within our industry. Please stay tuned for our upcoming release of CAPULC's Annual General Meeting plans for April 2024!

As we close off 2023, we can't thank everyone enough for their volunteered participation, sponsorship, and membership to provide the resources necessary for our association to succeed. As always, I must recognize our Administrative Coordinator, Tracey Paluck, who works diligently in the background and takes to heart the initiative in the future growth and successes of CAPULC. Along the way, with the added support of our Board of Directors, we have undoubtedly added valuable individuals, groups and corporate support to our association and will continue to forge forward and add value for our membership and Industry.

Stay tuned for CAPULC's next steps!

*Sincerely,*

*Jamie Andersen* ●

Message du président

# JAMIE ANDERSEN

Compléter le Message du Président est une occasion spéciale pour moi de relayer le travail important sur lequel le Conseil d'Administration de CAPULC a travaillé au cours de la dernière année! C'est aussi l'occasion pour moi d'informer nos lecteurs de nos objectifs pour l'année à venir. 2023 a été particulièrement occupé pour la plupart des entreprises de localisation à mesure que la saison de construction a décollé et que de nouveaux niveaux de charge de travail ont été créés. Cette année a également entraîné des défis accrus pour de nombreuses communautés à travers le Canada qui ont été touchées par les dommages et interruptions insurmontables causés par les incendies de forêt, entraînant la perte de structures et de paysages, le déplacement de familles, les pompiers épuisés, les services communautaires maximisés, la fuite de la faune et d'autres chaos qui accompagnent ces terribles catastrophes.

CAPULC est incroyablement fière d'annoncer la publication de la Norme Nationale de Localisation et de Marquage des Souterrains le 8 février 2023, ce qui signifie notre effort affirmé et marque le début de l'unification et la rationalisation des processus de formation, des compétences, des évaluations et des stratégies d'évaluation. Cette réalisation n'a pas été sans défis, et le travail bénévole et exigeant inestimable de notre Comité et des membres du Conseil d'Administration. Au fil du temps, ce document se développera et mènera à l'avancement de notre industrie. L'industrie de la prévention des dommages l'a facilement soutenue et guidée jusqu'à présent, et nous attendons avec impatience les progrès futurs que nous ferons.

Dans les numéros de cette année, vous trouverez de nombreux articles intéressants sur les normes, la formation, les pratiques de prévention des dommages et des processus changeants. Notre Comité de Publicité, Marketing et Communication trouve toujours des idées pour promouvoir CAPULC, la sensibilisation aux événements et aux nouvelles, et créer une interface de soutien pour nos membres exige des ressources et une collaboration. Ce Comité est seul responsable de la construction et planification de notre magazine Locator, des mises à jour de notre site Web, des publications sur les médias sociaux et de l'organisation de notre participation à des conférences et salons commerciaux. Je suis heureux de signaler la traction et la popularité que ce magazine commence à susciter. Bien que la distribution de matériel imprimé ne soit pas aussi populaire que les forums sociaux que nous concevons, elle occupe toujours une place importante dans notre industrie. Le Comité continue de générer des méthodes pour communiquer avec nos membres, le public et favoriser les relations au sein de notre industrie. Veuillez rester à l'affût de notre prochaine publication des plans de l'Assemblée Générale Annuelle de CAPULC pour avril 2024!

Alors que nous clôturons 2023, nous ne pouvons pas remercier assez tout le monde pour leur participation bénévole, leur commandite et leur adhésion afin de fournir les ressources nécessaires à la réussite de notre Association. Comme toujours, je dois reconnaître notre Coordonnatrice Administrative, Tracey Paluck, qui travaille assidûment dans les coulisses et prend à cœur l'initiative de la croissance et des succès futurs de CAPULC. En cours de route, avec le soutien supplémentaire de notre conseil d'administration, nous avons sans aucun doute ajouté de précieux individus, groupes et entreprises à notre association et nous continuerons à aller de l'avant et à ajouter de la valeur pour nos membres et notre industrie.

Restez à l'écoute pour les prochaines étapes de CAPULC!

*Bien cordialement,*  
Jamie Andersen ●



## Meet CAPULC's Board

# Q&A with the CAPULC Board of Directors

It is with great pleasure that I introduce to you the distinguished members of our CAPULC Board of Directors. Working alongside these esteemed individuals is truly an honour. As a collective force, they contribute an immense wealth of knowledge and experience, elevating every aspect of the underground facility locating and ground disturbance industries. These professionals represent a diverse spectrum of expertise and are united by their shared dedication to enhancing the safety of ground disturbance in our communities.

Today, we embark on a unique journey as we sit down for a Q&A session with our CAPULC Board members, shedding light on a more personal side not often revealed in their role as directors. I express my sincere gratitude to our Board members for their enthusiastic participation in this Q&A, and for their unwavering support as I continue coordinating the administrative chaos. Here's to another year filled with collaboration and progress.

Warm Regards,  
Tracey Paluck, CAPULC Administrative Coordinator

### WE ASKED EACH OF OUR BOARD MEMBERS THESE SAME FIVE QUESTIONS:

- 1) If you could only eat one food for the rest of your life, what would it be?
- 2) What is the one thing you remember most about your first job?
- 3) What's the best piece of advice anyone has given you?
- 4) What originally got you interested in your current field of work?
- 5) Where's the next place on your travel bucket list, and why?



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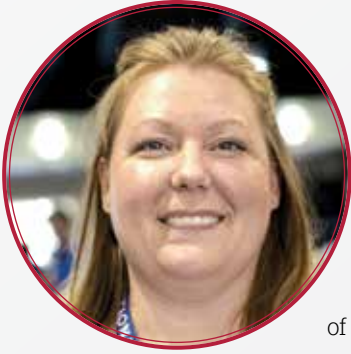


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**PRESIDENT – JAMIE ANDERSEN  
CO-OWNER FIRST ALERT LOCATING LTD.**

Jamie is co-owner of First Alert Locating Ltd. She has extensive experience with locator field knowledge, ground disturbance consulting, safety management, and CEO responsibilities and she is honoured to bring her business knowledge and experience to CAPULC. Jamie was one of the few founding members of CAPULC and has been an active member since its inception in April 2022.

Jamie is very dedicated to the association's success and believes that her participation will contribute to helping individuals identify with the significance, future promise, and opportunities that CAPULC and this Industry can offer.

Jamie was happy to provide the following answers to our five Q&A questions:

**If you could only eat one food for the rest of your life, what would it be?**

Italian.

**What is the one thing you remember most about your first job?**

How much I hated getting up early!

**What's the best piece of advice anyone has given you?**

Everything happens for a reason.

Be careful with your words, they can only be forgiven, never forgotten.

Forget the mistake, learn the lesson.

**What originally got you interested in your current field of work?**

My husband, and that it is such an under-appreciated career. If you don't do your job correctly, you could really hurt someone.

**Where's the next place on your travel bucket list, and why?**

Maldives, South Asia – It's absolutely stunning and probably a paradise I will only ever get to see it once.

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**VICE-PRESIDENT – GARY MASON  
OUTSIDE SALES/DAMAGE PREVENTION SPECIALIST AT LINESTAR UTILITY SUPPLY INC.**

As well as serving as Vice-President with CAPULC, Gary has been a long-standing member of two of CAPULC’s busy committees – the Marketing Committee, and the Education Committee. Gary has served on the ABCGA as Board Director representing Equipment/Material/Services Supply, and he’s currently a part of the Marketing Committee with the USP. His background is specialized in the sale of utility locators and damage prevention equipment for LineStar Utility Supply for the Alberta region.

Gary gave these answers to our questions:

**If you could only eat one food for the rest of your life, what would it be?** Pizza... duh!

**What is the one thing you remember most about your first job?**

The smell. It was at a mink ranch. May as well have been a skunk ranch!

**What’s the best piece of advice anyone has given you?**

Only worry about disappointing yourself, don’t worry about anyone else.

**What originally got you interested in your current field of work?**

Constant growth. Coming from oil & gas industry, consistency was elusive.

**Where’s the next place on your travel bucket list, and why?**

Japan – The fact that they were an isolated culture, only to be assimilated through forced occupation fascinates me.



**SECRETARY – CASEY EDWARDS  
PVS CONTRACTORS INC.**

Casey has been with PVS for over eight years and has led several teams including contract acquisitions, private locate department, dedicated locate department and PVS’s expansion into Alberta. Casey is consistently looking for innovative approaches on new and existing contracts with a focus on quality of product, efficiency of service, and customer satisfaction.

Casey answered our questions as follows:

**If you could only eat one food for the rest of your life, what would it be?** Steak.

**What is the one thing you remember most about your first job?**

My first job was a baseball umpire. I loved it as I was getting paid to watch baseball.

**What’s the best piece of advice anyone has given you?**

One of the greatest gifts a parent can give their child is their presence.

**What originally got you interested in your current field of work?**

It’s a growing industry that provided new challenges every day.

**Where’s the next place on your travel bucket list, and why?**

Scotland/Ireland – I will be checking this off my bucket list in March. My Dad and I will be doing a two-week golf trip.



**TREASURER – MATT ETHERINGTON  
EM UTILITY LOCATING**

Matt has been locating for over a decade working in all facets of the industry. There is very little that Matt hasn't done over the years in the industry, including contract locating, private commercial, pipeline, and industrial locating, locator and excavator education, locate auditing, concrete scanning and GPR, surveying, experimental technologies, damage investigations, and even utility installations. This wide range of expertise puts him in a unique position of being one of the most knowledgeable in the industry.

Matt is an open book with this information and is always willing to help others learn to better the industry. If anyone ever has any questions, Matt is always available to take the time to answer them or help find the answer.

Matt's enthusiastic answers follow:

**If you could only eat one food for the rest of your life, what would it be?**

It's a toss-up between burritos and curry. I like bold, strong flavours and spice.

**What is the one thing you remember most about your first job?**

First job was in the kitchen of a high-end golf course. In the summer, we hit 58°C in there on some days, but they had the best buffalo chicken wraps.

**What's the best piece of advice anyone has given you?**


It was given to me in the form of a question. Who is the better person: someone who does the right thing with the expectation of something in return, or the person who does it only because it's the right thing to do?

**What originally got you interested in your current field of work?**

My father was a directional driller and came home one day complaining about a line he damaged because a locator missed a gas line on his job site. I was 18 and fresh out of high school, and he said that they did such a poor job that even me, with no construction experience, could do better. And now I own my own company providing better quality locates for the community.


**Where's the next place on your travel bucket list, and why?**

My partner and I are trying to get to Japan as soon as possible. It's been on both of our bucket lists forever. One of my best friends moved there in 2019 to start a bonsai tree apprenticeship, and we want to get out there to see him and explore. New Zealand is second on the list. We almost moved there at one point.



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**DIRECTOR – TONY BRUNETTE | STRUCTURE SCAN INC.**

Tony Brunette is the President and Owner of Structure Scan Inc., a full-service damage prevention company. Having worked in the industry since 1999, Tony is dedicated to the safety of the people who work on construction sites by providing the essential sub-surface information required by engineers and construction managers.

As an active participant in North America’s damage prevention cause, he takes digging dangers seriously. Costly mistakes on construction and excavation projects are preventable through skilled, non-destructive testing and analysis.

Tony is a member of the Concrete Sawing and Drilling Association (CSDA) GPR Imaging Certification program, and he chairs Locator Training/Certification committee for the Manitoba Common Ground Alliance (MCGA). As a member of the industry associations throughout Canada and the United States, Tony is committed to providing the best damage prevention solutions possible.

Tony provided some great answers:

**If you could only eat one food for the rest of your life, what would it be?** Fish.

**What is the one thing you remember most about your first job?** The smell.

**What’s the best piece of advice anyone has given you?** Choose to live the dream.

**What originally got you interested in your current field of work?**

Saw the technology (GPR) at a trade show (World of Concrete) in 1998.

**Where’s the next place on your travel bucket list, and why?**

Canada’s east coast – It’s the only part of the country I haven’t been to.



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### **DIRECTOR – RICHARD LAMONTAGNE | ABSOLUTE LOCATING LTD.**

Richard, his wife Lisa, and their family have owned and operated Absolute Locating Ltd. since 2002. With their main office in Oxbow, Saskatchewan, they have crews based throughout southern Saskatchewan and Manitoba. Richard has been active in the damage prevention industry for over 20 years. He has watched the evolution of the damage prevention industry in the oil & gas sector over the years, and watched innovation and technology play a key role in that development. Richard brings a multitude of experience to CAPULC's Board of Directors and has served on the Best Practices Committee for the Saskatchewan Common Ground Alliance (SCGA) for many years.

Richard provided these thought-provoking replies:

#### **If you could only eat one food for the rest of your life, what would it be?**

Pizza. I actually have no answer for this myself, but that would be my wife's answer, so good enough.

#### **What is the one thing you remember most about your first job?**

That I would rather do literally anything else in the world than wash dishes at a restaurant.

#### **What's the best piece of advice anyone has given you?**

Often in life and in business, what seems to be the greatest challenge is actually your biggest opportunity.

#### **What originally got you interested in your current field of work?**

Opportunity. I learned how a locator worked only as a means to an end, hopefully to avoid hitting anything while installing service rig anchors. I had a lot to learn without question, but word got around that I was getting decent at figuring out tough sites, and environmental groups started calling for help digging safely for site assessments and remediations, and away we went!

#### **Where's the next place on your travel bucket list, and why?**

Bandon Dunes, Oregon – Five of the top ten best golf courses in North America.

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**DIRECTOR – COREY BAKER**  
**COORDINATOR OF THE UNDERGROUND LOCATE DEPARTMENT – ENMAX**

Corey Baker was voted onto CAPULC's board of directors during the 2022 AGM. Corey is the Coordinator of the Underground Locate department at Enmax in Calgary, AB. Corey obtained his Power Systems Electrician ticket while working for Manitoba Hydro prior to joining Enmax in 2014. He served on the board of directors for the ABCGA, as well as sitting on the Best Practices committee until its merger with AOC. Corey was also on the board of CRUDPC, a damage prevention committee in the City of Calgary. Working closely with excavators, locators, and other utility members within the City of Calgary on a daily basis, Corey is deeply invested in damage prevention.

Corey's compelling answers:

**If you could only eat one food for the rest of your life, what would it be?**

Soup – you can pretty much have anything you want in it.

**What is the one thing you remember most about your first job?**

I packed boxes for K-TEL international for minimum wage – I was on my feet all day.

**What's the best piece of advice anyone has given you?**

Stop trying to make everyone happy; the person that ends up not being happy is you.

**What originally got you interested in your current field of work?**

Manitoba Hydro was hiring PSE apprentices, and I needed a job. I never thought it would end up as a career that I enjoyed so much.

**Where's the next place on your travel bucket list, and why?**

I have been planning a trip to Moab, Utah for a UTV trip with friends.



**DIRECTOR – BRAD ARMSTRONG**  
**WALLEYE LOCATING LTD.**

Brad brings over 20 years of line locating and ground disturbance experience to CAPULC. He has watched the damage prevention industry evolve dramatically throughout his career and is proud to be a part of an association that advocates for higher standards in the line locating and damage prevention industry. In addition to the Board, Brad is active in CAPULC's Education and Standards Committee.

Brad is the owner of Walleye Locating Ltd., which he founded with his significant other in Wainwright Alberta. Walleye Locating offers a multitude of Line Locating, Ground Disturbance Supervision, and Land Administration Services in many sectors. In addition to Wainwright and Eastern Alberta, Brad's company is also based in Blackfalds in the West/Central area of the province. Walleye is proud of its diverse and in-depth experience in many different applications of line locating and damage prevention, from oil & gas, to environmental, to residential and city-based applications.

Unfortunately, Brad was unable to participate in our Q&A.



**DIRECTOR – DONALD RICHARD**  
**VICE-PRESIDENT – LOCATE MANAGEMENT INSTITUTE**

Donald develops and implements education and training for the Locating and Ground Disturbance industries.

He collaborates with subject matter experts, locators, facility owners, and IT professionals to build and deliver education, training, and assessment of Locators. Donald continues to be instrumental in the development of locator competencies, standards, education and training courses, and assessment and certification programs in Canada, Australia, New Zealand, and the USA.

He played a key role in the development of, and continues to maintain, the Underground Facility Locator (UFL) Field Task Competency Manual endorsed by CAPULC.

More recently, as chair of CAPULC's Education and Standards sub-committee for a Locating and Marking Standard, Donald led the committee that worked with Jiva Consulting in the development of Version 1.0 the Underground Facility Locating and Marking Standard.

He is active on and serves in various capacities within industry associations:

- Atlantic Canada Common Ground Alliance (ATLCGA) – Executive Board Member (Treasurer) and member of the Best Practices Committee
- Canadian Association of Pipeline and Utility Locating Contractors (CAPULC) – Chair of Education and Standards Committee
- Canadian Common Ground Alliance (CCGA) – Past-Chair and current member of the Best Practices Committee

Donald is the driving force behind Canadian Certified Locator, provides educational services to the Certified Locator programs in the Australia and New Zealand, and assists and supports the introduction of a Certified Locator program in the USA.

Donald provided the following answers to our questions:

**If you could only eat one food for the rest of your life, what would it be?**

Salmon, salmon, and salmon. I can have it lightly grilled for breakfast or dinner. For lunch or a snack, I could have salmon sashimi. I often cure salmon, usually with Scoudouc maple syrup, which I can eat anytime. Yum yum yum!

**What is the one thing you remember most about your first job?**

I was a playground supervisor in Saint John, NB and remember how organized and prepared my partner was especially when it came to non-athletic activities. I still may remember a lick or two from “Head, Shoulders, Knees and Toes”, “This Old Man”, and “The Song That Never Ends”. Hmmm, I wonder if people think of me when they hear these songs.

**What’s the best piece of advice anyone has given you?**

*It has to be level, plum, square, and true* When not busy with work, I like to do construction projects. Just as a locator should take their time to get a locate right, thinking about level, plum, square, and true allows me to do it right the first time.

**What originally got you interested in your current field of work?**

It wasn't a what, but rather a who. Over 20 years ago, Dr. Joel Birdwell and I spoke about my IBM certification, and he felt my experience could benefit the locating industry. This led me into building locator education and training material which has culminated into locator certification.

**Where’s the next place on your travel bucket list, and why?**

Croatia – as my eldest daughter may be getting married there – and France, to trace my roots.

# WHO WE ARE



**A**t the Canadian Association of Pipeline and Utility Locating Contractors (CAPULC), we deeply value uniting professionals with diverse knowledge and experience and fostering industry-leading collaboration. Our journey began in 2002 with a small, respected group of companies actively involved in the locating industry. Since those early days, CAPULC has continued to provide consistent leadership, playing a pivotal role in building a strong reputation for the Canadian line locating industry.

As a unifying force, we bring together a membership that includes underground facility locators, facility owners, ground disturbance professionals, analytics and mapping specialists, trainers and education providers, locating equipment suppliers, as well as anyone deeply committed to safeguarding our nation's underground infrastructure.

In 2023, the collective voice of our membership achieved a remarkable feat – the creation of the CAPULC Underground Facility Locating and Marking Standard. This groundbreaking achievement, years in the making, not only reflects the unwavering dedication and remarkable collective knowledge of our association's members, both past and present, but also sets a new industry standard for underground facility locating and marking in Canada. We take immense pride in reaching the fruition of this accomplishment and are filled with excitement for the positive impact it has on the future of our industry.

While we are a collective voice, our commitment extends far beyond these parameters. We actively support and collaborate with other industry associations, including our regional common ground alliances, and contribute to industry conferences and publications. We firmly believe in the power of collaboration to advance the shared goals within our industry.

Our care extends to each one of our members, whether a large corporation, a small business, or an individual. We sincerely value your membership and express our appreciation through a range of perks, discounts, and benefits designed to enhance both your professional and personal life. Recognizing the importance of your employees, these benefits extend to them as well.

We deeply appreciate our volunteers who generously dedicate their valuable hours to serve on CAPULC committees. We extend our appreciation to the businesses and fellow associations that allow their employees the opportunity to contribute to our endeavors. We would not be able to do all we can without their time and support.

Furthermore, we extend our heartfelt gratitude to our sponsors, whose unwavering support is essential to our existence and continued growth. You will find a special page in this publication dedicated to showcasing our valued sponsors.

Most importantly, we value and cherish our members. Your dedication and commitment form the bedrock of CAPULC. Together, we stand as an industry leader, not only enhancing underground facility locating but also improving the safety of our nation's vital underground infrastructure. Beyond our identity as an association, we are a community of professionals from all areas of the industry, working together to make a real and meaningful difference in damage prevention.

As we move forward, we look to the future together, striving for a time when damage to underground infrastructure is a thing of the distant past. Your contributions, support, and dedication continue to drive us toward this bright future. ●

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Be Certain that the Underground Facility  
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Finding underground infrastructure is more than just locating lines. We train our employees to understand how facilities operate and their purpose, so they know why utilities are there. The ability to understand all kinds of maps/plan is a strong focus in our training. When our locators show up, you can trust that they will understand the information they have been provided and will be able to complete the job efficiently.

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The backing of CAPULC Sponsors provides more than financial support; their commitment serves as the dynamic force propelling our association to the forefront of the industry. Our Sponsors not only contribute the essential resources for vital CAPULC initiatives, they continually raise the bar, exemplifying true dedication and partnership.

We extend heartfelt recognition to the catalysts behind our success and express our deepest gratitude for their unwavering confidence in our shared goals.

# CAN YOU GUESS WHAT IT IS?

*Been involved in protecting underground facilities longer than you can remember?*

## TRY OUR CAPTIVATING CHALLENGE!

In this edition of *The Locator*, we've included images of eight objects commonly used by locators in their daily work. Details of each item have been hidden from view except for a small area. Can you guess what these items are?

We invite you to share your answers by emailing [admin@capulc.ca](mailto:admin@capulc.ca) or by following this link to play online <https://capulc.ca/Can-You-Guess-What-This-Is>. Whether you choose to keep your guesses to yourself or share them with others, be sure to stay connected with us through our website and social media pages.

The mystery items will be revealed at a future time. Meanwhile, take a moment to explore our online resources where we share valuable insights, information, and industry updates keeping us connected and moving forward together. You will also find info on upcoming events, get a free download of the Underground Facility Locating and Marking Standard, and learn about becoming a CAPULC member or sponsor.



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# Looking at 20 years of damage prevention in the rear-view mirror

By Gordon Campbell, Technical Trainer, OO Evaluator, Aecon Utilities

**W**ith the ORCGA Damage Prevention Symposium now behind us, you can't help but feel the momentum of progress that these events inspire. During this year's symposium we celebrated 20 years of promoting our common goal: to reduce damages to underground infrastructure. As we have this opportunity to look back at ourselves over the last 20 years, we can celebrate the many achievements of countless individuals and corporations. As an organization whose goal is promoting efficient and effective damage prevention, I'm amazed at how far we've come in such a short period of time. It must have looked daunting back in 2003 when Jim Douglas and the other members applied to be the first chapter of the Common Ground Alliance (CGA) outside of the US. The founders envisioned an organization that would bring together all stakeholders in the industry to promote and share best practices and facilitate education and research. Today, representing approximately 500 members of Ontario's damage prevention industry, including municipalities, utility companies, construction, and safety organizations, the ORCGA remains the voice of utility infrastructure damage prevention. The ORCGA works with many different industry stakeholders, including local, provincial, and federal government, utilities, contractors, suppliers, and consultants, to promote public safety, protect the environment and minimize utility damages.

Since its inception, the ORCGA has grown to become a nationally recognized organization dedicated to the prevention of damages to underground infrastructure. The primary objective of the ORCGA is to raise utility damage prevention awareness by producing practical tools and services for use in the field, most notably, the CCGA Underground Infrastructure Damage Prevention Best Practices which describes industry best practices including safe excavation best practices around utilities. The first ORCGA Best Practices manual, largely adopted from the CGA, all the way up to the current version 4.0 of the now national CCGA Best Practice manual, has been blessed by the combined wisdom and contribution of so many dedicated individuals.

Through a unified approach and stakeholder consensus, this document is updated regularly and is the framework that, when adhered to, works to ensure the safety of the public and workers. The best practices in the manual represent a dynamic statement of the type of activities that the ORCGA believes would provide optimum levels of diligence towards preventing damage to underground infrastructure. The ORCGA has developed these Best Practices through the commitment and consensus of its members working together towards a safer Ontario. No other non-partisan source of recommendations exists in the marketplace.

Saying all that, we have a lot more to be proud of. Over the

last 20 years, under the leadership of the ORCGA, the focus on damage prevention of underground utilities has grown significantly. As technology has advanced in the name of safety, the ability to detect and prevent damage to utility infrastructure, such as power lines, gas, telecom, and water lines, has become incredibly important. So too has our reliance on these vital services. Underground infrastructure, everything from cable, line, pipe, conduit, or structure used to gather, store, or convey products or services beneath the ground surface, keep Ontario homes and businesses supplied with warmth, power, communications, computer data and water. Preservation of this infrastructure is paramount to the mission of the ORCGA. We rely on these services so much now that even a small interruption of services can have a huge impact on our lives and the lives of others. Back in 2018, the ORCGA and its members presented at the “Dig Safe – Construction Safety in the GTA” hosted by the City of Toronto in which each stakeholder gave a presentation about the costs of utility damages on the system and the risks to workers.

Damage prevention technology, such as utility location, aerial surveillance, and GPS based software, have become commonplace in many areas. Additionally, the use of software and digital mapping has made it easier to identify potential areas of vulnerability and assess the impact of potential damage. As a result, the amount of damage to utility infrastructure has been significantly reduced, and the safety of communities and the environment has been greatly improved.

One of the original motivations to form the ORCGA was to promote use of a One-call system through actively promoting “Call Before You Dig”. After 10 years of promoting Call Before You Dig for Ontarians, the dream suddenly came true as part of a bargaining chip for a minority government. In 2012 the Ontario government passed the OUIINS act creating the notification service we have today. The work didn’t stop there; in fact, you could say the pace of advocacy has not changed. With recent changes to the original act, the ORCGA still plays an important part in how these changes will affect the industry.

The ORCGA has also developed a number of educational and training programs. In 2007, the ORCGA introduced Damage Prevention Technician training for members. In an effort to fulfil its mandate of strengthening existing excavation processes and to prevent damage to underground infrastructure, the ORCGA provides and runs Damage Prevention Technician courses, designed to teach students on achieving competence in locating buried utilities, to understand the fundamental

principles of locating, to properly operate the equipment they are using, as well as to achieve an excellent grasp of the subtleties of locating the many and varied types of buried utilities. The aim was to improve the skill set of existing and new locators and set the bar for locators around the province. Today, after certifying nearly 2500 technicians across the province, a new challenge awaits. The industry, the government and the facility owners want a new measure of locator competency in order for one DPT to successfully locate all utilities on a job. Safe Excavation Training (SET), Tailboard Talks and other educational programs round out the offerings dedicated to safe excavation.

The ORCGA also collects vital data and performs analysis of the root causes of damage to underground infrastructure. Amongst the most exhaustive reports the ORCGA puts out is the DIRT Report, or Damage Information Reporting Tool Report. “The DIRT Report identifies the root causes of events and uses that information to prevent or reduce damage through public education, focused damage prevention programs and improved industry practices,” says Doug Lapp, President and CEO. The DIRT report can be a powerful ally in damage prevention planning. The data in the report is completely voluntary and therefore does not represent all damages that occur. It’s crucial that everyone who owns infrastructure makes the effort to report damages into DIRT so that we all can make better decisions on the direction of policy. The more complete the data, the better the decisions we can make about our direction.

Because of all this, the ORCGA and its members know that their efforts have made, and will continue to make, communities and infrastructure assets across Ontario safer. The ORCGA has always been committed to fostering collaboration, innovation, and best practice standards to ensure the safety of the public and the protection of underground utilities. As their vision statement says, make “Every Dig a Safe Dig”.

In closing, on this momentous occasion of the ORCGA’s 20th anniversary, I would like to congratulate the ORCGA, its members, staff, and countless volunteers for an amazing 20 years. I know I am joined by so many others in hoping that the ORCGA will continue to be a leader in the damage prevention industry for many more years to come and we wish them much success and continued growth in the future. On a personal note, I am immensely grateful to the ORCGA, its staff, its members, and non-members alike that I have had the privilege to collaborate and gain knowledge from. Your wisdom and expertise have been invaluable. ●



# CAPULC Advertising, Marketing, and Communications Committee Update

The CAPULC Advertising, Marketing, and Communications (AMC) Committee has been exceptionally active this year, spearheading a range of priority initiatives that contributed to our association's growth and industry presence. Amongst the most notable annual achievements of this committee is the invaluable contribution of our industry publication, *The Locator*. Now in its seventh year of production, *The Locator* remains a cornerstone, uniting industry stakeholders from across Canada and beyond. It offers not only a comprehensive overview of industry trends and technological advancements but also fosters a spirit of collaboration, bringing together diverse perspectives of the industry.

Beyond production of our prestigious industry publication, the committee is deeply committed to enhancing the benefits of CAPULC membership for our esteemed members. They actively identify and secure valuable perks and discounts to include in our Member Marketplace, ensuring these offerings are practically beneficial and readily available to CAPULC members across Canada. We maintain our unwavering dedication to our members and look forward continuously enhancing the many benefits of CAPULC membership.

The AMC Committee's commitment spans seamlessly to the digital landscape, where they continue to establish a vibrant and steadily expanding presence on LinkedIn, X, Facebook, and YouTube. Their goal is to continue building dynamic connections with our online community, fostering discussions, sharing industry insights, and keeping our members and stakeholders informed about the latest industry developments as well as important CAPULC initiatives.

Their dedication is further exemplified by their unwavering efforts to maintain current website content, ensuring that newly released information is readily available. Furthermore, AMC Committee members are determined to continually elevate the CAPULC website, transforming it into a dynamic hub for industry-related updates, news, and resources. The continued online growth of CAPULC allows us a broader presence while strengthening our position as a leading voice in the industry.

As we celebrate our successful showcase of CAPULC at two essential in-person industry events over the past year, we also acknowledge the disappointment caused by the cancellation of our in-person AGM and Safety Conference Tradeshow this past April. This setback has only fueled our unwavering resolve. We are dedicated fulfilling our imperative mission of facilitating an in-person 2024 AGM and Safety Conference Tradeshow in April 2024. Watch for the upcoming announcement with details of this much anticipated event.

As we conclude this year's review, the AMC Committee's multifaceted approach and their remarkable commitment are helping to pave the way for a brighter and more collaborative future in underground facility locating and damage prevention. We look forward to building on these achievements and further strengthening the voice of our members. Your active participation and continued collaboration are crucial to our continued success, and we eagerly look forward to the significant progress we will achieve together. ●





**Click**  
**Before**   
**You Dig**

**UTILITY**  
**SAFETY**  
PARTNERS

**Where's the LINE?**

# Education and Standards Annual Update

By Donald Richard, Committee Chair

This was a milestone year for CAPULC and the Education and Standards Committee with the release of the *Underground Facility Locating and Marking Standard (Version 1.0)* in January. Under the guidance of the CAPULC Board of Directors and with the unwavering support of CAPULC members, an Education and Standards subcommittee was established to work closely with an external consulting firm to develop a comprehensive standard for planning and conducting underground facility locating and marking in Canada.

The committee was composed of over 20 distinguished individuals from across the nation, each representing diverse stakeholder groups, including facility owners, locators, surveyors, education and training providers, equipment manufactures, and regional CGA partners. While it's impossible to list all committee members here, we extend our heartfelt gratitude to every one of them, with special recognition reserved for CAPULC's Chair, Jamie Andersen, and former Chair of the E&S Committee, Lance Norman, for their unwavering commitment to this noble endeavor. We must also acknowledge our other dedicated sub-committee members – Brad Armstrong, Tony Brunette, Richard Lamontagne, Brian Kidwell, and Craig McClintock – who played instrumental roles in liaising with Jiva Consulting and translating our vision into reality. Our sincere appreciation goes out to Jiva Consulting for their expert guidance throughout this process!

The purpose of this Standard is to provide locators with the necessary background and context regarding best practices for underground facility locating, beyond existing Canadian regulation. Its scope is limited to best practices for locating and marking underground infrastructure (e.g., electric

power, lighting, communication, and alarm cables; gas, oil, water, and sewer pipes). This Standard encompasses the entire process, from handling requests for underground facility locating to processing information, executing underground facility locating and marking work, and culminating in the thorough reporting guidelines for locators.

In its entirety, the Standard is built to include all steps of the underground facility locating and marking process – Receive Request for Line Locating and Marking, Plan Line Locating and Marking, Perform Line Locating and Marking, Create Documentation and Send Final Documentation. It covers precise terms and definitions, roles and responsibilities for both public and private locate requests, code of conduct, worker and site safety, environmental considerations, records management, personnel qualifications and certifications, types of underground infrastructure, locating equipment, facility marking, and incident reporting.

Looking ahead to future improvements and enhancements to the Standard, this coming year, our primary objective is to tackle the Continuous Improvement Log from the invaluable feedback we have received. We are exploring the potential for an in-depth examination of locator education, field training, and assessment requirements for ensuring locator competency.

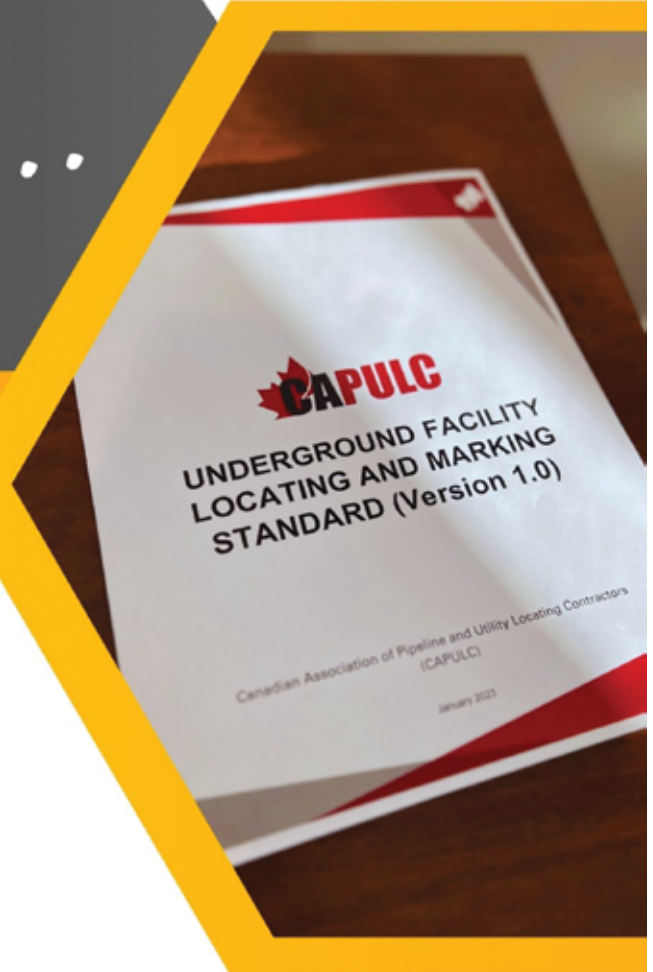
These strategic endeavors reflect our unwavering commitment to continued growth and advancement. They pave the path to a brighter and more promising future, where we eagerly embrace the challenges and opportunities ahead with unwavering resolve.

What a great year for CAPULC's Education and Standards Committee! ●



JUST  
RELEASED...

FEBRUARY 2023



## CAPULC National Underground Facility Locating & Marking Standard- Version 1.0

The purpose of this document is to provide underground facility locators with the necessary background and context, beyond existing regulation, regarding best practices for underground facility locating. It was written by the Locate Industry, for the Locate Industry. By design, it was not to be used instead of training, certification, regulation or Company specific practices; it should be used to complement them.



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# Working faster and smarter



By Celine Bourson, Marketing & Communication Advisor

Info-Excavation is proud to have been the unique one call center for locate requests for 31 years in Quebec and seven years in the Atlantic region. For all these years, our team has strived to be innovative in its technologies, processes, and initiatives to prevent damages and the associated risks.

## **INFO-UCN, THE ULTIMATE PLANNING PLATFORM**



Trouble-free work means planning. Good upstream coordination makes all the difference, which is why we have developed a free provincial platform (available in Quebec and the Atlantic regions) so that the various UCN stakeholders can work together to plan work in the public right-of-way and reduce the number of interventions.

## **LOCATE REQUEST TRANSFER: AN AGILE TOOL**

A new feature is now offered. It's possible for a general contractor, an engineering firm, a municipality, etc. to transfer its initial request and all relevant documents, such as the answers received from the owners, to a third party, another contractor, or a subcontractor.

This is to save valuable time. The contractor makes his own locate request and shares it with whomever he wants. Since answers from owners have already been received, it enables

everyone to start the excavation work faster. Consequently, neither the owner member nor the locator needs to process the request again. They can therefore focus their attention on new requests. This feature not only helps locators and the timeframes associated with locating, but also ensures that everyone working on the excavation site has a good knowledge of what's in the ground.

## **MAPPING OF UNIDENTIFIED UNDERGROUND NETWORK (UUN)**

Because of numerous unidentified networks and abandoned infrastructures in Quebec, as elsewhere, these elements don't always appear on the locate reports of the infrastructure owners and thus affect either the construction sites or the workers when discovered.

From now on, when an underground

unidentified network is discovered, contractors can place an UUN locate request via Info-Excavation's portal and mention many details such as pictures, description, colour, etc. These UUN requests will be sent to all members who own infrastructures in the city where this network has been discovered.

This process enables info-Excavation to create a new database and to inform future workers when excavation work is projected within the relevant area.

Our various initiatives have helped to reduce damages by 35 per cent in five years. We must continue to make the processes surrounding damage prevention simple and win-win.

To find out more about Info-Excavation, visit our website at [www.info-ex.com](http://www.info-ex.com). ●

**Our various initiatives have helped to reduce damages by 35 per cent in five years.**



# Travailler plus vite et plus intelligemment



By Celine Bourson, Conseillère marketing et communication

**I**nfo-Excavation est fière d'être l'unique centre de traitement des demandes de localisation depuis 31 ans au Québec et depuis Sept ans en Atlantique. Depuis toutes ces années, notre équipe s'efforce d'être novatrice dans ses technologies, processus et initiatives afin de prévenir les bris et les risques associés.

## **INFO-RTU, L'ULTIME PLATEFORME DE PLANIFICATION**

Des travaux sans embûche riment avec planification. Une bonne coordination en amont fait toute une différence, c'est pourquoi nous avons développé une plateforme gratuite provinciale (disponible au Québec et dans les régions de l'Atlantique) pour que les différents intervenants des RTU puissent se concerter pour planifier les travaux dans l'emprise publique et réduire ainsi le nombre d'interventions.

## **TRANSÉRABILITÉ DES DEMANDES : UN OUTIL AGILE**

Nous avons mis en place la possibilité pour un entrepreneur général, une firme d'ingénierie, une municipalité ou autres, de transférer sa demande de localisation originale ainsi que tous les documents et réponses reçus des propriétaires à une tierce personne, autre entrepreneur ou sous-traitant.

Ceci a pour but de sauver du précieux temps! L'entrepreneur fait sa propre demande de localisation et la partage à qui il le veut. Tous peuvent ainsi débiter

plus rapidement les travaux puisque le temps d'attente pour recevoir les réponses des membres est évité. Le membre et/ou le localisateur n'a pas à retraiter cette même demande et peut donc se concentrer sur les nouvelles demandes. Cette fonctionnalité permet non seulement d'aider les localisateurs et les délais associés aux localisations, mais également de s'assurer que toute personne œuvrant sur le chantier d'excavation ait une bonne connaissance de ce qui se trouve dans le sol.

## **CARTOGRAPHIE DU RÉSEAU NON IDENTIFIÉ**

Lesolquébécoiscommeailleurs est pourvu de nombreux réseaux non identifiés (RNI) et d'infrastructures abandonnées. Ces éléments n'apparaissent pas en tout temps sur les rapports de localisation des propriétaires d'infrastructures affectant ainsi les chantiers et les travailleurs lors de leurs découvertes durant l'excavation.

Dorénavant, lors d'une découverte d'un

réseau non identifié, les entrepreneurs sont invités à faire une demande de localisation de type RNI via le portail d'Info-Excavation et nous faire parvenir un maximum de détails : photos, description, couleur... Ces demandes de type RNI seront traitées rapidement et tous les membres propriétaires d'infrastructures présents sur le territoire de la ville où l'infrastructure a été découverte en seront informés.

Ce processus permet à Info-Excavation de créer une nouvelle cartographie de ces réseaux et de pouvoir en informer les futurs travailleurs dans les secteurs concernés.

L'ensemble de nos différentes initiatives ont permis de réduire les bris de 35 pour cent en Cinq ans. Nous nous devons de continuer de rendre les processus entourant la prévention des dommages simples et gagnants pour tous.

Pour en savoir davantage sur Info-Excavation, consultez notre site web au [www.info-ex.com](http://www.info-ex.com). ●



# SCGA, SaskEnergy and Regina Bypass employees provide hands-on learning for high school students

By Ashley Martin, SaskEnergy

WorkSafe/Try a Career Days in Balgonie.



Thousands of high school students had the chance to learn from SaskEnergy employees about safe digging and damage prevention at two job fairs in Moose Jaw and Balgonie in the spring.

SaskEnergy attended the Regina District Industry Education Council's WorkSafe/Try a Career Days through a partnership with the Saskatchewan Common Ground Alliance (SCGA), a member-driven non-profit organization that shares SaskEnergy's commitment to public safety and damage prevention.

"SaskEnergy is a good sponsor and member of the SCGA, and this was a great opportunity to display what goes

on in line locating and showing the damaged pipe in the ground that can be caused by simple shovel activity," says SCGA Executive Director Shannon Doka.

"One of the SCGA's key initiatives is to get in front of the youth of our province to be sure that they're aware of careers in the industry, as well as making them aware of the importance of safe digging — so we can change that behaviour over time and reduce future damage to buried infrastructure. We appreciate the time the SaskEnergy and Regina Bypass employees gave to talk safe digging to the next generation."

SaskEnergy is Saskatchewan's natural gas distribution company and has

underground infrastructure spanning more than 87,000 kilometres across the province. In addition to maintaining robust system integrity programs, SaskEnergy's commitment to personal and public safety is realized through Saskatchewan residents who are reminded of safe digging practices through our public education and awareness initiatives.

The more than 3,500 students who visited the Balgonie Multiplex over three days in May had the chance to do a gas line locate, and to learn how gas meters function.

"Some students were very interested in the gas line locating equipment. I even had one student say, 'This is very cool;

Students in Moose Jaw learn the tricks of the trade.

it's like a stud finder for underground," says SaskEnergy Utility Operator Michael Ruf. "Some of the students had great awareness about safe digging and talked about their experiences at home when their parents called in for locates."

Meanwhile, other students had an eye-opening experience.

"When we started talking about line hits, as soon as you start showing them the damaged pipe we had with us, their eyes got pretty big," says SaskEnergy Service Technician Mike Korchinski. "They didn't realize how long it takes for us to fix some of these line hits — some of them can take days."

These same lessons were imparted in Moose Jaw on May 3 at an event attended by approximately 600 students from Prairie South School Division.

In addition to gaining safety information,



students at the two events learned about the diverse work environment SaskEnergy offers.

"Lots of them were asking how many different positions we had — we've got everything," says Mike.

As a company with more than

1,100 employees, SaskEnergy offers challenging career opportunities for people from various backgrounds and disciplines.

To find out more about the SCGA and its Youth Learning Program go to [www.scga.ca/en/youth-learning/](http://www.scga.ca/en/youth-learning/). ●

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**CAPULC**

# TECHNOLOGY CORNER



As part of our duties on the Advertising, Marketing and Communication Committee, we have conversations with suppliers to make sure our members are getting the most up-to-date information.

Emily Gamble approached FUJI TECOM in Calgary and spoke with Vice President Matthew Hamilton. During their conversation, he was happy to announce that while FUJI is no longer producing PL960s, they have agreed to send out a limited supply order sometime in October. He was unsure of the exact amount that will

be sent; however, many of our Private Locate Members will be very happy to hear this! Those customers looking for PL960s will still have an opportunity to purchase. ●

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# LOCATING STANDARDS: What is the difference between CAPULC's and Utility Safety partners'?

By Mike Sullivan, President, Utility Safety Partners,  
and Jamie Andersen, President, CAPULC



Over the past decade, advancements in technology and mapping have improved the way locate requests are submitted to One-Call/Notification Centres. Today – and like so many other services that have migrated to an online interface – the vast majority of locate requests in Canada are submitted via the web. The process isn't only convenient, but it also reduces damage to underground facilities.

At the same time, there have been advancements that are reducing the number of notifications to facility owners. Yet, despite reduced notifications, energy and utility owners continue to struggle to maintain legislated or best practice response times to carry out the locating and marking process. Compounding the struggle is the seasonal nature of construction in Alberta forcing most digging activity into a seven-month window.

Once an underground facility owner is notified of a ground disturbance in the vicinity of their underground assets, the locate request is triaged to confirm whether a locate is required or if a site-meeting or additional documentation, such as a proximity or crossing agreement, is required. In some cases, the proposed ground disturbance can proceed without a locate, but with those improvements in mapping, those instances are diminishing.

The challenge of locating within Utility Safety Partner (USP) timelines that were designed to ensure safety while keeping pace with construction schedules just isn't working anymore for those common utilities appearing on most One-Call tickets no matter how many resources are applied. And so, two years ago, a USP Task Force was assembled to determine the root cause and investigate options that would alleviate the strain on the damage prevention process while also providing qualified options to the excavation community.

The Task Force gathered representatives from those utilities that receive the most notifications – ATCO, TELUS, FortisAlberta, EPCOR, ENMAX, the City of Calgary, the City of Edmonton and APEX Utilities – commonly referred to as “the consortium” members.

The consortium members have long utilized a single locator model to effectively manage the locating and marking process. Since these particular consortium members appear simultaneously on most One-Call tickets, dispatching one locator to locate and mark all consortium underground facilities rather than dispatching multiple locators was efficient and smart. But ongoing challenges to the locating and marking process, including inclement weather, more buried infrastructure, and a demand that exceeds supply, are resulting in locate delays, frustrated excavators, frustrated locators, and risks to public, worker and community safety.

As the Task Force investigated the problem, it realized that its contracts with locate service providers had created an artificial bottleneck that unintentionally eliminated locator capacity due to the size and requirements of their regional contracts. Looking beyond Alberta for a solution, the Task Force researched how its sister utilities in British Columbia were located and marked and looked abroad to the locating and marking process as far away as Australia and New Zealand.

In BC, locating and marking distribution gas, electric, telecom, etc. is the responsibility of the excavator who are provided with documentation indicating the approximate location of those buried assets. In Australia and New Zealand, it's the same. In fact, locating and marking has always been the responsibility of the digging community in Australia – but it wasn't until recently that locators must be certified to do so.

As the USP Task Force moved toward a solution, it determined a process like Australia's was necessary to eliminate the locator

bottleneck in Alberta. It would develop a Locating and Marking Standard specifically and only for these consortium members with common distribution utilities in a process mirroring the Ground Disturbance 201 Standard managed by USP's Training Standards Committee.

The 101 and 201 Ground Disturbance Standards were developed by subject matter experts and are provided to training organizations upon request. The training organizations develop training programs in relation to USP Standards and submit them to USP for a three-stage audit. If a training provider's training program passes an audit, it receives certification and permission from USP to promote its training program.

The USP Locating and Marking Standard will essentially work the exact same way – but only for these common utilities/consortium members noted above that appear on most One-Call tickets. Eventually, though, the intention is to add other utility owners as the process evolves and matures creating a sustainable solution for the damage prevention process in Alberta.

Once locators have been trained and certified against USP's Locating and Marking Standard, the Alternate Locate Provider program will allow the digging community to choose between the traditional method of locating buried utilities or the Alternate Locate Provider – a retail model where the excavator assumes the cost of locating performed by a certified locator. The retail model has been socialized with, and is widely anticipated by, key members of Alberta's digging community and it has been tested in pilot programs with positive results.

### **SO HOW DO THESE LOCATING AND MARKING STANDARDS DIFFER FROM CAPULC'S?**

#### **THE ANSWER: THE INTENT OF THE DOCUMENT AND THE AUDIENCE FOR WHICH IT IS DESIGNED.**

Developing Standards has been a challenge that CAPULC has attempted to master since its inception in 2001. After being met with many roadblocks throughout the years, on April 13, 2021, CAPULC Co-hosted a meeting with USP to discuss a pathway for Alberta; ultimately, we all had the same goal. CAPULC's dilemma was that the locating industry has multiple levels of competencies and variations in job scopes throughout the Canadian provinces. USP's interests have focused specifically on the consortium member utility's, so ultimately USP and CAPULC had the same plan but with slightly different application. In 2022, CAPULC focused on delivering a National Underground Facility Locating and Marking Standard that

applied to their entire Canadian membership while USP simultaneously concentrated on a provincial solution for the consortium member's needs.

### **CAPULC'S NATIONAL UNDERGROUND FACILITY LOCATING AND MARKING STANDARDS WERE DEVELOPED FOR ALL CLASSIFICATIONS OF LOCATORS, WHETHER THEY ARE WORKING IN THE PUBLIC OR PRIVATE SECTORS ACROSS CANADA.**

CAPULC resourced their Education and Standards (E&S) Committee, who collaborated with Jiva School of Energy, an independent consulting and educational organization, to begin the process. Jiva has significant experience in effective knowledge transfer for deeply technical topics to support competency in the energy industry. While they could focus on crafting a document, CAPULC's E&S Committee certainly housed numerous subject matter experts, from across industry and specifically across Canada to assist with content. It represented various stakeholder groups (locators, surveyors, facility owners, educational and training providers, municipalities, and sister associations) throughout the provinces to make this combination of talent successful in developing a set of standards that would set the tone for advancement and growth in our industry.

Over the course of a year, with assistance from Jiva, the CAPULC Board of Directors oversaw a rigorous process that included extensive research and intense peer review before formally accepting and publishing the standard. This achievement marks the culmination of many years of effort by CAPULC members and represents the first document of its kind in Canada.

CAPULC's document needed to focus on the steps involved in the locating process and the information required to execute those steps.

The purpose of this document is to provide the underground facility locators with the necessary background and context, beyond existing regulation, regarding best practices for underground facility locating. Although generic, the foundational information included: Roles – public (One-Call response on behalf of facility owners) or private (hired directly by ground disturbers); Code of conduct – ethically, professionally; Worker and site safety considerations; Compliance with environmental considerations; Records management and maintenance; Qualifications and certifications to achieve competency – theory, skills, experience, behavior, and assessment; Underground facility infrastructure under their responsibility; Locating equipment – types, use, methods – advantages and limitations,

# LOCATE PROCESS AND LOCATOR RESPONSIBILITIES



calibration; Facility marking – APWA colour code and marking guidelines, electronic markers; and Incident reporting – reasons and corrective actions, DIRT.

In addition to being critical to safeguarding underground facilities from accidental damage, the standard is of particular importance to the industry as it provides a consistent framework for gaining efficiencies through standardization which can help attract, retain, and develop talent. By design, it distills a complex process into a clear guide for industry professionals as well as training facilities. It attempts to raise the bar and advance locator's knowledge of what is expected throughout the locate process.

The full intent for CAPULC's National Underground Facility Locating and Marking Standards was not to be used instead of training, certification, regulation, or company-specific practices; it should be used to complement them. Therefore, the product that USP's Task Force was intending to design would meet their needs and, in theory, should still align with the document that CAPULC's E&S Committee was going to provide. CAPULC's National Underground Facility Locating and Marking Standard was provided to USP Task Force, and we hope that they found it useful. We encourage training facilitators to use this tool to enhance and advance their programs. In the meantime, we invite training providers and/or facilitators to participate on the E&S Committee or at least to provide feedback to assist us in further development.

CAPULC's National Underground Facility Locating and Marking Standards was built by industry and will continue to advance with the help of industry. Our Continuous Improvement Log

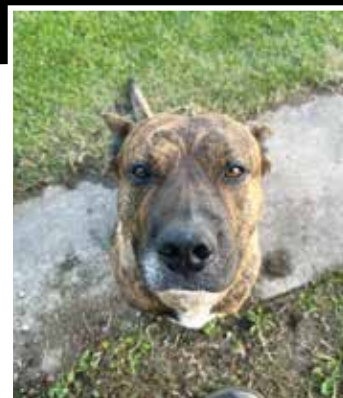
was completed during the initial round of development and has grown with the excellent feedback received. Therefore, this tool will be instrumental in the advancement of this important document. It's a giant step forward as CAPULC fulfills their Mission Statement and Goals. ●

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# LOCATOR STORIES

## *from the field*



### FUJI VS. SINKHOLE

The Saskatchewan-Manitoba border. 2014. It was a muddy and challenging job for a locating crew. Geared up in their hip waders, they ventured into the aquadam to locate pipelines and sweep – to the best of their ability, in a literal sense. All was seemingly going well, for the most part. Suddenly, the locator lost her footing over one of the pipelines. A sinkhole had formed. Desperately, she yelled “GRAB THE FUJI!” to the other crew member. He did, as he seemingly watched her head down toward the mud and abyss. In a stroke of luck, she fell on her back. Desperately, she lay over the hole, squirming. Pipeliners dove in to help at the blood curdling yell and pulled her up to safety. Applause thundered throughout the worksite as she stood up, and the Fuji was safe. The tallest pipeliner, 6’5, a broad young man from Ontario, decided to jump in feet first to test the hole. It landed at his shoulders. It’s safe to say that the 5’7, 110 lb locator could have been vamoose. This locate crew revels in the memory to this day.

– Emily Gamble, Alberta & Kevin Volk, Manitoba

### ZEUS

Over the past couple years, I’ve been doing some pretty extensive locating projects in an area with a high population of stray dogs. I carry dog spray and always try to stay a reasonable distance from my vehicle when working in this area. One day while out locating, I met the friendliest pit bull, and this dog just spent the day hanging out with me while I located lines. I was quite happy to have the company. I even gave the dog half of my roast beef sandwich at lunchtime. At one point during the day, I was walking along and noticed a couple of other dogs approaching us. The dogs’ attitude quickly changed from happy to fully alert. He put himself between me and the approaching dogs, and when they got too close, he became aggressive toward the newcomers and chased them off. Once they were away, he was back to his normal, happy self. Since this was a large, ongoing project, this kept happening. I would arrive, this dog would find me and spend the entire day with me. I started packing an extra sandwich when I had to work here so I could give it to him. After a while, I finally had to work at the house where this dog lived, and his owners told me his name was Zeus. It’s currently at the point where I can read Zeus’s body language. When he’s happy and carefree, I know all is well. As soon as I see him switch to “alert” mode, I know I need to be on the lookout (and he knows something is up a long time before I do). I’ve told a few coworkers about this, and I don’t think they believe me until they actually see it.

– Alberta

### JUST DOING AS WE ARE TOLD

One of my favorites was a few years ago in Sylvan. A homeowner called in a ticket for a fence. Somehow, I assume through the Town of Sylvan, he got my number and called to ask for a favor. He was hoping I could do the locate between a certain period (10 a.m. to 2 p.m.). When I arrived, he explained that this was because his neighbour would be at work until 5, and he needed ample time to get his fence up before they got home.

He went on to explain that he had gotten his property line surveyed, and as he suspected, his neighbor was encroaching onto his property by a few inches with their sidewalk. He planned to rent a bobcat in the morning, remove their entire sidewalk, and put up his fence all in one fell swoop before the neighbors came home.

It was all made better by his “hush-hush” demeanor when I was there locating. I, unfortunately, never made it back to see how it all panned out.

– Alberta



Things seem a bit screwy here.

**PIGGY IN THE...YARD?!**

On a warm summer day, two line locators were locating utilities in a rural area. House to house, line to line, they were humming along. One locator hopped over a fence as they were making their way up to a house. The locator paused as a sound was heard. Grunting, snorting, snoring?! After looking around for a few long seconds, the locator jumped at the sight. There was a pig, in the corner of an animal shelter in the yard, not 30 metres from the house. The animal seemed content as it peacefully slept. Slowly, the locators backed away. In our line of work, anything can pop up at any time. Even a potentially dangerous pig in a yard. It is always prudent to be aware of your surroundings – at all times.



**THE BATTERY – A WARNING TO ALL LOCATORS IN THE WINTER MONTHS  
(AND NOT THE TYPE OF BATTERY THE OILFIELD IS THINKING OF...)**

It was summer truck maintenance time for a line locator. Oddly enough, the air conditioning of the locator's truck wasn't working on one side. The actuator must be kaput, the locator and the dealership thought. If only both knew how wrong they were. After careful inspection, the dealership determined the issue was not, in fact, the actuator. They phoned the locator.

"It's not the actuator – there's something stuck behind the dash. We're going to have to take the dash off to get it out," they said. With a heavy sigh, the locator knew right away what the issue was.

"It's a battery. It's a double-A battery stuck behind the dash," responded the locator.

After 10 hours of labour later, the battery was out. Needless to say, this is a future warning to all locators when warming up batteries in the truck during the winter months. Don't lose one in the vents! One locator has paid for it (literally!) as a warning to others. ●



End of the workday.



You can put in many regular one-call tickets...OR use the project button.



Looks like we are in deep.



Good morning, my friends!

# The need for certification

By Gordon Campbell, Technical Trainer, OQ Evaluator, Aecon Utilities

The concept of a Dedicated Locator has gained traction over the past couple of years, highlighting the need for certification to differentiate a specialty or skilled locator from a traditional utility locator. We need to be sure to identify the safety and knowledge requirements of such a designation while also ensuring that any certification process meets industry recognized standards for damage prevention. My concern is we need to proceed cautiously as we navigate the industry's demand for change.

Each year when the DIRT report is released, I devote the most time to studying the location statistics, particularly the root causes for locator errors. Although more root causes were added recently, the insufficient details of each accident make them vulnerable to generalization. I'm concerned that the prescribed fix of additional training does not address the nuances behind the different root causes. Although more training is essential, I believe this alone may not be the most effective way to move the needle.

As a trainer myself, I understand that training is an integral part of a locator's career path. I also believe continuing education is a lifelong pursuit. But bringing all locators in and retraining them is inefficient and ineffective, not to mention the lack of ROI to the company. Most locators out there are highly qualified and capable of doing their jobs.

This is where certification comes in. Locator certification recognizes locating as a skill as well as a respected trade. Certification provides a direction for learning. It provides the foundational knowledge used to gain more experience. Earning certifications is

always beneficial and recommended as many employers view them as a sign of commitment to the profession. Studies in other industries also show that employees who invest in certifications tend to earn higher salaries.

Obtaining certification offers numerous advantages, such as validation of your knowledge and skill, improved marketability and earning potential, increased job success, and improved reputation and respect within the industry. Certification can also enhance credibility, boost confidence, and elevate self-esteem. Certification is essential for the advancement of a locator's career and the success of the organization.

Certification is also an effective business strategy. Hiring and training new candidates is costly and risky. Providing career advancement and certifications boosts employee retention through a feeling of value and proves you are committed to their development as a locator.

In a hyper-competitive business ecosystem, grabbing the attention of top talent and hiring them is challenging. Both large and small LSPs are facing a talent shortage. By providing regular career development opportunities and professional certifications, you make your company more attractive to locators or those looking to get a start in the industry.

We all know locators work long hours under tough conditions. By providing locators with improved training and certification opportunities, you boost their engagement and satisfaction. Job satisfaction leads to an overall increase in performance on the job. According to an unrelated study, employees with certifications were 90 per

cent more productive and 60 per cent more efficient than those without certifications. Statistics also show around 75 per cent of employees expect opportunities for career growth from their employer.

Digital transformation is no longer optional in this era of cutting-edge location technologies such as GPR tied with advanced GIS. To maximize its potential and achieve operational efficiency, it's essential to build an agile workplace culture. Adding professional certifications goes a long way to building an agile company culture. Investing in continuous learning equips locators with the skills and knowledge to stay up to date with the latest trends and gain a competitive advantage.

The biggest advantage certifications offer to both businesses and locators is reducing the probability of locate errors and mitigating the risk associated with them. Investing in advanced locator training and professional certifications can help identify any internal weaknesses or potential performance gaps and encourage adherence to industry-standard procedures such as those identified in CSA Z247, CCGA Best Practices or the recently released Locating and Marking Standard championed by CAPULC. This in turn can help employees identify and address gaps in workplace processes and helps them more effectively meet customer needs.

Furthermore, by providing locators with the right learning pathway and the best certifications, business owners can better promote trust in the operation and further instill confidence in the work ethic of their staff. This in turn should give the business increased confidence and lower potential risk, letting them sleep better at night. ●

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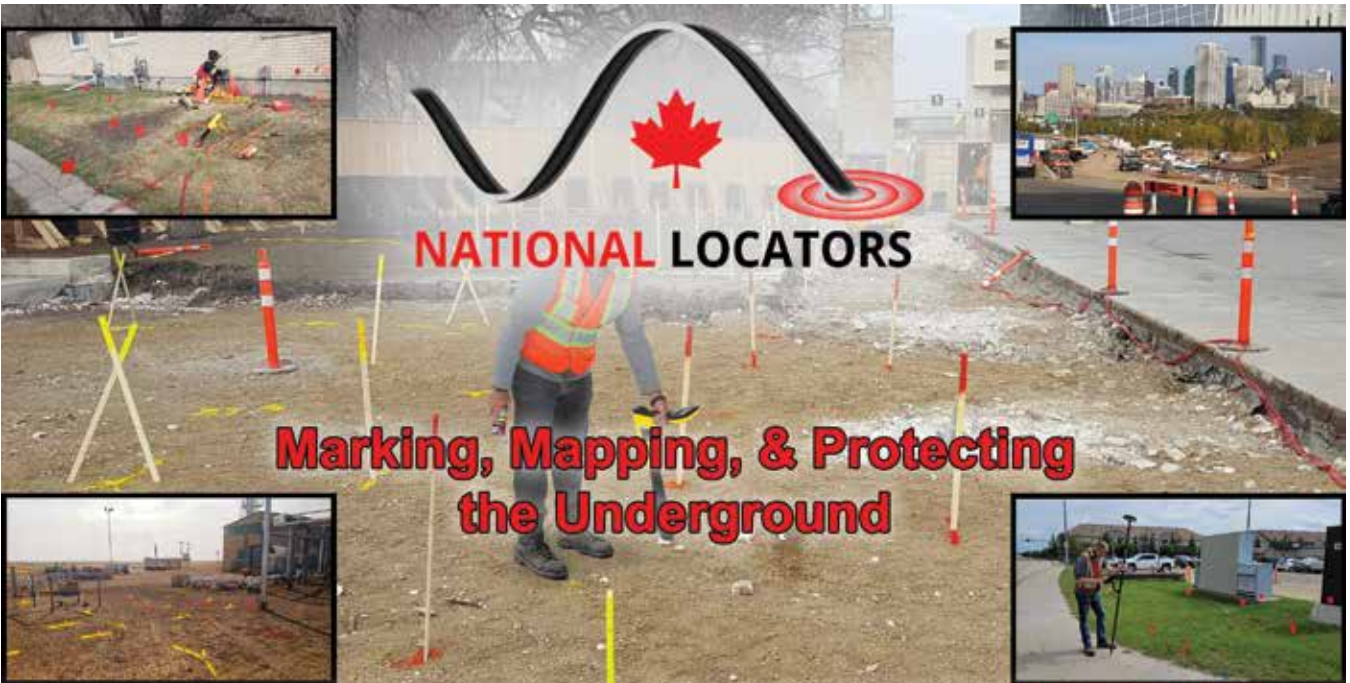


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# Advancements in electromagnetic locators and GPS mapping

By Jeremy Long, Canadian Sales Manager, Vivax Metrotech Canada

For years, we have demonstrated to plant owners that pairing your locate gear with a GPS device is a beneficial way to collect data. Whether to update records or create new ones, pairing with the available information such as signal strength (mA) and depth brings further confidence in the accuracy of those points.

However, there were often roadblocks when it came to how the data was transmitted back to the mapping groups or with the accuracy of the GPS device.

With the evolution of apps and cloud software, the concern of data transfer was quickly solved. That just left the GPS accuracy, as many devices with two-centimetre accuracy were pole-mounted RTK devices, and the user had to carry around a bulky unit, which made locating at the same time a challenge.

With the advancement of technology in devices, we have come up with an all-in-one EM locator and RTK GNSS receiver that also has cellular access to the cloud for data transmission. This unit is called the Vivax-Metrotech vLoc3 RTK-Pro. Many large companies have found this a very useful tool for quickly capturing data on their legacy and newly built plant. It's



also very useful as a depth-of-cover tool with which pipeline companies have had great success.

We are quickly seeing our industry adapt to this new technology that furthers our goal of damage prevention. ●







# Coming Soon

# ANNUAL GENERAL MEETING

*"A place to reconnect  
and be a voice for the  
locating industry."*



## Topics:

- ✓ CAPULC's 2024 Goals
- ✓ Updated Membership Benefits
- ✓ Changes to One Call Systems and how they affect locates?
- ✓ CAPULC National Underground Facility Locating & Marking Standards- **Next steps**

## Who will be there:

- ✓ Key Speakers
- ✓ Suppliers/Stakeholders
- ✓ Membership including Board of Directors



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# The safety behind the Canada energy regulator's prescribed area

By Shannon Neufeld, Technical Leader, Damage Prevention, Canada Energy Regulator

The prescribed area (a.k.a. the safety zone) is the 30-metre expanse of land measured on both sides of a pipeline from the centreline of the pipe, and it includes the right-of-way. It's an area where extra precaution, communication, and consent from the pipeline company is required for some activities.

When the Pipeline Safety Act became law in 2016, it gave the CER (National Energy Board at the time) the authority to "prescribe an area" in which consent from pipeline companies was required for certain activities; hence the "prescribed area". What a lot of people don't realize is that between 1988 and 2016, the same requirements existed in what was called the "Safety Zone". The Safety Zone was larger than the prescribed area, and the requirements were a little more restrictive.

The reason we have a prescribed area, or safety zone, stems from an incident in 1985 when a contractor installing drain tile at a farm in Ontario hit a federally regulated natural gas pipeline. There was a fatality and several serious injuries because of that pipeline damage. The National Energy Board Pipeline Crossing Regulations Parts I & II (PCRs) came from the recommendations stemming from the investigation of that incident and came into force in 1988.

When the regulations were updated to the Pipeline Damage Prevention Regulations – Authorizations (DPR-A) and Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies (DPR-O), we did a few things – we changed the name of the regulations

to more accurately reflect the intent of the regulations; we provided a definition for "ground disturbance" in the CER Act; and we shrunk the prescribed area so that it is measured from the centreline of the pipe rather than the edge of the right-of-way (ROW). Before 2016, the safety zone was measured 30 metres from the outside edges of the ROW, so the area was larger and varied in size, depending on the size of the ROW. We harmonized the prescribed area with the provincial requirements to simplify things for contractors and landowners.

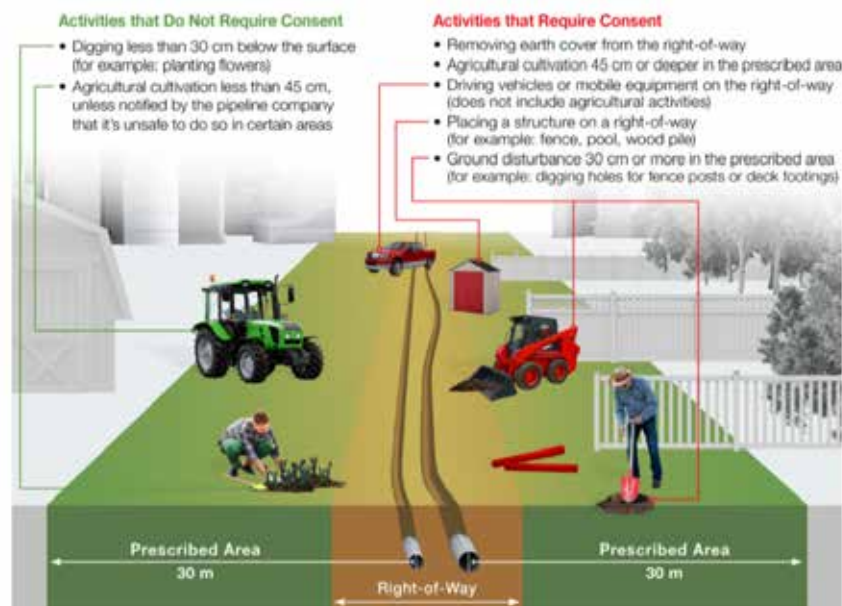
The goal of the CER Pipeline Damage Prevention Regulations is to ensure communication between people living and working near pipelines and the pipeline company so that activities can be done safely. Inadequate communication between ground disturbers and infra-

structure owners is a leading cause of damage to underground pipes and cables.

When a pipeline company receives a request for consent for an activity in the prescribed area, they are required to inform the person who made the request whether the consent has been granted or refused, and they must do so within 10 working days after receiving the request. In the case of a refusal, the pipeline company must provide you the reasons for the refusal; and the reasons for refusal must be based on safety factors.

Before you start your approved project, the pipeline company is obligated to locate and mark the pipe and give you the information you need to do your project safely.

Below are a few examples of activities:



For more information of damage prevention and the prescribed area, please visit the updated Damage Prevention pages on the CER website. There are links to our publications and other damage prevention resources. ●

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The logo for LMI (Locate Management Institute), featuring the letters 'LMI' in large, blue, 3D block letters. Below it, the text 'LOCATE MANAGEMENT INSTITUTE' is written in a smaller, blue, sans-serif font.

## Online Education, Field Training & Assessment

Two workers in safety gear are working on a utility pole. One worker is kneeling on the grass, wearing an orange safety vest and a grey cap, and is using a handheld electronic device to inspect the base of the pole. The other worker is kneeling next to them, wearing a blue safety suit and a blue cap, and is also using a handheld electronic device. A blue toolbox and a blue container are on the grass in the foreground.

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# How deep is that pipeline?

By Shannon Neufeld, Technical Leader, Damage Prevention, Canada Energy Regulator

People may wonder how deep the pipelines on their property are buried underground, or they may assume that the pipe is several feet underground. The honest answer is that you can't make any assumptions about the depth of the pipe – even if you watched them put it in the ground when they built it.

Over the years, the depth of cover over the pipe changes due to many different factors:

- Compaction over time;
- Activities over the pipe;
- Cultivation or maintenance of land over the pipe;
- Environmental erosion due to wind and spring run-off;
- Natural disasters such as floods, fires, and mudslides;
- Building berms or roads;
- Landscaping;

- Recontouring land for drainage;
- Soil or sod removal.

These are some of the kinds of events that can lead to loss of cover over the pipe and some of the things that can add cover over the pipe too.

The CER recently issued Safety Advisory SA-01-2022 Depth of Cover and Agricultural Activities, which outlines several clauses in the Damage Prevention Regulations (DPRs) and the Onshore Pipeline Regulations (OPR) that require companies to ensure there's adequate cover over the pipeline so you can undertake agricultural activities safely.

Because the pipeline is on your land, companies have a big responsibility for damage prevention; but the landowners, land users, contractors and their employees also have a share of the responsibility. Anytime you build something new on or near the pipeline right-of-way, you have to talk to the pipeline company to get the information from them on how it can be done safely with respect to the pipeline. There may be times when the pipeline company may tell you that your plans can't be completed as submitted because doing so will jeopardize your safety and that of the pipeline; work with them to figure out what will be safe.

Even if you aren't building anything new, you can be proactive and let the company know that your ongoing maintenance activities may reduce the depth of cover, or maybe you just aren't sure what has taken place over the years before you owned or worked on the property; the company can send someone out to check on it. They may not tell you the exact depth, but they can tell you whether the cover is adequate, and federally regulated companies are required to identify any specific locations where the depth of cover is inadequate.

And, as always, remember that there are millions of kilometres of buried lines in this country that keep us warm, connected, watered and lit. Before you start any ground disturbance work, make sure you contact your provincial one-call centre to have the buried pipes, cables, and wires located. You can reach any one call centre in Canada at [www.clickbeforeyoudig.com](http://www.clickbeforeyoudig.com). For more information on Damage Prevention at the CER, visit <https://www.cer-rec.gc.ca/en/safety-environment/damage-prevention/index.html>. ●

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# Mobile device apps are changing how utility professionals visualize the subsurface

By Matthew J. Wolf, President, ImpulseRadar USA, Inc.

It's only a matter of time that several technologies eventually intersect at a crossroad whereby integration of these technologies collectively evolve as a powerful tool. For the utility locate professional, accurate and accessible subsurface information is the most important component of the profession. A quality deliverable is the important first step to a successful construction project minimizing delays and safety hazards for all stakeholders. Several technologies met at this crossroad over the last decade and are

now providing information heretofore that was compartmentalized on an office server miles away from the project site. Subsurface utility data was relegated as all relevant site data historically to printed drawings or at the very minimum marks on the ground. As any field person can attest, it's not always easy to handle these documents in field conditions, and updates to the information was out of the question!

Not long ago, precision GPS technology seemed out of reach for the average

user and was generally used exclusively by licensed survey professionals for traditional stake out and boundary-type survey activity. These functions remain important and necessary staples for the professional surveyor, but the technology is now integrated into a myriad of platforms integral to building a "digital twin" of our world, including the subsurface.

Cost and complexity over time (both substantially reduced) facilitated integration of GPS in a host of devices. Important to the construction industry is the seamless integration of RTK GPS into GPR (Figure, 1) and EM locator technology. This also includes drones for aerial photogrammetry and LiDAR imagery, as well as land-based hand-held cameras. The capacity to map the world has flourished and is changing how we look at the world above and below ground. The concept of the digital twin is now universal for both spheres. RTK GPS systems with precision of less than a couple of centimetres can be purchased from several manufacturers for less than \$7,000 CDN – in some instances, even much less than that catch-all figure. Not only is cost a factor for more integration but also the ease of use of these systems and workflows are clearly superior than systems just a few years ago. Several of the RTK GPS systems are operated from a mobile device (either Android or iOS) as an app, and developers adopted the



Figure 1. ImpulseRadar PinPointR GPR system configured with Emlid RTK Base and Rover.

app culture approach of clever intuitive workflows on these devices. The beauty of the app is it can be updated regularly online, with new features and any bug fixes that are endemic in software.

RTK GPS system integration with GPR systems today is essentially standard. Electromagnetic locators, such as the Vivax-Metrotech's vLoc3 RTK-Pro™ and Radiodetection's Catalyst RTK™, also integrate RTK but it's not as prevalent in that industry as with GPR. This is an important step to getting precision utility information from the subsurface into a platform that hosts other precision data. A utility locate professional can now upload their mark outs from both GPR and EM locators directly to the next crossroad-cloud based GIS type mapping platforms in real time. This also includes geotagging photos taken with the mobile device for additional valuable information of the work area. Figure 2 is an example of a precision field map generated in the field in real time from a GPR system.

Most users of the GPR generated utility

location information as depicted in figure 2 export these marks as KMZ, CSV, or other format into Google Earth or GIS platform to an office server. These data points are then included into a base drawing, or field sketch at a single repository at a unique office location. Access to these data is relegated to a printed drawing, or at best a PDF or some other screen capture. Getting this information in the hands of field personnel was cumbersome and certainly not accessible on demand. Mobile software apps are now available to upload marked utility information in real time to cloud based servers to produce a utility map immediately (Figure, 3 PointMan from Prostar Geo). Most of these mobile apps seamlessly and automatically accommodate not only GPR systems and EM locator data, but a host of other data layers.

Figure 3 is an example of data visualized on a mobile device by any field persons utilizing the app. Circling back to RTK GPS, it's now feasible to connect a low-cost RTK GPS system directly to the same

smart phone. This means one can walk the site with a moving map of the digital representation of the underground.

To take it a step further, the American Society of Civil Engineers (ASCE) 38-22 Standard Guideline for Investigating and Documenting Existing Utilities incorporates GPR Multi-Channel Arrays (MCGPR) in the revised and updated standard for 3D subsurface deliverables. MCGPR imagery such as OspreyView from ImpulseRadar can now be imported into Esri ArcGIS® Field Maps. Coupling an RTK GPS system to a smart phone with Field Maps allows the field locate techs, survey team, or the engineers on the project to walk the site with mere centimetres' precision of any layer of data from record drawing research

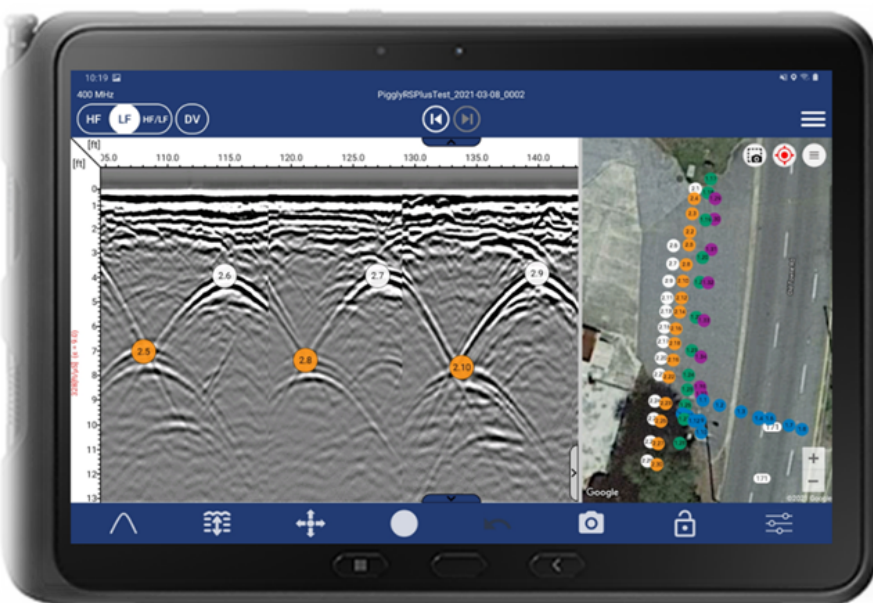


Figure 2. Screen shot of PinPointR GPR ViewPoint app. Utility targets marked with RTK GPS in real time.



Figure 3. Screen shot of PointMan mobile field app depicting utility information at jobsite.

(OLD) to OLB EM or other geophysical tools used to compile a drawing of detected or suspected underground utilities. This is powerful in that MCGPR data often detects unknowns and these can literally be walked over with the mobile device and perhaps visual information in the field or supporting data from other SUE (Subsurface Utility Engineering) activities can turn and unknown into a known segment. The app can import other data layers such as CAD, drone imagery, LiDAR data, and many more georeferenced data. Figure 4 is an OspreyView image of utilities on a project site with imported KMZ markers from a 2D GPR and/or an EM locator. The blue dot represents the location of the person walking the site with a centimetre or less precision.

Most apps have metadata embedded

with relevant data details regarding each underground facility and are accessible by simply selecting the utility on the screen. It's very important to note that the quality of the depiction of the underground facilities is only as good as the quality of the original source and potentially later manipulate the data. Important information that must be logged is a chain of custody of the data (e.g., who collected, how the data was collected, GPR, EM, record search, precision of the GPS or other positioning system at the time of data collection, to name a few). Most states also require an engineer or professional land surveyor in Responsible Charge to oversee data collection for scaled precision drawings.


In addition, following the SUE standard for quality levels is important. For example, Quality Level B (typically GPR

or and EM locator data) may include an electronic depth, and it's imperative the user of the information know the limitations of these figures. Under the standard, at the critical crossings of a proposed installation of a new underground facility, Quality Level A test hole information is normally necessary.

The intersection of vastly different technologies and their eventual integration can be unpredictable at times but eventually demand for more and better information leads to these integrations. These tech advancements are tools to help reduce conflicts pre-design, as well as guide OLA test hole investigations, reducing the number of test holes in many instances and, in turn, resulting in even more cost savings on a project. ●



Figure 4. Screen shot of ArcGIS® Field Maps with MCGPR Raptor OspreyView image and 2DGPR/EM marks. Note blue dot is the live location of the field personnel.



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# Utility mapper and automated utility sketching

By Kieren Tinning, TerraFlow Geomatics Inc.

Over the past decade, the locate industry has experienced a surge of innovative methods to locate underground infrastructure including ground penetrating radar, electromagnetic induction, sonar and seismic techniques, and many more.

With the advent of low-cost, high accuracy GPS antennas, or locators with high accuracy GPS built right in, Bluetooth-enabled locate receivers, and the proliferation of mobile phones, locators can now map their work with much greater efficiency. Once mapped, though, it's important for the locate professionals to be given the ability to efficiently and effectively utilize that mapped data in their final reports.

## SYNC TO GIS

Some solutions, such as TerraFlow, can synchronize the data directly with GIS systems such as Esri's ArcGIS Online and ArcGIS Enterprise. This can provide the user with a top-tier GIS platform populated with their locate data. This data can be brought into an ArcFM or Utility Network enabled environment for records updating/records capture processes.

## SYNC TO CAD

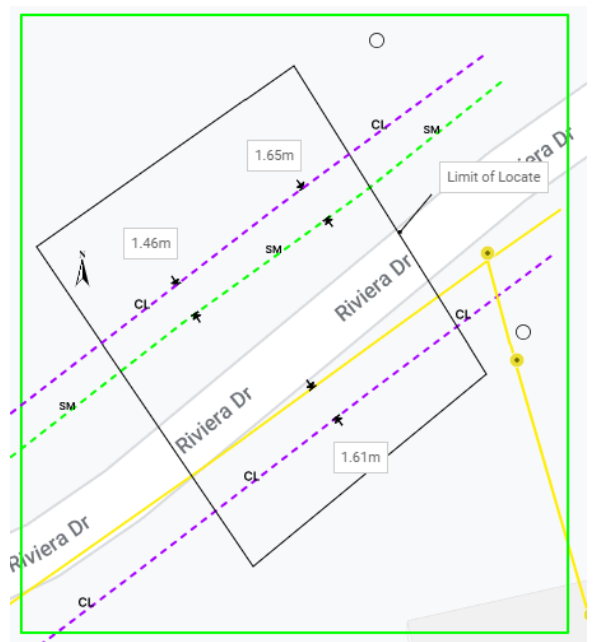
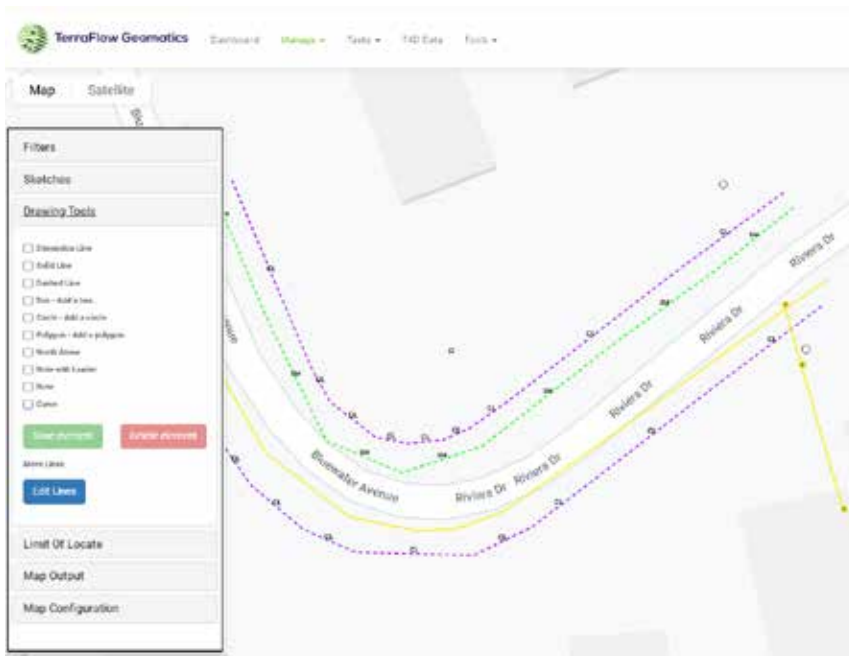
CAD design software (AutoCAD, BricsCAD, Microstation and more) are all extremely popular solutions for design engineering. The ability to export your locate data directly to CAD format enables your design group to easily leverage your field crew's data to support engineering related workflows.

## AUTOMATED UTILITY SKETCH

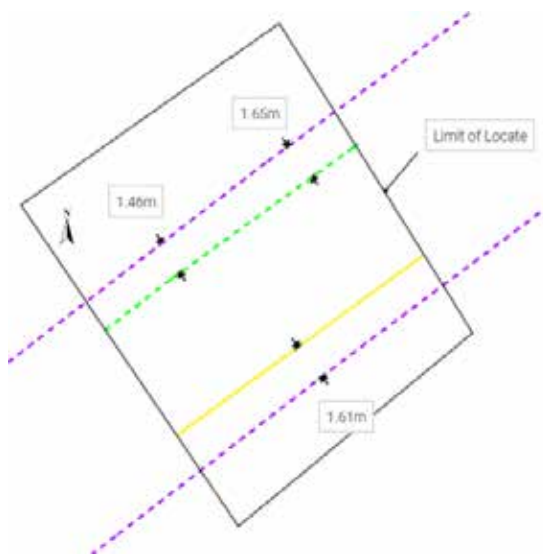
The latest developments, though, have come in the realm of automated sketching. Capturing the data in the field is the first step, but completing the locate report efficiently is the second major step in increasing locate efficiency.

Documenting your locate, including Dimension Lines showing your measurements from reference features (curbs, hydrants, etc.) to your located features, adding in notes, north arrows, and other elements will help complete the locate package.

Drawing in the Limit of Locate, which then clips the located features to the dig area, is key. The locator can focus on capturing the extent of the area but be ensured that the area given to







the excavator is constrained to the submitted excavation zone. The Limit of Sketch (green box) defines the map area and clips the curbs lines and other land base data to that.

The result is a set of maps showing the located data, land base data, and documentation for the locate.

Leveraging a modern sketching platform to generate the set of maps required enables the locate professional to:

1. Capture the required data;
2. Document the entire map; and
3. Generate the output files required.

One for everything: one map per utility and a clear (None) map within a matter of minutes. These maps can then be easily imported/integrated into ticket management solutions.

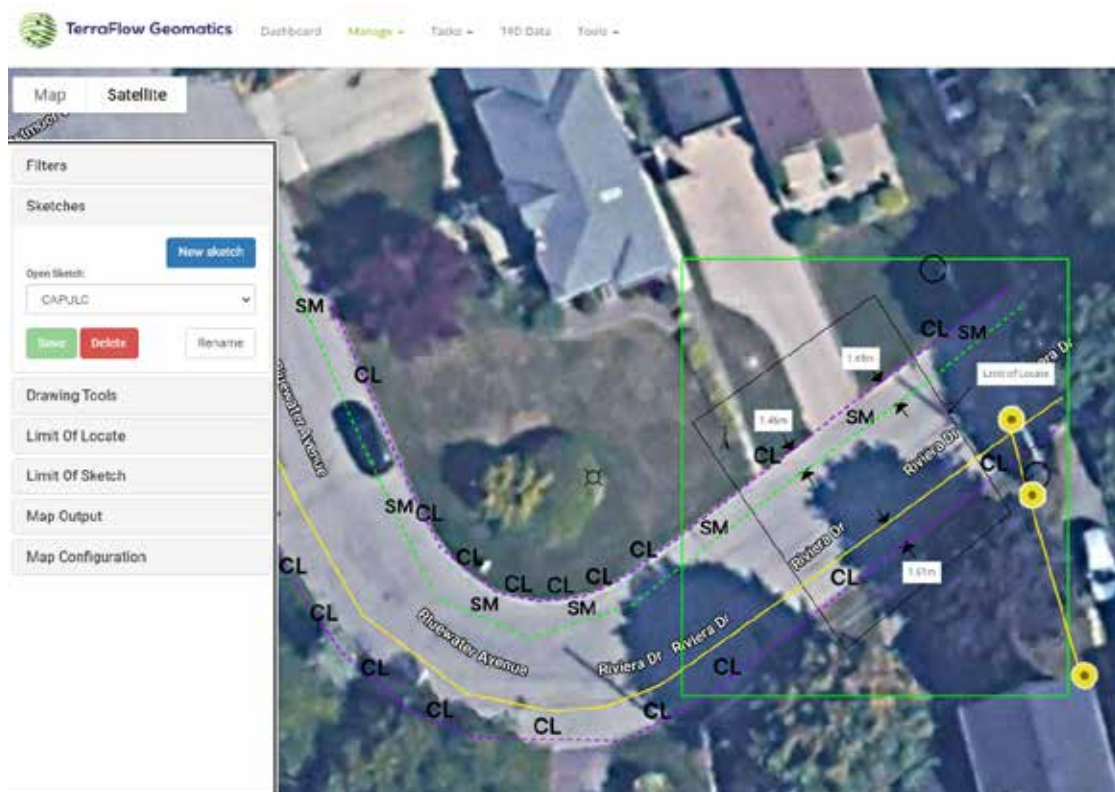
### CONCLUSIONS

Estimated time savings utilizing a complete “capture through sketch” solution has shown efficiency gains between 20 to 60 per cent time savings, depending on the size and complexity of the locate. The core benefits include:

1. Increased safety, the locator reduces the amount of time on site / the number of times they must wade through ditches and so on to capture the data;
2. Increased profitability through reducing costs of locate;

3. Increased profitability by being able to complete more locates per day;
4. Significant reduction in late locates;
5. Ability to capture photos for the photo locate process; and
6. Consistency of output, your and your teams locates are repeatable, to scale and fully documented in a system of record.

The world of locating is an ever-changing space with new technologies being released which can significantly help the locate professional in their day-to-day activities. The technologies are ever more powerful, and as further capabilities are released furthering the goal of automating the sketch process, the locator will be able to focus on higher-margin activities and on growing their businesses. ●



# 2023-2024 CONFERENCES & EVENTS

NOVEMBER 21-23, 2023

**Canadian Common Ground Alliance 2023  
Damage Prevention Symposium**  
Frontenac, QC  
[www.canadiancga.com/Symposium](http://www.canadiancga.com/Symposium)

NOVEMBER 22-23, 2023

**Alberta Construction Safety Association**  
Calgary, AB  
[www.youracsa.ca/acsa-conference/](http://www.youracsa.ca/acsa-conference/)

FEBRUARY 6-8, 2024

**ORCGA Damage Prevention Symposium**  
Niagara Falls, ON  
[orcga.com/](http://orcga.com/)

FEBRUARY 26-28, 2024

**USP 40th Anniversary & Safety Conference**  
Banff, AB  
[utilitysafety.ca/events/safety-conference/](http://utilitysafety.ca/events/safety-conference/)

MARCH 19-21, 2024

**Global Excavation Safety Conference**  
New Orleans, LA  
[excavationsafetyalliance.com/globalesc](http://excavationsafetyalliance.com/globalesc)

APRIL 2024

**Dig Safe Month**  
National

APRIL 14-18, 2024

**2024 CGA Conference & Expo**  
Colorado Springs, CO  
[www.cgaconference.com/](http://www.cgaconference.com/)

APRIL 22-28, 2024

**Locator Safety & Appreciation Week**  
Virtual  
[excavationsafetyalliance.com/lsaw-home](http://excavationsafetyalliance.com/lsaw-home)

APRIL 2024

**2024 CAPULC AGM & Safety Conference**  
Tradeshaw – TBA – Watch for announcement!  
[www.capulc.ca/page-1765527](http://www.capulc.ca/page-1765527)

APRIL 30-MAY 2, 2024

**Energy Safety Conference (Formerly the  
Petroleum Safety Conference)**  
Banff, AB  
[www.energysafetycanada.com/News-Events/  
Conference](http://www.energysafetycanada.com/News-Events/Conference)

MAY 6-11, 2024

**CCOHS Safety & Health Week**  
Virtual  
[www.ccohs.ca/events/safety-and-health-week/](http://www.ccohs.ca/events/safety-and-health-week/)

MAY 15-16, 2024

**Peace Region Petroleum Show**  
Grande Prairie, AB  
[www.grandeprairiechamber.com/pres/](http://www.grandeprairiechamber.com/pres/)

MAY 19-25, 2024

**National Public Works Week**  
Virtual

JUNE 5-6, 2024

**Saskatchewan Oil & Gas Show**  
TBA — [www.oilshow.ca](http://www.oilshow.ca)

JULY 15-17, 2024

**Canadian Society of Safety Engineering  
CSSE's Professional Development Conference**  
Edmonton, AB  
[www.csse.org/site/events/conference](http://www.csse.org/site/events/conference)

SEPTEMBER 11 & 12, 2024

**Oil Sands Conference and Trade Show**  
Fort McMurray Suncor Leisure Centre



# NEW ORLEANS

MARCH 19-21, 2024

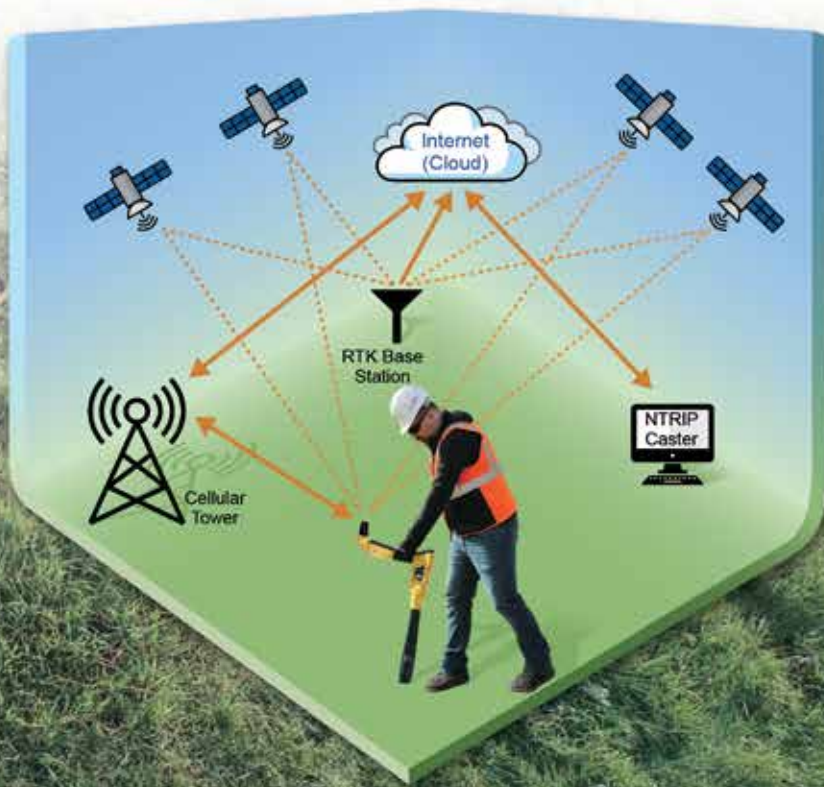


[GlobalExcavationSafetyConference.com](http://GlobalExcavationSafetyConference.com)




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