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SUMMER 2021 • VOLUME 12 • NUMBER 2

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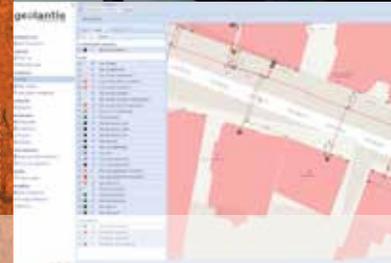


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FROM THE
PUBLISHER



BY SCOTT LANDES

Introducing the Facility Notification Center Association

In March, the industry celebrated its first-ever Damage Prevention Week. Designed as a week where everyone can celebrate both locally and on a larger scale through events and gatherings designed to educate, inform, and find ways to improve damage prevention efforts. Infrastructure Resources worked with some of our partners to develop a schedule of events throughout the week (See page 30 to learn more about these unique experiences). This year, the highly successful event was moved online to accommodate COVID-19 restrictions, but we are already at work developing next year's Damage Prevention Week (February 28 – March 6, 2022) scheduled LIVE in Phoenix.

Many of our partners are returning in 2022 with new agendas, and we continue to add additional events. We are pleased to announce the recent addition of the FNCA (Facility Notification Center Association).

What is FNCA? Good question! FNCA is the evolution in the One Call Industry from *One Call to Notification* Centers. OCOA (One Calls of America) and OCSI (One Call Systems International) have served the industry in the past. OCOA as a group buy model for Not-for-Profit centers, OCSI for best practices and issues affecting all stakeholders that touch the One Call industry. The leaders of One Call (Notification) centers decided to perform a SWOT analysis to address what best serves the industry today. The results showed the industry needed an international organization, open to all Notification Centers regardless of operation model (self-managed not-for-profit, vendor run, or state run); an organization to provide support and training for all facets of business for the modern-day Notification Center.

FNCA is a 501(c)(3) Trade Organization with a Board of Directors to oversee the governance of the organization. Currently, there are five Board members but this can expand to 15 if needed. Five Committees are currently in the organizational phase: Membership, Budget, Marketing, Education, and Meeting/Conference, but they expect to add additional Committees including IT, HR, Accounting/Business Ops, Operations (Call Center, Web Ticket), Member Services/Relations, GIS/Mapping, and Data/Trends.

FNCA's stated mission is "to evolve our industry by facilitating collaboration among One Call Notification Centers." Membership in FNCA is open to notification centers, center executive leadership and center staff.

The organization is an education-based association, expanding upon value-added services including networking forums for executive leaders and functional staff, in-person and video conferencing, virtual education, training on a broad array of topics (from leadership development, board development and succession planning to IT assessments, cybersecurity, and disaster recovery), and the development and maintenance of a member resource and data library. An example of what has been accomplished already is leadership in the Covid-19 response across the industry. Members shared response plans, actions being taken to ensure organizations were deemed essential services, and activities to ensure the safety of staff, stakeholders and those on a dig site.

Throughout 2021, FNCA will hold several meetings designed to review foundational goals and objectives, establish Committee Co-Chairs and ask for participation in proposed committees, solidify Committees and expand the Board. In March 2022, as part of Damage Prevention Week, FNCA will present their first "fully functional" FNCA gathering.

Want to learn more, or find out how to get involved? Contact one of the current Board Members: Bruce Campbell, bcampbell@missdig811.org; Roger Lipscomb, RogerL@oups.org; Bill Kiger, wgkiger@palcall.org; Susan Bohl, sbohl@okie811.org; or Paul Huntsman, PaulH@bluestakes.org; or email membership@fncainc.org. Look for the article in the fall issue of *dp-PRO* offering additional details on this exciting new industry initiative.

Do you have an association meeting, training initiative, or industry event you believe could benefit by being a part of this international gathering of industry professionals? Visit DamagePreventionWeek.com for more information. We'd love to talk to you about how we can partner together for the benefit of the industry! 



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PUBLISHER

Scott Landes • Scott@IR-SavingLives.com

EDITOR IN CHIEF

Michele Moe • Michele@IR-SavingLives.com

MANAGING EDITOR

(SUBSCRIPTIONS)

Karin Strub • Karin@IR-SavingLives.com

AD SALES

Vicki Husome • Vicki@IR-SavingLives.com

CREATIVE DIRECTOR

Brett Link

Brett@MyHappyPlaceDesignStudio.com

PUBLISHING CONSULTANT

Dick Hendricks • jdhendricks@comcast.net

CONTRIBUTING AUTHORS

Chapman Hancock

Sarah Haugen

Christopher Koch

Ketha Molina

Brent Oberlink

Alejandra Ocano-Gonzalez

Jonnie Pangerl

Linda Portelli

Jay Powell

David Raymond

Ted Roberts

Ann Rushing

Brent Saltzman

Eric Sullivan

Michael Twohig

Matthew J. Wolf

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Infrastructure Resources, LLC
4200 W Old Shakopee Road,
Suite 103
Bloomington MN 55437
Phone: 866-279-7755
Fax: 952-703-7022

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WEB

Summer 2021

EXCLUSIVE

BONUS CONTENT:

Visit dp-pro.com/current-issue to enjoy these additional articles

SOCIAL MEDIA

Video Library, What's Trending, Hot #Tags and More!

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DEVELOPING A GENUINE SAFETY CULTURE

By Brent Oberlink

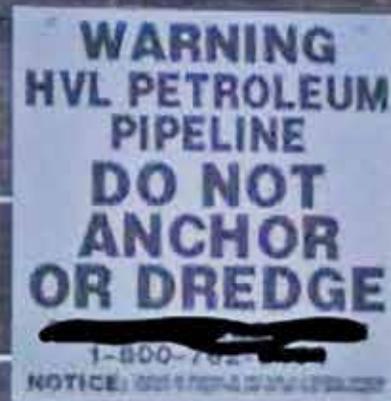
By Implementing a Culture Based on Safety, Doing What's Right, Customer Satisfaction and Continuous Improvement, you can Create Positive Change!

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CALENDAR OF EVENTS

Upcoming Damage Prevention Industry Calendar of Events... Live and Virtual.

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LOUISIANA 811: DREDGING UP GOOD RESULTS

By Brent Saltzman

Cooperation and Education Provided by CAMO and Louisiana 811 has Resulted in a 714.47% Increase in Locate Requests for "Marine" Work and 122.46% Increase for "Dredging" Work!

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HOT #TAGS

Patti Poppe @poppepk - Apr 21
 Anyone doing some planting for #EarthWeek? Do it safely & #call811 ahead of time. BIG shout out to my locate & mark coworkers who are in the field responding to 811 requests every day! Thanks for helping keep our customers safe! #lovemycoworkers #LSAW #NationalSafeDiggingMonth

Pacific Gas & Electric @PGE4Me - Apr 21
 It's Locator Safety and Appreciation week! ❤️

Join us in thanking our locate and mark personnel who are in the field responding to 811 requests, marking the location of underground utility lines so that your digging project can proceed safely. Remember to #call811 #LSAW #NSDM

#LSAW3

Energy Sidney @EnergySidney - Apr 22
 THANK YOU Locator! ❤️👍 #LSAW #Call811

IR @Infraresources - Apr 22
 Day 4 of #LSAW! Have you thanked a locator today?

Visit LocatorSafety.com to learn how you and your company can participate and show your appreciation during the rest of Locator Safety & Appreciation Week!

Over 68,000 utility locates are performed every day, each one by a utility locator tasked with securing the safety of excavation workers, the public, and our infrastructure.

#LSAW2

Heath US @heath_us - Apr 23
 We close out Locator Safety & Appreciation Week with a message from Ken Cowher, Vice President Operations. #LSAW #yoursafety_ourcommitment

#LSAW1

Learn more about Locator Safety & Appreciation Week and share how your company participated at LocatorSafety.com.

WHAT'S TRENDING



Follow these companies on Facebook

Barrett Industries @Barrett_Ind · 6h
 "We are stronger and safer together!" --Construction Safety Week
 #ConstructionSafetyWeek

Construction Safety Week, May 3-7, was initially started in 2014, when more than 40 national and global construction firms comprising the Construction Industry Safety Initiative (CISI) group and the Incident and Injury Free (IIF) CEO Forum joined forces with

Bobcat Company @BobcatCompany · May 6
 Safety. First.

Celebrating #ConstructionSafetyWeek

a single aim: to inspire everyone in the industry to be leaders in safety. Construction Safety Week reminds you to Be Present. Be Focused. Be Safe. Learn more about participating in the future at constructionsafetyweek.com.





SOCIAL INITIATIVE

#DrinkingWaterWeek, May 2-8, 2021

For more than 40 years the American Water Works Association and its members have used Drinking Water Week as a unique opportunity for both water professionals and the communities they serve to recognize the vital role water plays in our daily lives. Visit awwa.org/Events-Education/Drinking-Water-Week to learn more.



WHAT DO YOU THINK?

This issue's question:

Have you or your employer had difficulty recruiting and hiring new employees?

- A) Yes, there are fewer applicants
- B) No, there are more applicants
- C) No change

To answer click **HERE**

<https://dp-pro.com/survey/>



Spring Issue Results:

There are predictions that this Spring will be an abnormally busy dig season. Will that prediction come true?

- A) Yes (100%)
- B) No (0%)
- C) No change (0%)



Trenchless Technology

Providing an opportunity for trenchless professionals to connect & network. With over 6500 trenchless professionals in this group, your trenchless industry "reach" on LinkedIn will expand significantly by joining. Many also find professionally useful information in the active discussion group. 



Covering All Bases:

Five Questions Your HDD Contract Should Answer

BY TED ROBERTS

I've practiced construction law for nearly 20 years. In that time, I've seen contracts for horizontal directional drilling work come in all shapes and sizes, running from single-page proposals to lengthier documents crowded with fine print and legalese. Despite this variety, most HDD contracts do work as intended, if for no other reason than most projects are completed without a hitch. But when projects go bad and losses begin to mount, the risks and limitations of a shoddy contract become glaringly obvious. On those occasions, bad contracts inflict additional damage by pushing a bad project into an expensive lawsuit.

While uncommon, claims and litigation over HDD projects are so incredibly expensive that it is worthwhile to invest some time and money to avoid them. One way to minimize these risks is to ensure that your contract anticipates and addresses the questions and issues that often lead to disputed claims. This article identifies five broad questions that any HDD contract worth its salt should be able to answer in terms that both sides understand and agree upon.

TERMS OF THE AGREEMENT: WHAT'S IN AND WHAT'S OUT?

A construction contract's boundaries and scope are often contested territory in litigation. The flurry of activity that precedes a signed contract – phone calls, site investigations, test reports and price proposals – provides fertile ground for future disputes over what terms have made their way into the contract and those that, under the applicable law, are deemed ineffective or unenforceable once the contract has been signed.

This leads to a question that both sides should be able to answer before they sign. Of all that has transpired between the parties, expressed and implied, verbal and in writing, what are the actual binding terms of this deal? A good contract

makes it easy to separate the wheat from the chaff by distinguishing between what information and assumptions about the project can be relied upon and those that cannot. A number of contract provisions can help prevent disagreements over the terms that actually comprise the contract. Among these, the most common are so-called integration and merger clauses which have the effect of nullifying any agreements or understandings which precede the contract unless they have been expressly included in the parties' final written contract.

WHAT ARE THE CONDITIONS FOR PAYMENT?

At first blush, a contractor's price may appear to be the most straightforward term in a contract. But disputed claims often lead to additional arguments, including fights over the contractor's right to be paid. When that happens, payment terms take on additional importance.

When it comes to payment, clarity and specificity are your friend regardless of which side you are on. For those paying for HDD work, it is important to detail the entire scope of the contractor's performance obligations, including any record-keeping requirements, as-built drawings and site cleanup and disposal services.

A contractor would do well to clarify any questions about their right to payment, including the extent to which payment may be withheld and whether the contractor may stop work for non-payment or delayed site access.

WHAT HAPPENS WHEN THINGS CHANGE?

Questions over changes figure in many disputed claims. Stakeholders waste an incredible amount of time and money litigating questions of who must suffer the financial consequences of project delays, differing site conditions and other unexpected losses. Many of these disputes could

be avoided with contract terms that clearly anticipate the possibility of such events and allocate those risks among the parties.

Not only should a contract answer the question of who bears each project risk, but that answer must be captured in the contract's written terms in language that is clearly understood by both sides. Unfortunately, most contracts fail in this regard. The risk of "differing site conditions" is often mishandled in this way, with some owners and engineers furnishing prospective contractors with geotechnical reports in an effort to obtain more accurate pricing, while including contract language disclaiming the accuracy of this information. Such language leads to confusion, claims and lawsuits.

Those tasked with preparing or reviewing an HDD contract should determine how the contract addresses the types of risks commonly associated with HDD work, including delays, defective design work, differing site conditions and inaccurate geotechnical information, to name a few. A variety of contract provisions are commonly used to allocate these risks, but how they work with (and against) each other can get complicated and lead to unexpected results if the contract is poorly drafted. Failing to plan for these risks can quickly become a plan to litigate them at great expense to both sides later on.

HOW DO WE END THIS RELATIONSHIP?

Even though most contracts end well, anyone entering into an HDD contract should ask: What options do I have when the other side is not performing as promised? For the contractor, this is often a question of the contractor's options when its customer is not meeting its payment obligations. Likewise, those paying for the work should ensure that their contract outlines the circumstances under which a contractor's failure to perform is so problematic that the contract may

“The decision to prematurely end a contract should never be taken lightly. The wrong decision can lead to significant legal liability for wrongful termination.”

be terminated and a new contract formed with a replacement contractor if necessary.

The decision to prematurely end a contract should never be taken lightly. The wrong decision can lead to significant legal liability for wrongful termination. For this reason, a contract that clarifies what it takes to fire a contractor (or when a contractor may quit) can help minimize the financial fallout from a soured relationship.

WHAT'S THE RELATIONSHIP BETWEEN THIS CONTRACT AND OTHER CONTRACTS ON THE PROJECT?

HDD work performed under a subcontract raises some additional issues for both contractor and subcontractor. Many of these issues concern the legal relationship between the subcontractor's terms and those set forth in the project's general contract. From the contractor's perspective,

it is important that its subcontractor's obligations mirror the contractor's obligations to its customer. This is usually accomplished through so-called flow-down clauses.

A subcontractor will want to know how far the flow-down clause extends. For example, one question that should be answered is whether the subcontractor is bound merely to the general contractor's performance obligations or, in addition, to other provisions like those requiring arbitration or imposing limitations on the contractor's rights and remedies. Clarifying the answers to such questions before the contract is signed is far less expensive than using a team of lawyers to do the same thing in a lawsuit.

CONCLUSION

Expensive claims and lawsuits do not happen simply because something goes wrong on a project. Even if a project's costs suddenly increase

because of the unexpected – bad geotechnical conditions, for example – an expensive lawsuit is unlikely if the issue has been anticipated and addressed by your contract.

The questions your HDD contract should answer are by no means limited to the five above. Still, knowing these questions are answered – and how they are answered – before entering into the contract will go far in avoiding the kinds of disputes and disagreements that come up frequently in lawsuits over HDD projects. For these reasons, focusing on the quality and content of your contracts remains one of the best ways to avoid the catastrophic cost of disputed claims and legal disputes. **DP**

Ted Roberts is an attorney and owner of Trenchless Legal Services based in the Twin Cities. He may be reached at ted@tedrobertslaw.com or 612-590-3547.

DIRT FACTS | **CGA**

INVALID USE OF REQUEST

2018	2019
(1%) Excavator provided incorrect notification information	(2%) Excavator provided incorrect notification information
(9%) Excavator dug outside area described on ticket	(11%) Excavator dug outside area described on ticket
(11%) Excavator dug after valid ticket expired	(14%) Excavator dug after valid ticket expired
(79%) Excavator dug before valid start date/time	(73%) Excavator dug before valid start date/time

WANT TO KNOW MORE? THIS INFORMATION WAS EXCERPTED FROM THE 2019 DIRT ANNUAL REPORT. ACCESS THE ENTIRE REPORT AT CGA-DIRT.COM.

Conquer All Conditions: How to Best Utilize Vacuum Excavation in Various Soil Types

BY CHAPMAN HANCOCK



With its ease-of-use, high ROI and soft-excitation style, vacuum excavators are growing in popularity across a wide range of industries and applications. Today's contractors are using them to support HDD jobs, irrigation installation, and even landscaping and tree-care tasks. One reason for the growth is that present-day jobsites and underground environments are congested, with limited space and often many hazards. Vacuum excavators offer a solution to these problems.

But no two jobsites are the same. And, as the fiber market continues to grow and the need for utility rehabilitation continues to mount, vacuum excavators will be asked to conquer a wider range of jobsites – and that means a broader range of soil types.

WORKING FROM THE GROUND UP

There are five main ground conditions that vacuum excavator operators may deal with on a job: rock, sandstone, clay, topsoil and sand.

The good news for fleet owners and operators is that these machines are versatile. But to be as productive as possible, contractors must first understand the jobsite and its ground conditions. This is the first step to making the right machine decisions and starting down the path to success.

Contacting the local dealer is the best way to find out this information. Ground conditions not only vary jobsite to jobsite, but they can change within one jobsite. It's not uncommon for a vacuum excavation operator to begin their excavation through topsoil and suddenly come across clay. Local dealers have experience in this area and likely will be able to help determine what an operator will encounter on the job.

Operators should also look for visual cues, like changes in soil patterns, to determine ground conditions. Another tip is to observe the natural landscape; jobsites in a valley will often contain clay, while jobsites on a hill will usually have harder formations.

Once an operator determines ground conditions, they can then determine if they will need air or hydro excavation, their ideal water tank size and other strategic excavation choices. These are the five most common ground conditions and how to best approach them with a vacuum excavator.

CONDITIONS TO LOOK FOR

Rock and Sandstone

Rock and sandstone are two of the most difficult soil types to excavate and, as a result, they take the most time. Operators facing rocky or sandstone conditions should use hydro excavation with hot water because it more effectively cuts through the difficult soil, just as hot-water-power washers are utilized to clean construction equipment and used in many other applications. Contractors can get hot water onsite by using a boiler package, which is a diesel-powered water heater offered as an add-on by manufacturers. Best practices dictate that operators keep heated water at or below 130 degrees, but they



should always check with the utility owner for their preferred technique or method.

More difficult conditions will necessitate using more water and potentially more trips to dump since the operator will be excavating for longer. Operators expecting rock or sandstone should invest in larger water tanks, be familiar with local slurry dumping regulations, and understand what the nearby water refill options are. Excavating through rocky conditions is also easier with a machine that has a higher horsepower and greater capabilities.

Clay

Clay is more easily excavated than rock and sandstone, which opens a few more options for contractors facing these conditions. First, clay conditions can be excavated with hydro or air excavation. Hydro excavation is typically the more efficient excavation method, but air excavation has its place. Since it is a dry excavation method, air excavation limits the complications related to slurry disposal and eliminates challenges related to finding a water source.

If an operator chooses to go with hydro excavation, clay will require less water and less time on the jobsite than rock and sandstone. Similar to rock and sandstone conditions, hydro excava-

tion in clay conditions should be done with a boiler package.

Topsoil and Sand

Topsoil and sand are the least difficult soil types to excavate, but that doesn't mean these ground conditions don't have their own challenges. Jobsites with topsoil or sand can be sensitive and require a more delicate touch to avoid the ground cave-ins when excavating.

As with clay, hydro-excavation is usually the more efficient option with topsoil and sand, however due to the sensitivity of sand in particular, air excavation offers a more accurate option. Since air excavation doesn't create slurry, it keeps more of the soil together and limits the chance of the hole caving in on itself. Contractors who are looking to ensure a clean hole or who are working on an extra sensitive jobsite – like a golf course – should opt for air excavation. Some municipalities even require air excavation to be the first option in sandy ground conditions.

For the contractor looking for the quickest way to get the job done, hydro excavation is the way to go. Hydro excavation in softer soil types will require less water than on jobsites with more difficult soil types,

but topsoil and sandy conditions will lead to more debris being collected. Since less water is needed to excavate, less slurry is created, and more solid debris is gathered. Contractors who are using hydro excavation in softer soil conditions can invest in a more economically-sized machine for their expected workload, but they should make sure they know where water-refill locations are in case they encounter more difficult ground conditions.

FOLLOW BEST PRACTICES

In addition to choosing technology based on soil type, it's important to follow general vacuum excavation best practices. This includes continuously moving the nozzle to avoid applying excessive pressure to one area, keeping the nozzle eight inches away from the utility being excavated to avoid harming it, and never using the nozzle as a shovel because it can cause damage. Lastly, vacuum excavation water pressure should always remain below 3000 psi.

A local dealer is always the best place to go with any vacuum excavation questions or needs. 

Chapman Hancock is Product Marketing Manager – Vacuum Excavation with Ditch Witch. Visit ditchwitch.com/vacuum-excavation to learn more.

NEWS

VIRGINIA 811 ANNOUNCES SCHOLARSHIP PROGRAM

Virginia 811 recently announced a new scholarship program for students focused on underground utility damage prevention.

Virginia 811 (also known as Virginia Utility Protection Service) plans to award two \$1,500 scholarships to high school seniors. The students must have a GPA of 3.5 or higher, have at least one parent or guardian that works at a Virginia 811 member utility, a utility locator or a professional excavator who works in Virginia and whose company has successfully set up a Web Ticket Entry Account with Virginia 811.

“Virginia 811 is excited to be able to help successful candidates pursue further learning opportunities at the college level,” explained Scott Crawford, president and CEO of Virginia 811.

Applications are due by 5:00 p.m. on June 4. For more information, email slight@va811.com.



Welsh Utility Workers find MEDIEVAL TUNNEL

A Welsh utility company reported in March that workers excavating a trench for relocation of a pole on a customer's property made an unusual discovery – a previously unknown medieval tunnel.

Western Power Distribution said members of the East Wales crew were working in Tintern, in the Wye Valley. The workers were excavating a trench when they discovered what they initially thought was a cave. Further investigation revealed it was a man-made tunnel around four feet in height. The tunnel ran under a sidewalk parallel to the Angiddy Brook, and appears to follow the brook's path.

The crew's manager called a representative of the Wales historic and cultural heritage service. He said the tunnel could possibly be linked to the iron work ruins previously discovered in the area. The Tintern Abbey iron works ruins is dated back to the 1100s.

TTC DIRECTOR AND BOARD MEMBERS HONORED AT 2021 NO-DIG SHOW

The North American Society for Trenchless Technology (NASTT) recently honored Dr. John Matthews, director of Louisiana Tech's Trenchless Technology Center and associate professor of civil engineering and construction engineering technology at the University. Dr. Matthews was awarded the 2021 NASTT Chair Award for Distinguished Service for prominent, long-standing service in the trenchless technology industry.

Also, Lynn Osborn, Trenchless Technology Center board member, and James Barbera, former TTC board member, were inducted into the NASTT Hall of Fame Class of 2020 for outstanding accomplishments and exceptional contributions to the advancement of the North American trenchless industry.

“I am very honored and was truly shocked when I heard about the award,” Dr. Matthews said. “This award is given annually by the NASTT Board of Directors Chair. Two previous TTC Directors have won this award (Dr. Tom Iseley in 2006 and Dr. Rod Sterling in 2009), so I am very humbled to join them.”

Gas Networks Ireland Marks One Million Hours Accident Free

Gas Networks Ireland has achieved the major health and safety milestone of one million hours worked – the equivalent of 14 months – without a lost-time staff incident for the second time in the last two years.

The announcement comes as the safety conscious national utility celebrates both World Day for Safety and Health at Work and International Worker's Memorial Day, which promotes the importance of creating a health and safety culture to reduce workplace injuries, and remember those who lost their lives in workplace accidents.

Gas Networks Ireland's safety milestone was achieved during the challenging period of COVID-19 restrictions. With essential site work continuing, much of it throughout the toughest public health restrictions, stringent COVID-19 protocols, training and PPE were quickly introduced and reviewed regularly in line with ever-evolving health advice from the government.

As well as a strong internal safety culture, Gas Networks Ireland also promotes public safety through its gas escapes emergency service, carbon monoxide awareness, dial before you dig service, anti-meter tampering advertising, and registered gas installer's campaigns.



GAS NETWORKS IRELAND RECOGNIZED FOR SAFETY

Gas Networks Ireland's Design Safety Management System has been recognized as a finalist for the Energy and Utilities Alliance (EUA) Gas Industry "Safety Award." Purpose-built to ensure compliance with regulations in Ireland, Northern Ireland, the Isle of Man and the UK, the system centers on a principles-based approach to design safety that aims to exceed regulatory requirements.

"We focus on mitigating risk during the design process to help prevent accidents during construction, maintenance and operation. We haven't had a staff lost time accident in over 12 months."

"Ireland's gas network is considered one of the safest and most modern in Europe. As guardians of Ireland's gas infrastructure, we put safety at the heart of everything we do, and our design process facilitates a safe-by-design approach," said Paul, O'Brien, Design Services Manager at Gas Networks Ireland. "We focus on mitigating risk during the design process to help prevent accidents during construction, maintenance and operation. We haven't had a staff lost-time accident in over 12 months."

Now in their 21st year, the annual Gas Industry Awards will recognize the best and most innovative projects in the industry in late May.

Maine's Public Utilities Commission to Examine State's Electric Distribution System

The Maine Public Utilities Commission opened a case in February to investigate the future design and operation of the electric distribution system in the state. The Commission will conduct an in-depth, structured, and comprehensive examination to determine how best to accommodate increasing amounts of renewable energy, including solar installations and energy storage, and substantial load growth with increasing electrification of the state's heating and transportation sectors.

"To address climate change in years ahead, we will be placing new demands on our electric distribution system, and we must assess how to modernize the grid at the lowest cost for Maine people," said Commission Chairman Philip L. Bartlett II.

The investigation will focus on the distribution systems of Maine's investor-owned transmission and distribution utilities – Central Maine Power Company and Versant Power. In addition, the investigation will consider opportunities to create a more robust, flexible system to adapt to changing uses and needs. **DP**



Lack of Adequate Enforcement Undermines Damage Prevention (Eben Wyman, Special Locate 2020)

Sadly, Eben got a point wrong in the article. He cited CFR 192.707 for markings, and although the statute does reference marking, it has to do with permanent markings, not temporary markings. That statute is 49CFR 192.614 in particular. It reads: (3) Provide a means of receiving and recording notification of planned excavation activities; (4) If the operator has buried pipelines in the area of excavation activity, provide for actual notification of persons who give notice of their intent to excavate of the type of temporary marking to be provided and how to identify the markings; (5) Provide for temporary marking of buried pipelines in the area of excavation activity before, as far as practical, the activity begins.

His point on the Michigan law, I would have to defer to his expertise in that regard. His points though are valid in that more and more excavators are finding themselves in an impossible choice of waiting for the utility to respond or roll the dice without them and hope that they avoid hitting anything. And, of course, the utilities are more concerned about their bottom line than damage prevention. Add to that the current climate we find ourselves in where professional locate companies are dealing with employee absence due to the virus and not being able to hire due to training constraints, we have never been as bad as we are now. - Mark Hamrick, *Damage Investigations Western Maryland, Verizo* **DP**



LOUISIANA 811: Dredging Up Good Results

BY BRENT SALTZMAN



Educating various stakeholder groups has always been a challenge for One Call Centers. How do we effectively reach folks who have the potential to damage utilities, or worse, harm themselves in the process?

This question arose again in Louisiana several years back when a tugboat operator working in a marine environment went off course and ended up getting his vessel and barge stuck in the mudline. The vessel operator started “wheel washing” (using his propellers to free the tugboat). The captain was unaware that a high-pressure natural gas pipeline was beneath his vessel and the propellers hit the pipeline causing it to rupture. Natural gas escaping from the pipeline ignited and the vessel caught fire. Tragically, the captain perished from injuries caused by the massive fireball that ensued.

One may ask, “What does this have to do with excavation?” It is a great question. In Louisiana, the definition of excavation is any operation causing movement or removal of earth. Did the tugboat propellers cause movement or removal of earth? The answer is a resounding YES!

This catastrophic accident heightened our need to educate mariners on the dangers that lie beneath the water. Louisiana 811 partnered with Coastal & Marine Operators (CAMO) to focus efforts on educating various industry entities to avoid tragic events like this from occurring again.

CAMO has worked tirelessly to seek federal grant partnerships, opened dialogue with various industry associations including the Dredging Contractors of America, and conducted countless presentations, oftentimes with Louisiana 811. All in an attempt to heighten awareness for excavators when working near submerged marine infrastructure.

Open dialogue with mariners uncovered interesting information concerning the difficulty in submitting a locate request to Louisiana 811. It was extremely difficult to indicate the precise location of work in a marine environment as required by Louisiana’s Underground Utilities & Facilities Damage Prevention Law (Dig Law). It often took 20-45 minutes to describe where the excavation would occur and how to get there.

Louisiana 811’s contractor, One Call Concepts, knew this was an issue so they took up the challenge of finding a solution. With valuable feedback from this stakeholder group, in addition to the pipeline group, a remedy was discovered.

Their software now allows a mariner to enter a locate request online by entering the GPS coordinates of the excavation area. The software’s base mapping system – Google Maps –

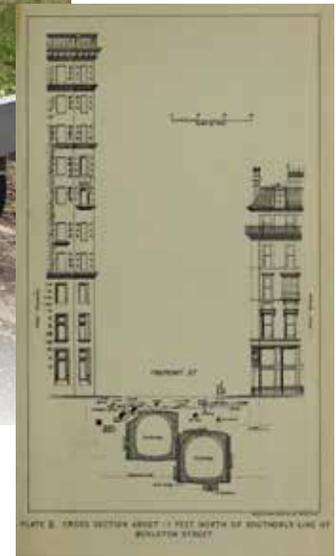
appears with the precise location of the excavation site. From there, the excavator can draw a route, circle or create a polygon surrounding the area of excavation activity. Once reviewed and approved by the excavator, the software automatically generates the directions to the area providing a fast, easy solution to a problem that has existed for years.

The results have been impressive. Because of the education provided by CAMO and Louisiana 811 and the ease of entering locate requests online, marine ticket volume has increased drastically. Ticket reports comparing 2019 and 2020 data have shown a 714.47% increase in locate requests for “marine” work and a 122.46% increase for “dredging” work!

CAMO and Louisiana 811, along with Louisiana’s Dig Law Advisory Committee, were also successful in changing the Dig Law to further solidify language addressing marine excavation activity. The definition of excavation now covers “submerged facilities in a marine environment.”

Discovering a problem and finding a solution is key to any success. This was a critical issue and we addressed it with software and legislation. Marine excavators and facility operators are both happy with the outcome, and that is the definition of success! 

Brent Saltzman is Executive Director for Louisiana 811. He can be reached at brent@laonecall.com.



Shifting Soil

Today's Best Practices for Multi-Channel Ground Penetrating Radar

BY MICHAEL A. TWOHIG

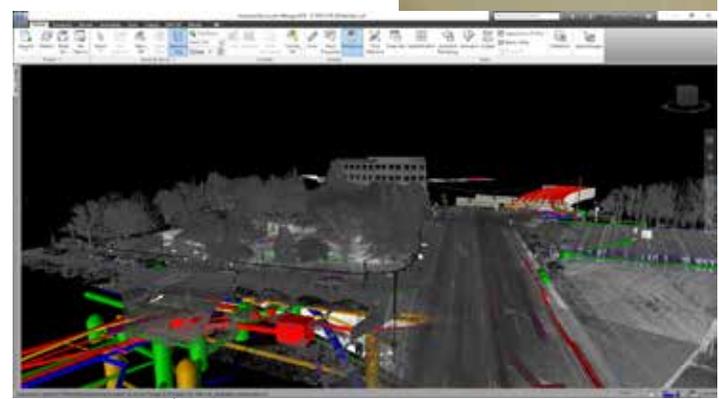
It didn't take long after utilities were buried underground that humans had a need to discover where they put them – somewhat equivalent in today's world of using your friend's cell phone to call the one you misplaced.

The art and science of locating and mapping the underground environment began in earnest in the 1800s when Boston designers were hired to build the first subway system in the country. When they began plotting the subway system, they found a tangled mess of aging infrastructure and poorly marked utilities. As a result, the designers leaned on subsurface investigations to locate and map the buried utilities.

In more recent years, remote sensing technologies - specifically wide-array, multi-frequency Ground Penetrating Radar (GPR) systems - have been incorporated into Subsurface Utility Mapping (SUM) and underground damage prevention programs to aid in safer utility tracing, increase accuracy of records, and amplify knowledge of unknown buried features. By embracing wide-array, multi-frequency GPR, and its increasing benefits and use cases, the industry will see more efficient and safer project outcomes.

At their core, utility surveyors are tasked with mapping a complete picture of the underground environment. Traditionally, utility surveyors have utilized handheld electromagnetic devices and pushcart GPR to detect the location of buried structures. However, in densely populated areas with busy utility corridors, mapping with traditional EMI and 2D pushcart GPR systems poses unique challenges. Since many cities and towns have underground infrastructure that dates back more than a century, it is common to find utility systems with no metallic material. The lack of such a substance in underground assets makes locating with traditional methods problematic. In addition, many new telecommunication systems have failed to install tracer wires which makes it extremely difficult for conventional locating practitioners. However, wide-array, multi-frequency GPR systems can overcome many of the complications and hurdles presented by traditional methods and models, making this new approach ideal for complex sites and projects.

Aside from the necessity factor due to aging infrastructure, wide-array, multi-frequency GPR systems allow for safer practices for utility crews and the general public. In 1976, Culver City, California experienced a gas line explosion caused by a front-end construction material loader striking a high-pressure petroleum line, which resulted in nine deaths and 14 injuries. This tragedy was a stark and brutal lesson to the industry that traditional methods to pinpoint utilities using pipeline locators and test holes is a dangerous approach. In fact, the NTSB report found that the failure to complete the professional utility locating work prior to digging was one of the main causes of gas line explosion. Today, we know that if the team in Culver City had the ability to use a wide-array GPR system, the exact location of the



underground gas lines would have been identified and incorporated into the construction documents, thereby preventing such tragedy.

In recent years, DGT has incorporated the use of wide-array GPR systems into its project workflow. By utilizing mobile mapping systems, we're able to gather large quantities of underground data beneath busy roadways and highways without exposing professionals to unnecessary traffic risks.

"The safety of the professional teams on the ground, and the communities in which we serve, is paramount to success," said Michael Clifford, PLS, Principal at DGT Associates. "Surveyors, and all in the industry, should embrace the opportunities that advanced technology provides us in fulfilling our professional duty - locating utilities with precision in a safe and responsible manner. As we look to the future and establish best practices, it's clear that wide-array GPR will become part of our everyday work." 

Michael A. Twohig is the Director of Subsurface Utility Mapping of DGT Associates. He can be reached at mtwohig@dgtassociates.com.



STAFF REPORT



GLOBAL EXCAVATION SAFETY CONFERENCE VIRTUAL

(APRIL 6-8, 2021)

After months of anticipation, the Global Excavation Safety Conference VIRTUAL has come and gone – but is definitely not forgotten! There were more than 50 sessions (many available on demand), 10 sponsor showrooms to visit and learn in, 24 networking events to participate in and hundreds of attendees.

Education

With over 50 sessions covering topics from transforming organizational performance, to PHMSA-funded projects, to the benefits of mapping underground utilities, there was content available to all stakeholder groups and all job titles. On-demand viewing allowed attendees to participate on their own schedule for 60 days post-event.

Sponsor Showrooms

Thank you to all of our sponsors: PelicanCorp (Platinum), irthSolutions, KorTerra, Urbint (Gold), ImpulseRadar, OECD, PRISUM, Rhino (Silver)! Each sponsor developed a showroom where virtual attendees could talk to company representatives, download important documents, follow links to websites and videos, and access Tech Talks designed to help attendees understand how their products and services can enhance the attendees' damage prevention efforts.

Networking

A unique networking experience was offered to attendees, sponsors, and speakers through

daily networking events. During breakfast and lunch breaks, speakers and sponsors led casual conversations on important industry topics like talking to farmers about damage prevention, the viability of the current 811 system, and the benefits and issues with Ground Penetrating Radar (GPR). At the end of each day, fun and light-hearted networking events occurred, from BINGO, to trivia, to a discussion on whether cereal is just breakfast soup!

DID YOU MISS IT? Don't worry! Many of the sessions available through Global ESC Virtual are now available through premium membership in Excavation Safety Alliance (ESA). Learn more about ESA on page 22. [DP](#)



Infrastructure Resources Initiative

IR is dedicated to helping the industry save lives through education. Look for this icon identifying articles on programs and initiatives created by IR to help us meet this goal.

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**SHARK
TANK**



IN THE CONTRACTING WORLD, we see all too often, companies that simply just check boxes on safety, quality, and paperwork in general. We often see these same contractors underbid jobs and then fail to execute the project safely or with quality, hurting the industry. It is aggravating to see these contractors underbid and then underperform on safety and quality.

It is not uncommon for contractors and customers to mishandle safety issues.

I have seen customers fire good contractors because of a minor incident; even when the contractor had a great safety culture and fixed the issue for the long term. The customer was required to “check the box” that the issue was dealt with.

I have also seen contractors who have had a minor incident and got fired because they blew it off and didn’t actively mitigate the hazard going forward.

Both are wrong. Why? Because neither situation actively sought to mitigate and remove the hazard. They did not conduct a thorough investigation, bring in experts and look at every possible way to mitigate the hazard.

What is the best way to develop a genuine safety culture?

- Create a culture where crews are comfortable to turn in near-misses, behavioral-based safety (BBS) and all safety incidents no matter how small. This is where you can proactively learn and look for ways to remove hazards.
- Audit and inspect crew and jobsites. Score and evaluate them.
 - Preach and practice safety from the top down.
 - Make safety one of your core values - hire, fire and evaluate by it.

- Do not punish crew for turning in safety issues and do not overburden them with paperwork. If reporting becomes a headache or threat, communication is shut down.
- Create a safety committee of employees who looks at near misses and incidents from the industry and proactive internal mitigation for these hazards. This encourages involvement from crews in the field and lets them know the company takes it seriously.
- Use an employee or contractor to lead the team to come to solutions together.

A truly successful safety culture relies on buy-in, transparency, and constant evaluation of all hazards to eliminate reoccurrences. For every task, ask “what if,” and then work as a team to remove the hazard. Throw a safety card to start a discussion.

Safety must be reactive, but it must also be proactive.

Collecting data, learning, and asking the right questions will help remove and reduce risk. Push for everyone to be fully on board with safety. And practice what you preach - lead from the top.

How to Create a Genuine Safety Culture and Change the Contracting Space for the Better

BY BRENT OBERLINK

How do you choose a contractor with a strong safety focus?

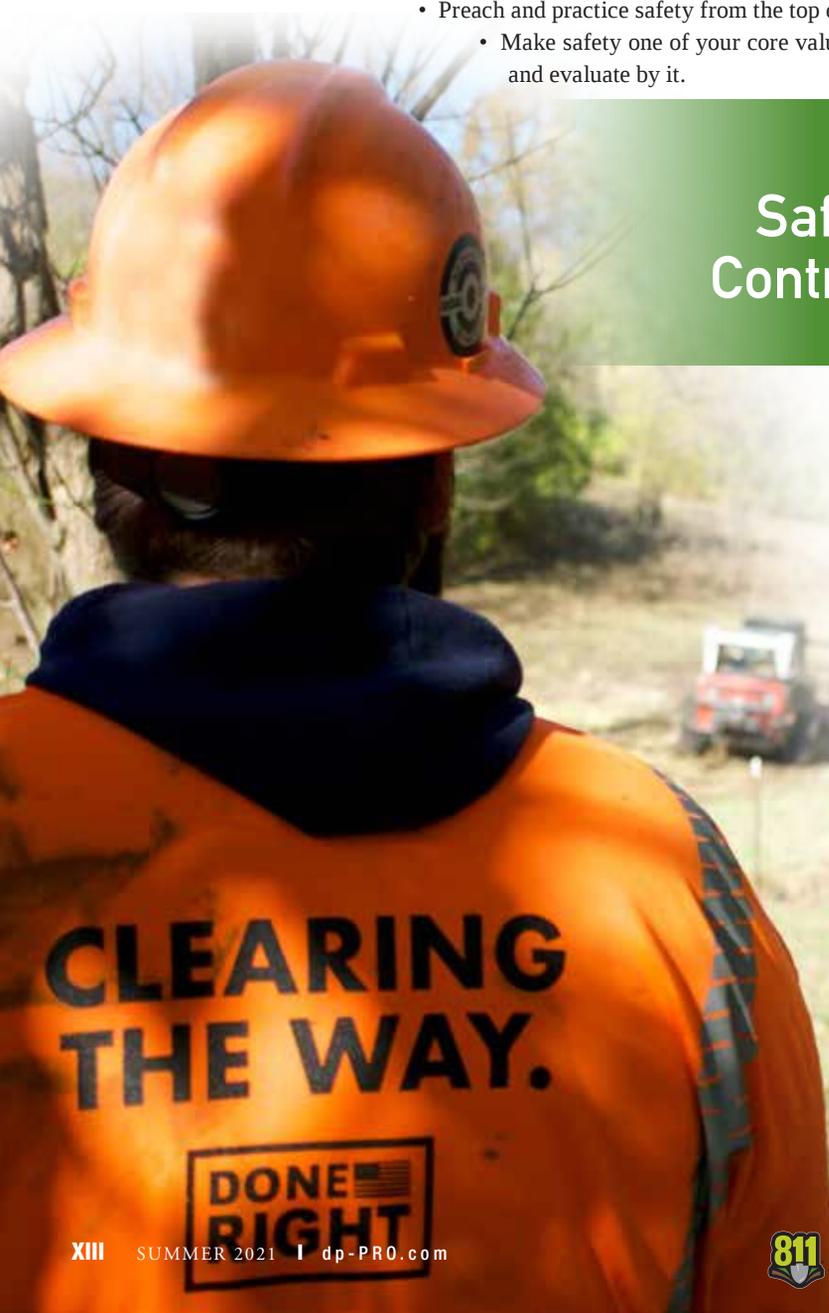
Before hiring, ask these questions:

- Do they have a culture of safety and quality? Or just a book about it?
- Do they provide transparency? Photos and documentation of work? Do they have processes?
- Is their employee turnover low? What about their customer turnover?
- Are their trucks nice, employees well dressed and presentable? Is their website legitimate? Do they show pictures of previous work?
- Will they provide references for large projects?
- Do they have an established contract or bidding process?
- Do they provide full insurance upfront?

How can you change the contracting space?

By implementing a culture based upon safety, doing what is right, customer satisfaction and above all, continuous improvement, you can create change. It may take a while to build that culture; people will come and go, but it will be worth it. **DP**

Brent Oberlink is President of Lanracorp, a company with a proven safety reputation in the pipeline and utility maintenance industry.





Calendar of Events

Due to the COVID-19 pandemic, many events have rescheduled or transitioned to a virtual event. Be sure to verify the status of all events you are planning to attend. (V = Virtual Event)

June 2021

- 6-8 Illinois Telecommunications Association Annual Convention (Osage Beach, MO)
- 6-9 Oklahoma Telephone Association / Arkansas Telecommunications Association – Summer Conference (Broken Arrow, OK)
- 7-10 (V) APGA (American Public Gardens Association) 2021 Annual Conference
World of Concrete 2021 (Las Vegas, NV)
- 13-16 AWWA ACE (San Diego, CA)
- 14-17 TELSE (Telecommunications Association of the Southeast) (Sandestin, FL)
- 14-18 NUCA: 2021 Trench Safety Stand Down Week
(V) NAPSR Eastern Region Meeting
- 15 PA Safety Day Conference (Allentown, PA)
- 15, 16 NACE Bring on the Heat Conference (Pasadena, CA)
- 17 PA Safety Day Conference (Harrisburg, PA)
- 19-23 Georgia Telecommunications Association 2021 Annual Meeting (Orlando, FL)
- 20-23 American Public Power Association National Conference (Orlando, FL)
- 25-28 AGC Executive Leadership Conference (La Jolla, CA)
- 29-Jul 2 WWETT (Water & Wastewater Equipment, Treatment & Transport 21 (Indianapolis, IN)
- 30, Jul 1 (V) SGA Management Conference

July 2021

- 6-8 (V) NACAA (National Association of County Agricultural Agents) 2021 AM/PIC Conference
- 12-16 (V) NAPSR Southwestern Region (San Antonio, TX)
- 13-15 Underground Construction Technology (Nashville, TN)
Distribution Contractors Association (Nashville, TN)
- 19-21 (V) AWRA (American Water Resources Association) Virtual Summer Conference
- 20, 21 (V) 2021 Utility Leadership Event
- 25-28 APGA Annual Conference (Santa Ana Pueblo, NM)
- 26-28 Construction Safety, Health & Environmental Conference (Washington, DC)
- 26-30 NAPSR Central Region (Rosemount, IL)
- 27-31 DCA 60th Annual Convention (Grande Lakes, FL)

August 2021

- 2-6 (V) ASCE Pipelines 2021
- 4-6 FUCC Summer Meeting (Melbourne Beach, FL)
NACE Central Area Conference (Kansas City, MO)
- 9-11 (V) Mountain Connect Broadband Development Conference
- 11-13 Construction Leadership Council Leadership Development Conference (Chicago, IL)
- 11-15 PLCA Convention (White Sulphur Springs, WV)
- 15-18 Kentucky-Tennessee AWWA Section Annual Conference (Chattanooga, TN)
- 16-19 OTC (Off-Shore Technology Conference) 2021 (Houston, TX)
- 16-20 NAPSR National Meeting (Deadwood, SD)
- 24 (V) Western Regional Gas Conference 2021
- 25, 26 AWEA (American Wind Energy Association) Wind Project O&M and Safety Conference 2021 (Round Rock, TX)
- 30-Sep 1 NAPSR Southern Region (Charleston, SC)
- 31-Sep 2 ISE Expo 2021 (Fort Worth, TX)

Abstract Submissions Now Being Accepted:

- Global Excavation Safety Conference
IR-SavingLives.com/submissions
- Global GPR Congress
GPRcongress.com
- Leading Practices on Cross Bore Safety
CrossBoreSafetyCourse.com

To include your event in an upcoming Calendar of Events schedule, email karin@IR-SavingLives.com.

LIVE Events Survey

THANK YOU in advance for participating in this survey. The research contributes to the development of our education, live events, magazine content and, ideally, challenges all stakeholders to expand their knowledge base and increase efforts to save lives. Complete this survey to be entered in a drawing to receive a FREE Yeti mug. Results will be published in a future issue of dp-PRO. Both the survey and results (once available) are available on dp-PRO.com.



Our thanks to PelicanCorp for helping to underwrite the cost of this research. Individual responses are not shared with the underwriter or sold in any way. Infrastructure Resources employees assisting with research will have access to responses as needed.

As the world begins to reverse our quarantine lifestyle and implement a return to “business as usual,” many of us are looking forward to a time when we can gather to network, learn, and build solutions within our industry. Each company (and individual) has their own idea on when and how they will return to live events and tradeshows. What is yours?

At what level do you usually participate in industry events?

- Exhibitor Attendee

Who usually makes the decision on whether you attend an event?

- Me My supervisor Company leadership

Which virtual alternative(s) did you take part in 2020-2021?

- Free webinars or webcasts Paid virtual conferences
 Pay-per-view workshops and training events None

How do you compare the value of a VIRTUAL event vs. a LIVE event?

- Better Worse About the same

When do you plan to return to live events that require travel?

- I am now Later this year Not until 2022
 Not before 2023 Never

Will event size impact your decision to attend LIVE events in 2021-2022?

- Yes, I will only attend events with less than 100 attendees
 Yes, I will only attend events with less than 500 attendees
 No, event size won't impact my decision

Will financial concerns impact your decision to attend LIVE events in 2021-2022?

- Yes, for safety reasons my company in not budgeting for events
 Yes, my company has been adversely affected by COVID-19 and is not funding event participation
 No, financial concerns will not impact my decision

Which is more important (select one)?

- A destination location so I can combine vacation time with event travel
 A unique location so I can visit a new city
 An affordable location, I'm coming for the event, not the location
 A location that allows for easy and affordable travel
 A location with easy access to hotels, restaurants, and activities

What do you consider a reasonable per-person “all-in” budget for a live event (travel, lodging, food, entertainment, event admission)

- Under \$1,500 \$1,500 - \$2,500 \$2,501 - \$3,500
 \$3,501 - \$4,500 Over \$4,500

How long should a live event last?

- 1 day 2 days 3 days 4 days 5 days

When considering a live event, how concerned are you about...	Very	Slightly	Not
Exposure to COVID-19 variants on site			
Exposure to COVID-19 variants during travel to and from event			
Business liability risk			
Impact of crisis on travel options (service, routes, pricing, etc.)			
Impact of crisis on lodging (staff or service reductions/closures)			
Large in-person gatherings of people			
Civil unrest/protests			
Government-mandated limits/restrictions			
Unsafe behavior by other attendees			
Other:			

Would these protective measures increase your confidence in attending a live event?	Yes	No
Rapid onsite testing		
Required proof of a negative COVID-19 test		
Required proof of COVID-19 vaccination		
Required masks and/or other PPE		
Adherence to social distancing protocols		
Adherence to sanitation protocols		
Adherence to reduced capacity protocols		
Contactless registration, food service, and merchandise		
Other:		

How important are these factors in your decision to participate in an event?	Very	Slightly	Not
Event cost			
Lodging/travel expense			
Event dates			
Event location			
Educational programming/speaker list			
Exhibiting companies			
Attendee list			
Social and networking events			

Job Function

- Executive (Owner, CEO, COO, CFO, President)
 Upper Management (Director, Manager)
 Middle Management (Supervisor, Foremen)
 Field Operations (Technician, Locator, Operator)

Which category best describes the type work you do?

- Engineering
 Excavating
 Facility Owner
 GIS/Mapping
 Gov't/Regulatory
 Locating
 Notification Center
 Other

Where do you work?

- USA Canada Other

After completing this survey, snap a pic and email it to info@emailir.com or visit dp-PRO.com/surveys to complete it online.



Raptor 3D GPR Array

*The Utility Mapping Platform that Breaks All Barriers
from Speed of Data Acquisition to Deliverable Results*

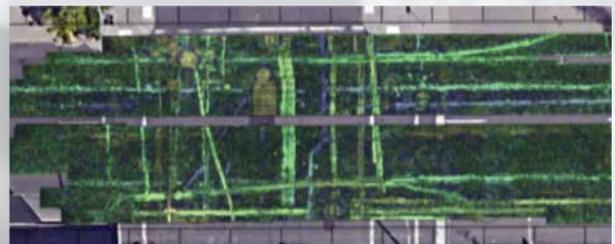
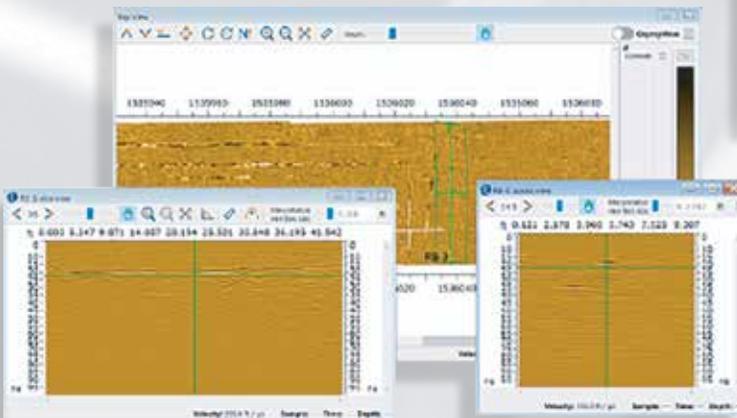
Raptor 18-Channel and 8-Channel Array Key Features

- 3D Imaging at Posted Speed Limits
- Seamless Integration RTK GPS and Total Station
- Setup in Minutes
- Interchangeable 8-Channel Cart Included with Purchase of 18-Ch system
- Easy Graphical Mapping Nav Display



Condor 3D GPR Imaging Software

- Unprecedented Ease of Use and Speed
- 3D Results in Minutes
- Developed for All Professional Disciplines
- Seamless Export of Utility and Other Subsurface Targets to CAD/GIS



All systems available in the US are FCC compliant and include a 2-year Warranty. US Authorized Service and Repair Partner Tracer Electronics, LLC, Lebanon, Tennessee
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info@impulseradargpr.com
ImpulseRadar Sweden AB Storgatan 78 SE 939 32 Malå, Sweden | +46 953 100 08
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George Kemp

Definitely not Someone Afraid of a Challenge

• STAFF REPORT •

HIRED BY METRONET TO DEVELOP A DAMAGE PREVENTION PROGRAM, GEORGE KEMP LIVED UP TO EXPECTATIONS. ACCORDING TO KRIS SMITH, GOVERNMENTAL AFFAIRS DIRECTOR WITH METRONET, “GEORGE HAS HELPED TO MAKE METRONET A COMPANY THAT’S KNOWN FOR SAFE PRACTICES AND HAS HELPED METRONET WIN AWARDS TO THAT EFFECT.”

In a short number of years, MetroNet’s Damage Prevention Program has become a nationally recognized program.

Andrea Stainback, Outside Plant Damage Recovery Manager with Lumen and fellow NTDP member said, “George is always looking for ways to educate and influence about damage prevention, while jumping in two feet first to volunteer or be part of things.”

Involved is an understatement. Along with his “day job” as VP Safety, Government Affairs & Quality Assurance with MetroNet, George is currently serving as Chairman of the Board for Indiana 811, during which time he led them through both a software and leadership change. He also serves as Alternate Trustee for OHIO 811, Secretary for NTDP, and is a member of both the CGA Education and Best Practices Committees. He also finds time to frequently participate in local damage prevention councils!



“Often it is not just WHAT one does, but rather HOW one does it. George has a lot of tact.”

Speaking to George’s peers within the industry there is no doubt he is respected. As Kit Moore, Integrated Products Manager with Damage Prevention Solutions, LLC said, “Often it is not just WHAT one does, but rather HOW one does it. George has a lot of tact.” George’s leadership style is cited as the reason many people who work with him love their job. George is a good listener, caring, loyal, honest, and fair.

George is a big advocate for getting suppliers involved in exercising a partnership for damage prevention/best practice guidelines. He not only trains associates and subcontractors, but he gets out in the field to

ensure accountability and monitors the work being done. He leads by example. He frequently travels to different markets, building relationships with the local utilities, contract locating partners, and contractors. George believes nurturing these relationships is key to damage prevention and the completion of a successful project.

George Kemp is definitely someone deserving of being called a Damage Prevention Hero. **DP**

Our thanks to these people who contributed to this article, Kit Moore, Integrated Products Manager, Damage Prevention Solutions, LLC; Andrea Stainback, Outside Plant Damage Recovery Manager, Lumen; Tammy Wilfong, Fiber Security Manager, Verizon Business; Kris Smith, Governmental Affairs Director, MetroNet; Chuck Muller, Safety & QA Director, MetroNet; and Scott Landes, CEO, Infrastructure Resources.



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NEWS

NATIONAL SURVEY REPORTS

on Utility Interruption during COVID-19

In observance of National Safe Digging Month (April), Common Ground Alliance (CGA) released the results from a recent national survey. The results revealed that a third of U.S. homeowners (33%) reported experiencing a utility service interruption during the COVID-19 pandemic. Additionally, of the 19.5 million U.S. homeowners who plan to dig this year for projects like gardening, building a fence or deck, installing a mailbox and more, nearly two in five (37%) will do so by digging without contacting 811 beforehand to learn the approximate location of underground utilities.



“The survey shows that experiencing utility interruptions has been a fairly common experience for Americans during the COVID-19 pandemic. There is no question that access to essential utility services is important to communities across the country. Given the current environment, disruptions to internet and phone services are particularly problematic, especially with so many people relying on these services more than ever to complete work, school, and so much more,” said Sarah Magruder Lyle, President and CEO of CGA.

The national public opinion survey of homeowners, conducted by CGA in late February, also revealed that one in five American homeowners (20%) have been more likely to do a DIY home improvement projects involving digging since the pandemic began – particularly gardening projects. 56% of homeowners who are planning to plant a tree or shrub this year said they were more likely to dig during the pandemic.

The most popular planned projects cited among surveyed homeowners who plan to dig include:

- **Planting a tree or shrub (62%)**
- **Building a fence (37%)**
- **Installing a new deck or patio (32%)**
- **Installing a mailbox (20%)**
- **Installing a pool (6%)**

Oklahoma Construction Contractor Cited for Repeat Infractions

OSHA has cited Cherokee Pride Construction Inc., of Sapulpa, Oklahoma for violations related to excavation work. Inspectors arrived at a job site in September 2020 to find “employees in standing water as they installed water lines in two trenches as part of a street widening project.”

OSHA determined that the company failed to protect workers from cave-ins and did not provide appropriate means of escape. Workers were also not wearing required PPE for the job.



Back in 2017, the agency cited Cherokee Pride for failing to provide a means for escape, allowing standing water inside an excavation site, and failing to fix ladder defects.

“OSHA recognizes the incidents of workers seriously hurt from trenching and excavation hazards,” said OSHA Area Director Steven A. Kirby. “The agency’s national emphasis program on trenching and excavation focuses its resources on preventing the potential for collapses.”

Teens Honored for Discovering Gas Leak

The town of Huntersville, North Carolina honored two teens back in March for discovering an environmental catastrophe that could have been a lot worse. Huntersville Mayor John Anarella gave “keys to the city” to teens Owen Fehr and Walker Sell.

The teens were riding all-terrain vehicles when they discovered a gas leak. An estimated 1.2 million gallons of gasoline had already been spilled. “We smelled something as we drove by, and it got worse and worse,” Sell said. Added Fehr, “I’ve smelled gas before and this smelled like a gas leak.”

Anarella said without the teens’ discovery and ability to show where they smelled the leak, millions of more gallons might have leaked. The mayor also praised Fehr and Sell for making sure the fire department was called to respond.

ORCGA LAUNCHES SAFE TRAINING PROGRAM

The Ontario Regional Common Ground Alliance (ORCGA) launched a new training program and revived another that was forced onto the back burner because of COVID-19. The new Safe Excavating Practices (SEP) training program complements the Damage Prevention Technician (DPT) program that has been offered since the ORCGA's inception 18 years ago.

The new SEP program has been developed as a half-day class session, but a virtual instructor-led model is also available. Targeted participants include machine operators and workers, managers and supervisors. Content will include instruction on such topics as what constitutes a ground marking; steps to take with facility damage; hazards and risks associated with digging near different conduits such as fiber, hydro cables, gas pipelines and water mains; hand digging technologies and trenchless technologies; and reading a locate form.

"The membership and our board felt there was a gap in what was available for training when you are digging around and excavating around buried utilities," explained ORCGA President and CEO Douglas Lapp.

Liftboat Capsizes in the Gulf

A liftboat capsized in high winds and heavy seas April 15, eight miles off the shore of Port Fourchon, Louisiana. Divers from the U.S. Coast Guard Heartland were able to reach the capsized Seacor Power and knocked on the vessel, but were not able to elicit any signs of life.

The Seacor Power overturned in winds of 80-90 miles per hour and capsized in 50-55 feet of water. The liftboat was used by the offshore energy industry to do maintenance and construction, and ferry drilling equipment to and from drilling platforms in the Gulf of Mexico.

There were 19 crew members on board when the vessel sunk. Six crew members were saved, with the other 13 members deceased or missing. The boat was owned by Houston-based Seacor Marine and was being contracted by Talos Energy, Inc. to perform work at one of its oil platforms.

KorTerra Partners with One Call Centers

KorTerra, Inc., producers of damage prevention software for the utility industry, has partnered with One Call Centers in Wyoming and Connecticut to provide integrated positive response to members.

The integrated positive response feature developed by the company is available at no cost to members of the One Call Centers. Utilization of the feature allows facility owners and operators to provide excavators with immediate access to all positive response details and updated dig site information in one convenient online location. Excavators now have the ability to quickly confirm whether a site has been marked or cleared for proposed work to begin. **DP**



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Convoy of Hope

Convoy of Hope is a faith-based, nonprofit organization with a driving passion to feed the world through children's initiatives, community events, and disaster response. Founded in 1994, more than 163.7 million people throughout the world have been served by Convoy of Hope. Learn more about their goals and aspirations in the *dp-PRO* archives (Summer 2019).

Planning for the bi-annual Convoy of Hope Community Event in Marquette Park, scheduled for August 2020, began in 2018. Like the rest of the world, COVID-19 completely shifted the reality of the event, but the community still desperately needed help. Event planners transitioned to a drive-thru experience, allowing 557 volunteers to serve 1,250 families.



Executing an event of this magnitude was not easy for Convoy of Hope Chicago. With the addition of John Burns Construction Company (JBCC) as a partner, it was made much easier. As the volunteer team leader for the Operations and Logistics Team, JBCC was able to procure the use of essential equipment those in the construction industry might not realize are a gift to an organization like Convoy of Hope. JBCC used their talents and expertise to supply and operate forklifts, pallet jacks, port-a-potty's, hand washing stations, gators, traffic cones, pop-up tents, wagons, and waste removal. Their familiarity with the use of the equipment and their knowledge in setting up job sites gave tremendous relief to Convoy of Hope planners. As Robbie Sonnemann, Fleet Manager of John Burns Construction, stated, "As a construction company, most of this equipment is sitting in our warehouse. Donating its use and our skills benefits our community and helps us promote our company's core values."

The partnership between Convoy of Hope Chicago and JBCC is unique but can be replicated. The pandemic continues to shine a light on the needs within local communities. The damage prevention industry has a rare opportunity to help in a clearly defined way by donating the resources and skills that are the tools of our trade. COVID-19 has demonstrated many companies want to give back and their employees want to get involved, but the struggle to find an organization to partner with can be difficult.

How to get started

- Inventory the equipment, skills, resources, and talents your company and employees have that could be used to meet the needs of your community.
- Explore organizations that could potentially benefit from what you have to offer. Make sure their vision and mission align with the core values of your company.
- Ask employees what matters to them. They may have a connection or know of the perfect service opportunity for your company.

It is always best to start small and build from there. Stick to what you are good at and understand what your limits are. A policy of under-committing and over-delivering will build success and goodwill.

JBCC's Commitment

JBCC is committed to giving back to the communities it serves. The JBCC Giving Committee focuses financial support on select organizations where they can really make a difference locally. In addition, JBCC and JBCC Giving Committee encourages and supports employees in participating in charity events that make a positive difference in the communities where they live and work. In addition, JBCC and JBCC Giving Committee offers a payroll charitable giving program for their employees. This program generates more than \$30,000 a year in charitable giving. 

To learn more about participating within the Chicago area, contact Robbie at rsonnemann@jbcco.com. To learn more about a payroll charitable giving program, contact Tara at tszwabowski@jbcco.com.

To learn more about Convoy of Hope, what they do, how you can get involved, and their schedule of U.S. and international events, visit convoyofhope.org.

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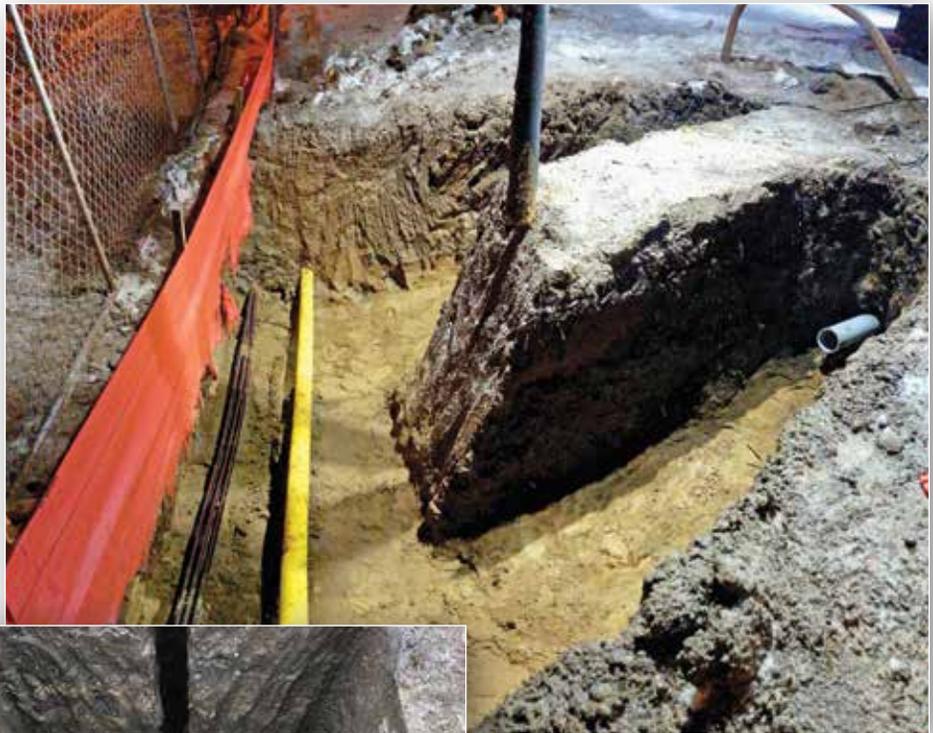
Utility Mapping and Hydro Excavation

BY JONNIE PANGERL

Being a hydro excavator for over nine years, I have worked with and alongside numerous utility facility owners, installers and maintenance companies. I have noticed a greater demand for hydro excavation than ever before, and the need is ever expanding. Over the 11 years my company has been in business in Minnesota, we have increased the number of trucks we send out every day from one truck in 2009 to over 50 trucks in our region. With the current population rising and the availability of new technology growing more rapidly than ever, there are more utilities going into the ground than anyone knows what to do with! So, what are the hardships we see daily in the underground utility world?

UNLOCATABLE UTILITIES

What are they, and how can we find them? An unlocatable utility is any utility or structure that exists underground where the location is not known and cannot be detected. Ground Penetrating Radar (GPR) is one of the first options available to try to locate the utility. However, GPR is usually more effective on shallower utilities, especially ones that are more conductive. Utilities such as terracotta pipe, also known as clay tile, is typically installed deeper and is non-conductive. A tracer wire is typically installed alongside non-conductive pipe and cable. An issue with tracer wire is that it becomes more brittle with age and there are opportunities for it to break or short out. It is in situations like these that hydro excavation comes in handy. As industry professionals, we utilize our past experiences on how these utilities are typically installed and use exploratory-safe digging techniques to locate and mark the utility. We work with the contractor to develop a plan on where to start digging, eliminate potential vacant areas and maximize our time on the job to find the utility.



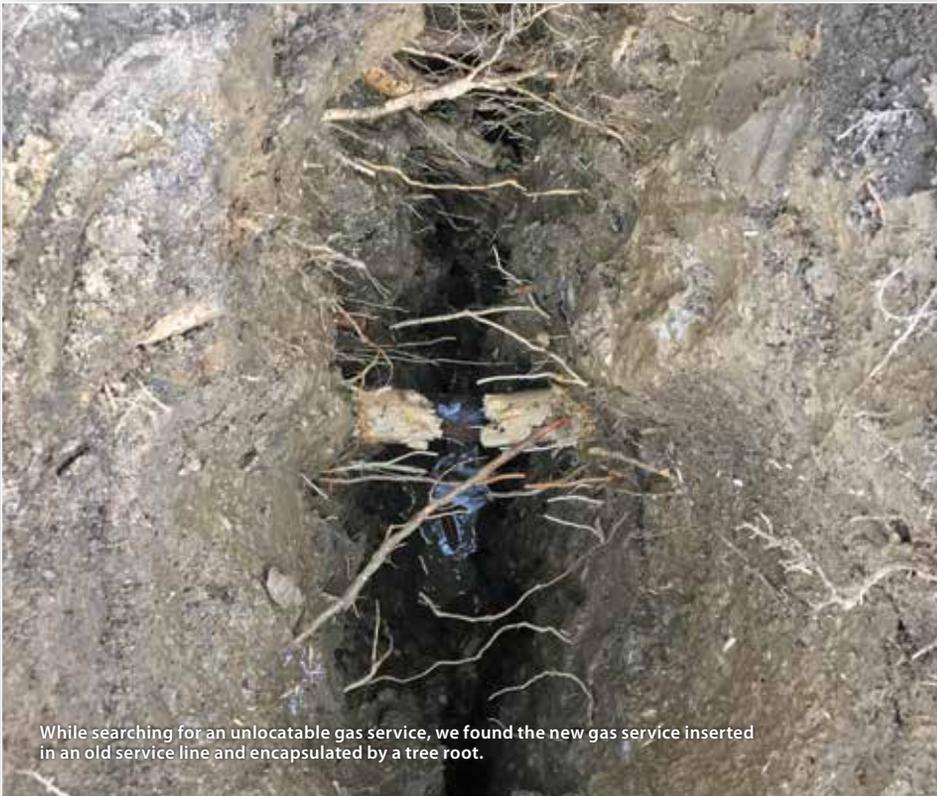
(TOP) Sometimes utilities are installed into a joint trench with multiple sets installed together, making the locator's job complicated and leaving the contractor to decipher where each utility is.

(Left) While digging a bell hole, unmarked power was found on the back side of the pit.

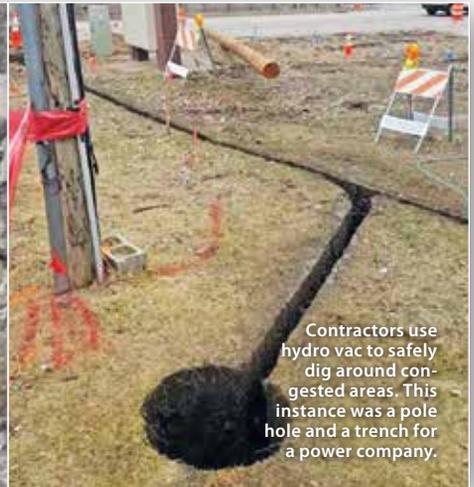
ABANDONED UTILITIES

Abandoned utilities become more common every day because facility owners are having a hard time keeping up with the growth and maintenance of their utilities. There is so much demand to get newer and larger pipe and cable into the ground to keep the world moving and safe that they often do not have the time to remove ex-

isting cable or pipe that is being replaced. This can wreak havoc for contractors working on or around the utilities. Typically, there are no marks on the ground for these abandoned utilities and the contractor may find multiple sets when only one set is marked. In this circumstance, there is a stop work plan; sometimes it can take days to figure out how to proceed. Other times, the locator picks up the abandoned utility, assumes it is live, and unknowingly fails to mark the live utility. This is another way hydro excavation adds value. We can dig safely around these utilities to create a large enough hole for the facility owner to get down close enough to identify what the utilities are and which ones are live.



While searching for an unlocatable gas service, we found the new gas service inserted in an old service line and encapsulated by a tree root.



Contractors use hydro vac to safely dig around congested areas. This instance was a pole hole and a trench for a power company.

which can cause nightmares for contractors.

For the smart contractor, hydro excavation is becoming the go-to for working on and around utilities! 

Jonnie Pangerl is Project Manager for Davids Hydro Vac (DHV) and a member of the Minnesota Underground Utilities Mapping Project Team chaired by Gopher State One Call.

BENEFITS OF HYDRO EXCAVATION

Using a GPR locating device is a great way to get a ballpark idea of where the utilities are located. Unfortunately, contractors are often in a very restricted and/or small area and their window of error is minimal. Often, locators can be off with their marks, sometimes 10-15 feet. This can happen for multiple reasons. This can put contractors in a very dangerous position and could cause utility damage, injury, or even death to workers. Having the locate company mark the utility and following up with verification potholing by a hydro vac can be the safest play out there.

There are several benefits for using hydro excavation in both pre-planning and during your project. Our contractors have found the most accurate way to get locations on the utility is by having us physically spot the utility. We can develop a plan with the engineers, project managers, and designers on how often to locate the utility laterally for the specific project. This gives everyone a concrete plan of the room they must work within for a damage-free excavation. In some instances, we have had to completely expose a utility to shift it out of the way so the project can be completed safely and efficiently.

The mapping of utilities is a big problem for all contractors. Mapping has been around since the beginning, but with the addition of so many utilities in the right-of-way, it has become a struggle just to find them or interpret them correctly. New resources to our utility industry have now allowed these maps to go digital, which has helped. The downside is that roads are still being built, widened, raised, and lowered regularly. A lot of past mapping has been recorded off road centerlines, street intersections and multiple other reference points that are ever changing. Homeowners deciding to redo landscaping and changing the configuration of the lay of their land is another huge hurdle. Often there is no update to the records that exist when this happens,



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COVID-19 and Sewer Deterioration: From One Year In to Several Years Out

BY ERIC SULLIVAN

Here we are folks! More than a year into the COVID-19 pandemic, which upended every area of our lives, and brought tragedy and loss to some of us. For those of us professionals involved in maintenance and construction projects who work to support our underground wastewater infrastructure, here is a snapshot of how the COVID-19 pandemic has impacted, and will continue to impact, our aging sewer infrastructure for years to come; as well as provide a more immediate outlook for the sewer services industry throughout the U.S.

Let's look at some of the immediate impacts. As we all remember from the initial lockdown in the spring of 2020, Americans, fearing a sustained period of mandatory quarantine, went on a panic-buying spree for toilet paper, and as some chose to stockpile large amounts of bathroom tissue, many others experienced scarcity as stores ran out of stock. This contributed to an increase in the use of "wet wipes" being flushed down toilets. These materials, which are not designed to dissolve as toilet paper does, were disruptive to the municipal wastewater collection system and created blockages in pipes, manholes, lift station pumps, and at the critical headworks of treatment plants.

Add to this, there have been anecdotal reports of sewer maintenance workers in the U.S. finding clogs in wastewater pipes due to people flushing face masks down toilets, and discarded masks entering conveyance mainlines from surface water drains to combine with other debris to form large deposits that can be difficult to remove.

In addition to the operations and maintenance difficulties from wet wipes and face masks, we have, since the initial lockdowns first commenced, experienced an unprecedented shift in the locations and patterns of wastewater flow levels in collection systems through the U.S., par-



ticularly in suburbs and areas with major office spaces. Due to nearly all office employees suddenly working remotely, and with travel highly restricted, flow monitoring data in residential areas immediately showed us high flow levels that went from a two-day a week level (because of weekends) to a seven-day a week constant state.

Now, this is not to say data demonstrates there to be an overall higher level of flow across all collection systems, however, we are likely to see a long-term shift in the point-source locations of these wastewater flows could have at least two major long-term impacts on their collection systems:

First, if residential areas (consisting of entire drainage basins in certain collection systems) experience sustained periods of higher "weekend" flow levels that could accelerate deterioration of these already aged and deteriorated pipes. If a particular pipe segment had historically only had to convey these higher flows two days a

week, and then suddenly the pattern shifts to seven days a week for longer than a year, one could expect any pre-existing fissures, voids, or joint separations to worsen.

Second, is the effect of sustained periods of low flows in major commercial areas of the collection system. These more densely populated and urban areas tend to have larger diameter gravity conveyance mainlines to service the normally higher flow volumes. With this sustained period of low flow, one can expect this to result in operation and maintenance issues, as the current hydraulics may be insufficient to convey solids downstream, causing not just blockages, but also creating an additional deterioration mechanism: corrosion resulting from hydrogen sulfide gas (H₂S attack). As these blockage points create or simulate a septic condition in the sewer, the formation of hydrogen sulfide gas results once these materials eventually aerate and oxidize due to high flow events and turbidity. As all of

us in the wastewater industry know, corrosion from hydrogen sulfide gas attack, in addition to being a deadly job safety hazard for sewer workers, is a major problem for structures made with cementitious materials, which are commonly used in horizontal conveyance and vertical access structures.

Another major disruption from COVID has been financial. Although there was not a measurable overall decline in maintenance and construction

“ Many public entities are currently seeing huge declines in tax revenues and collection issues from ratepayers impacted by sudden high unemployment due to closures from COVID protocols.”

projects in the sewer services industry attributable to COVID-19 in 2020, when one considers the long-term economic realities, there appears to be trouble ahead. Many public entities are currently seeing huge declines in tax revenues and collection issues from ratepayers impacted by sudden high unemployment due to closures from COVID protocols. Overall, these impacts will be in the billions of dollars.

This is the opposite of what has been needed for municipal maintenance and capital construction funding levels. Preexisting funding shortfalls have long been documented and lamented by folks throughout our industry. The American Society of Civil Engineers (ASCE) in 2021 even assigned a D+ (poor/at risk) grade to our aging wastewater infrastructure.

Despite this, there are two areas that offer us hope. We have seen an apparent increase in political will to carry out major infrastructure

spending. It is extremely important for those in our industry to continue to advocate for prioritizing federal infrastructure spending.

Another promising development that gives hope is the emergence of new technologies, particularly Artificial Intelligence (AI), and its increased adoption in our industry. When COVID-19 lockdowns happened, organizations large and small turned to new technologies to enable us to carry out tasks in our professional and personal lives, and AI, also referred to as Machine Learning (ML), has been responsive as well. Our industry, because of AI, was able to prove itself as a valuable frontline force in the fight against COVID-19, with wastewater sampling combined with advanced analytics enabling scientists to detect (and in some cases even predict) the spread of the disease in our communities.

AI has had a huge impact relative to an otherwise more costly and time-consuming aspect of wastewater collection system maintenance, the use of robotic inspection cameras to constantly collect images of the interior of pipes and maintenance holes, and the time and cost required to analyze the data into useful condition reports.

Sophia Soka, Director of Finance at East Bay Municipal Utility District, said it well recently while speaking at a workshop on Digital Asset Management, when describing an ongoing project with an AI Software as a Service (SaaS) vendor, “We are using machine learning to rapidly identify pipes for replacement, which will allow us to reduce infiltration and inflow into our regional collection system. This technology really takes advantage of our existing practices, leveraging data we already have. We have limited budgets, more constraints due to regulation, and more asks from

the public. Income inequality means that affordability is high on our list of objectives. So, we’re hoping technologies like this are going to enable us to better manage our assets on behalf of our ratepayers in a more cost-effective manner.”

This will continue to be the trend, even as our communities finally begin to fully emerge from more than a year of lockdowns and economic uncertainty due to COVID-19. There still remain systemic issues contributing to funding shortfalls at utilities that will continue to pull for the adoption of new technologies and new types of results. According to Greg Baird, President of the Water Finance Research Foundation, “aging infrastructure and compliance issues are driving up costs for sewer utilities, putting more pressure on affordability concerns. Utilities are looking to leverage AI/digital solutions and technologies to reduce costs and increase efficiencies while protecting the public health.” **DP**

Eric Sullivan is Director of Business Development with Sewer AI. He can be reached at esullivan@sewerai.com.

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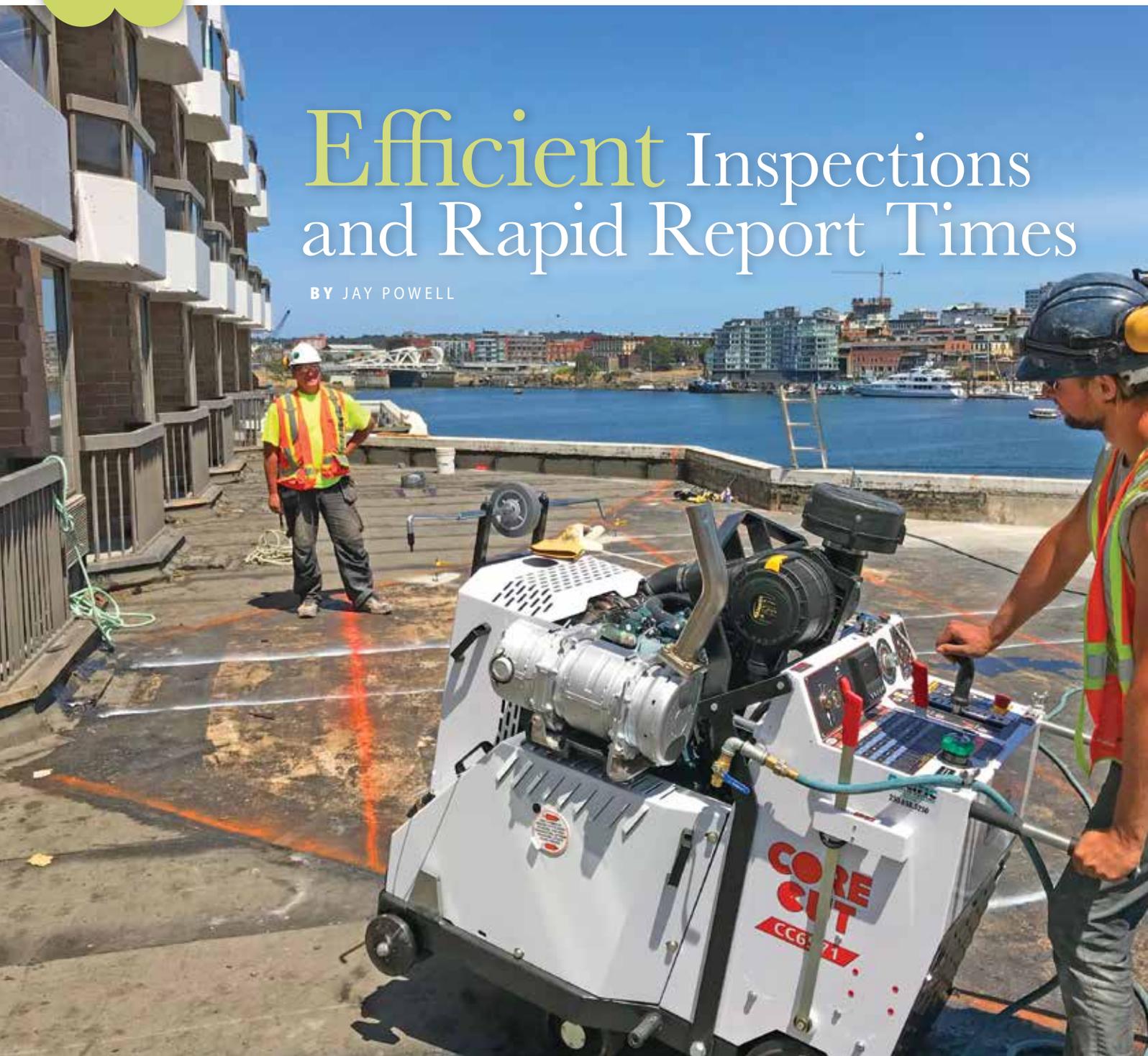
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The owners were impressed that I was able to get them a report on the same day, on Friday.”

Efficient Inspections and Rapid Report Times

BY JAY POWELL



MEET JOHN VAN DYK, P.ENG., owner and inspector of Canadian Cutting & Scanning. He has decades of experience in structural engineering and general contracting and has owned Concrete Cutting for 20 years.

In addition to concrete cutting and GPR scanning services, he provides specialized engineering services. Most of his work as a consulting engineer focuses on seismic restraints for electrical equipment in Vancouver.

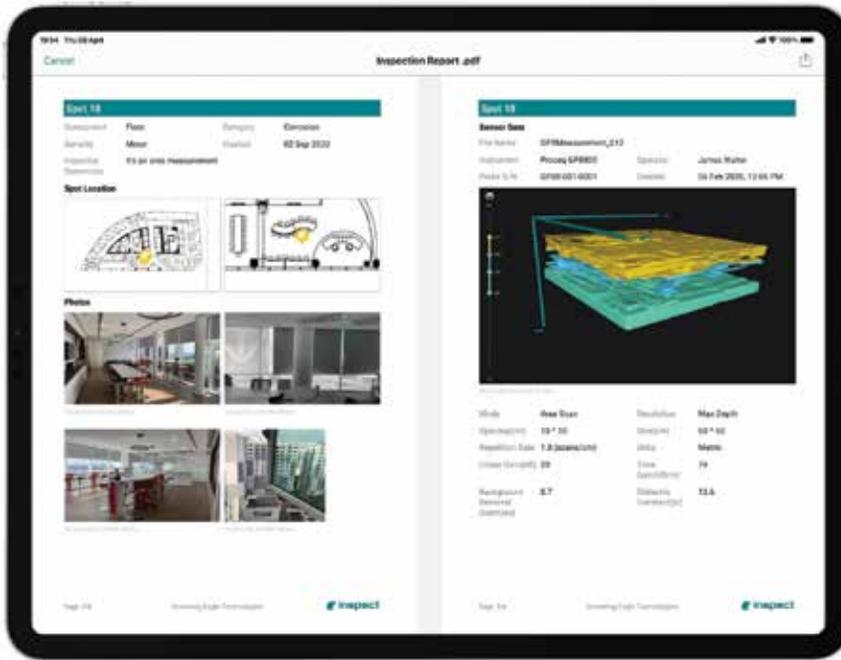
John's Challenge

All assets John inspects need detailed documentation, including notes and images from ev-

ery inspection. Traditionally, John would conduct onsite inspections with paper, pen, and a digital camera. After completing the onsite visit, he would take his notes and photos back to his office and spend several hours, or even days, compiling an inspection report for the asset owner.

This was not ideal for John, as many of his asset owners demand the report as soon as possible. Further complicating the process is a lack of historical





The Benefits

With the data collected on the app for each asset, John now has a historic record he can bring to the owner next year when the inspection is due. He will be able to show where defects have gotten worse, stayed the same, or improved. He will be able to track the progress annually. This increases John's opportunity for potential repeat business and gives owners a more comprehensive record of their assets over time, saving time and money on repairs and inspections.

John was impressed with the reduced time it took to generate his detailed inspection report, stating, "The owners were impressed that I was able to get them a report on the same day, on Friday."

With the saved time, plus the opportunity for regular inspections, the app has given John the ability to take on more clients and complete inspections in less time, helping their business grow exponentially. **DP**

Jay Powell is the Screening Eagle Vice President of Sales. Learn more about the INSPECT App at screeningeagle.com.

data to reference when planning an inspection, leaving him to start from scratch each time an inspection is due.

To improve performance, John used a software designed to record findings, create instant inspection reports, and develop a "health" record of the assets for two very different inspections.

Wastewater Treatment Plant Inspection

The McLoughlin wastewater treatment plant is one of John's bigger sites. He took about 30 minutes prior to the inspection to set up his inspection report template within the software app, uploading seven drawings into the 2D view, and customizing the data fields he was going to need to collect when onsite.

While onsite, he used the app on his iPad, allowing him to take images and record any defects found throughout the building and surrounding area. Through the Screening Eagle Inspect app, all his data was instantly saved in the cloud.

Once the inspection was complete, he spent only five minutes selecting the spots on the drawings to include in his report to the owner and generating the report using his electrical report template.

Hockey Grandstand Inspection

The second location John inspected was the hockey grandstand at Tamanawis Park. For smaller inspections like this, John did not need to do any prep work. Throughout his inspection, John took photos of defects found and annotated them within the app.

For example, a drain was placed incorrectly near the grandstand and the asphalt was not sloped properly. These issues were quickly noted in the app to be easily referenced later when generating the report. After setting up the report within the app using his documentation, John generated a report for his customer the same day.



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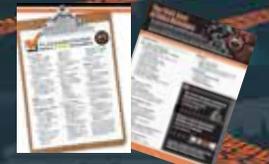
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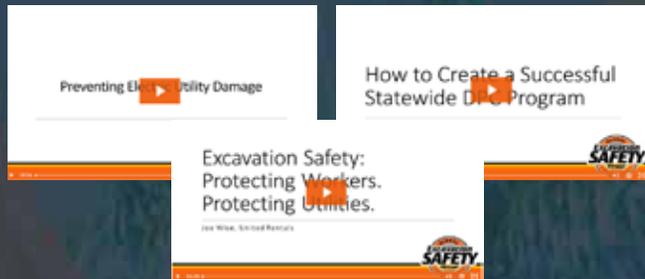
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Damage Prevention App is making a Safety Difference



Mississippi Operations Supervisor,
Doug Gordon visits a worksite in
Columbus, MS.

Federal regulations require natural gas pipeline companies to conduct continuing surveillance of their facilities to prevent damage. One safety leader in the industry has strengthened their approach in capturing surveillance documentation that enables them to measure the effectiveness of their employees' outreach with excavators.

In 2019, Atmos Energy rolled out the Damage Prevention Ambassador application. During year one of utilizing the app, the natural gas distribution company documented a 7.1% reduction in overall third-party damages to their system across eight states. Atmos Energy Ambassador stops have topped the 41,000 mark in all eight states and over 1,800 employees are participating.

"The adoption of the app has been even faster than anticipated and the results clearly indicate improved public safety," says David Raymond, Operations Manager with Atmos Energy

in Lafayette, LA. "Damages in my home state of Louisiana have been reduced by more than 23% from the previous calendar year through more than 4,800 Ambassador stops involving more than 300 employees." The Ambassador Program utilizes handheld technology with employees who use the system daily while performing their duties.

Employees engaged as Ambassadors primarily drive a company vehicle and are typically in the field for a significant portion of their day. The purpose of the program is to proactively engage with



excavators digging near Atmos Energy's infrastructure. When Ambassadors identify an active excavation site, they can pull over and launch the app to begin documenting the location. The app logs the GPS coordinates of the site and allows the user to capture 811 active ticket numbers, photos of the jobsite, and educational literature left with the excavator.

"The app has several questions that relate to the stop such as the address, date, location and time that are pre-populated by the GPS coordinates identified in the app," David said. "When we engage with an excavator, we inform them we have facilities in the area and ask

can be made to allow the owner/operators time to mark according to state dig law.

"There were more than 20,000 stops in 2020 where we didn't drop off educational literature, because those excavators were doing everything according to best practices, the state dig law, and digging with care," David said. "We sincerely

"There were more than 20,000 stops in 2020 where we didn't drop off educational literature, because those excavators were doing everything according to best practices, the state dig law, and digging with care," David said.

if they need anything from us for their project. We can confirm if our facilities have been marked correctly in the scope of the locate ticket request and if excavation is planned within the tolerance zone and requires hand or soft digging methods to safely expose the facilities."

Ambassadors perform a quick check of our ticket management system and/or the state's 811 website for an active locate ticket number before exiting their vehicle. If there is no active ticket request found, excavators are supplied with Atmos Energy damage prevention brochures and state 811 center literature.

Reports show at 29% of all stops, employees are finding excavators either do not have a valid 811 locate ticket of their own, their 811 ticket has expired, or their excavation plan includes utilization of mechanized equipment in the tolerance zone without exposing the utilities. Damage prevention educational materials are then provided and if imminent danger exists to the pipeline, stop work authority is granted to the Ambassador on site. The excavator is asked to call or click 811 in addition to cease digging so that a valid 811 ticket request

thank the person we are interacting with for excavating safely whether they are a professional excavator or a homeowner.

"We've been performing continuing surveillance as required by federal regulation for decades," David said. "We are required by statute to prevent damage to our underground facilities, to identify threats and the Ambassador app enables us to document when, where and how." 

Contact David at david.raymond@atmosenergy.com to learn more about the Atmos Energy Damage Prevention Ambassador App.

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The video is accessible at vimeo.com/114175332, on YouTube or at the Pipeline Association's website: www.pipelineawareness.org

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Advances in array tech data collection and software processing are mainstreaming the platform for use by a diverse range of professionals such as geomatics/geospatial surveyors, engineers, and geoscientists as the technology provides a comprehensive “view” of the underground. In fact, coming soon is ASCE 38-21 which is the long-anticipated update to 38-02. The title for 38-21, Standard Guideline for Investigating and Documenting Existing Utilities increases the scope for Subsurface Utility Engineering (SUE) investigations to include additional conflict information regarding the subsurface. An important addition is the inclusion of Multi-Channel GPR (MCGPR) and its integration into the process. The use of MCGPR arrays is proven to be the most effective method to obtain information of the overall utility corridor rapidly and there is no equivalency to any 2D GPR process-period.

Yes, it can be argued that MCGPR is a geophysical instrument, but with any technology as it advances the early adoption phase is ephemeral. The method is no longer a tool only to be mastered by geophysicists any different than an optical physicist is needed to collect LiDAR data. The proliferation of LiDAR in recent history was made possible with advancements in GPS and inertial technology so that millions of measurement points are spatially correct from down range. If one looks at arrays and its corresponding data collection processes it is also heavily dependent on absolute positioning. Similar to LiDAR, RTK GPS and robotic total stations are essential to the ultimate solution. A GPR trace and its return energy is arguably more complex than a laser, but with arrays and advanced processing this nuance is more opaque than ever to the user and that is the natural progression of any tech. How many people reading this knew ten years ago they would be able to fly a drone with precision inertial stabilization systems, the origins of which were developed for aerospace.



Figure 1, Osprey View 3D view of portion of street corridor Spokane, WA. Data courtesy of GEL Solutions LLC and David Evans & Associates.

Circling back (pun intended) to 38-21, the level of imaging from MCGPR arrays can effectively image the very features added to the standard. In the example in **Figure 1** there is clearly a duct bank and associated vault. Both are easy to extract into the CAD deliverable, but the added value is the ability to accurately measure the dimensions in seconds. Imaging in many instances is so robust the pipe joint (**Figure 2**) can be measured! These and other subsurface features are a few examples

BY Matthew J. Wolf

UTILITIES ARE NOT THE ONLY CONFLICT LURKING UNDERGROUND

The timing of the release of 38-21 perfectly coincides with this revolution. New to the standard will be the documentation of other features in the underground. This includes, but is not limited to, thrust blocks, buried foundations, vaults and their respective dimensions, or any other relevant conflicts that may be identified to aid in the overall goal of a SUE investigation and that is mitigation of conflicts pre-design pre-construction.

Visualization processing tools for MCGPR array data takes minutes rather than hours and the staffing of the proverbial rocket scientist just a year ago! Within this revolution is a visualization tool loosely named Thick Slice Processing that is changing the streetscape in terms of ease of interpretation and extraction of utility and other subsurface features. The level of detail that can be extracted from data such as these is not remotely achievable with any other subsurface utility method. This is a bold statement but any casual inspection of the data set in **Figure 1** backs this up. The section is from an actual MCGPR survey in Spokane, WA and is a portion of the two miles surveyed. The MCGPR data is from a portion of a full block that was surveyed at posted speeds in about 20 minutes; processing time to this image is ten minutes. The representation is a comprehensive view of all utilities detectable with MCGPR from the surface to the maximum penetration depth of the GPR signal. The lighter green and yellow are near surface and the darker greens and blues are the deeper utilities. The process is aptly named Osprey View as it mimics the venerable aerial predator peering through the water column to secure a piscatorial meal in its talons!

of the additional information that are included into the utility report for 38-21.

Safe Site Utility Services LLC, a Glendale, Arizona based company, provides advanced subsurface utility mapping services throughout the southwestern U.S. One of their ongoing major projects requires the designating of utilities for the design of solar power generating systems for a local school district. The company was hired by a design firm to locate potential solar sites at 22 school campuses that had been renovated and redeveloped over the years. The design firm was unable to obtain good utility records for these properties and hired Safe Site to locate and map all active, abandoned, unknown, and non-metallic utilities to avoid surprises and the associated cost overruns and delays during the construction phase.

As company owners Tim Story and Dan Bradley describe it, “we had just acquired the MCGPR unit and offered it as a possible solution



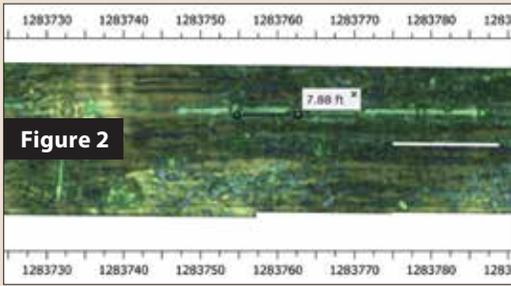


Figure 2

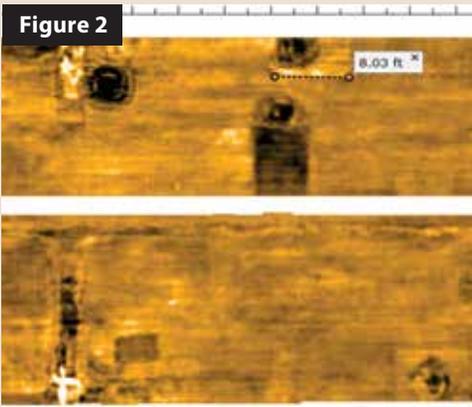


Figure 2

Figures 2, Osprey View 3D and standard 3D array image illustrating ancillary information such as vault exterior dimensions and pipe joints.

to their problem. We used it along with our other systems and at many of the schools we found unknown/undocumented active utilities or abandoned facilities. We were extremely impressed with the results. The effectiveness of 3D GPR is site-specific and soil-dependent, but we have had great results finding non-

metallic pipes, storage tanks, fiberglass fuel lines, trench lines/excavations, buried structures, etc.” (Figure 3)

The soon to be replaced 38-02 did not clearly address other potential conflicts for future design and construction but a conflict is a conflict whether an unknown utility, abandoned tank, remnant foundation, or other unknown structure/facility. The addition of MCGPR arrays is logical as it is not fringe technology anymore and as illustrated here is unmatched in its ability to provide comprehensive GPR information without any need for street

closures and/or having personnel in the street corridor. One could easily make the case that using a 2D GPR on large scope, or a very dense utility corridor project, is not the best solution available if the goal is to provide the best information or best practice.

An additional unforeseen conflict may actually be lurking within your respective organization itself as the old guard just has not caught on to MCGPR due to past inefficiencies in both data collection and particularly the data processing. This is akin to climbing on top of a ladder or rooftop to get that aerial photo of the project site rather than using a drone. A better solution has arrived. **DP**

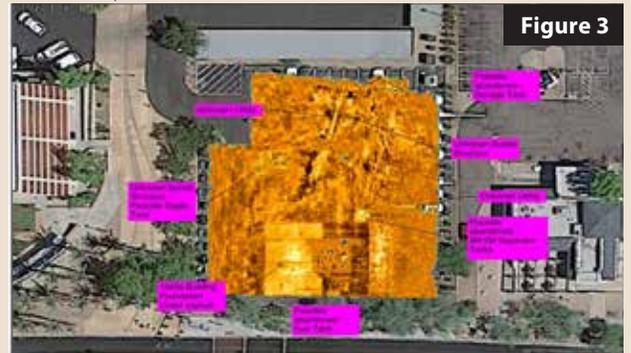


Figure 3

Figure 3, Multiple subsurface conflicts in addition to utilities discernable with MCGPR.

Matthew J. Wolf is President of ImpulseRadar USA, Inc.

Note: ASCE 38 Updated Information Courtesy of Jim Anspach P.G. PG (r), Dist.M.ASCE Chair, ASCE 38 UESI Pres 2018



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A Farmer Learns the Importance of Knowing *What's Below*

BY SARAH HAUGEN

What's Below

A warm fall was finally bringing the right kind of weather for Austin Broden to install drain tile in a few spots on his fields. His tile plow had been sitting dormant for several seasons, just waiting for the right moment. In early December 2020, he had his chance. Broden knew he had to hurry because cold weather was on the way.

Broden, who grows corn, beans, edible beans, wheat, and sugar beets on land that straddles the Minnesota-North Dakota border, knows the right steps to take before digging. He had called 811 previously to have underground utilities marked before he broke ground on other fields, but in one spot, where he would be trenching away from the road and along a river, he assumed there were not utilities nearby, so he didn't worry about making the call.

Then, as he broke ground to install the last of four drain tiles within an 80-foot area, his tile plow hit metal. He did not feel the impact, but he was scraping the top of a Cenex Pipeline, a refined petroleum pipeline.

"If I had known I was so close to that pipeline, I wouldn't have attempted it," Broden said. "We were almost done with the job and I was already thinking about the work we had to do on the next field down the road. It was a race against time."

Know What's Below

Under much of North America's farmland lie buried utilities. From water to natural gas to oil and electricity, these utility lines carry resources to residents. They also carry dangerous consequences if they are damaged.

"Hitting an underground utility is a serious safety hazard and can even cost a life," says Tina Beach, public awareness specialist for CHS, a farmer-owned cooperative. The co-op works to educate farmers about digging safety through training sessions and partnerships with

Photos courtesy of Adam Hester, CHS

industry groups like the Pipeline Ag Safety Alliance and Pipeline Operators for Ag Safety.

Beach says the best course of action is to call 811 before breaking ground, no matter the depth or location. "Never assume you know where a buried utility is placed. It's important to go straight to the source for information on utilities by contacting 811."

Beach, who serves in leadership roles on state pipeline associations, state and local emergency response organizations, and national trade associations, reminds all ground disturbers that any impact to a buried facility needs to be reported immediately, even if there is no obvious damage. "It's not just the immediate impact to the utility line that matters. Accidents can lead to corrosion and then safety or performance issues, so every incident must be reported and repaired." Even a small scratch to a pipeline can cause serious corrosion to the line in years to come.

Pipelines are inspected for indications of excavation through a number of means, including from the air by plane or through right-of-way patrols.

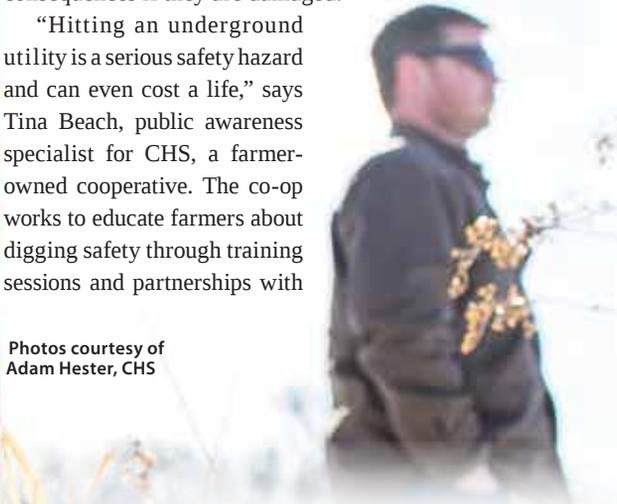
Safety First

"I was lucky," says Broden, who was digging 52 inches below the surface. "When you are busy, it can be hard to plan ahead and slow down to make sure every step is taken. I've learned firsthand that safety must be first on the list."

By calling 811 to have utility lines marked before digging, you can reduce your liability for damages. Even more important, you help ensure that everyone will go home safely at the end of the day.

"It takes a lifetime to build a farm," says Beach. "It takes just one free call to 811 to keep it safe." 

Find out more at chsinc.com.



“I recently heard in a webinar, after a woman gets past the glass ceiling, she's standing on glass.”

Who are the Leading Women of Damage Prevention (LWDP)? This newly formed organization, in association with the DPC of Texas, is a social enterprise designed for the advancement and discovery of leadership for all women who have an interest in the protection of underground infrastructure. We come from all aspects of the industry: oil and gas, One Call,

The LWDP Board of Directors held their official launch webinar on April 29. To learn more, check out the website at dpcoftexas.org. 

LWDP

Leading Women of Damage Prevention

BY KETHA MOLINA

construction, utilities, pipeline, municipal and county, engineering, line locating, and many other related fields, all with some tie to utility and pipeline damage prevention.

Much of my career has been in construction, an industry where women comprise a mere 10% of the workforce. My many years as Safety Director serving a male-dominated workforce provided my vision for creating the LWDP. As I pivoted from building infrastructure to protecting infrastructure, my life experience has taught me many things.

For questions regarding the launch webinar, organizational membership, sponsorship and/or comments, visit dpcoftexas.org or reach out directly to KethaMolina@Texas811.org.

My top three industry life lessons are:

- 1) You must learn the business in which you are working.
- 2) Don't self-reject. Yes, apply for the job. Yes, write the article and submit it. Yes, speak up with your ideas at the meeting.
- 3) Invest in You. The more you invest in your education, your support system, your learning, and your hands-on experience, the better equipped you will be to take on a formal or informal leadership role.

Women working in a male-dominated industry need the tools, networking, and mentorship to help us excel. The LWDP invites you to join us as we work towards our mission “to influence and encourage all women in the damage prevention industry to be bold, confident and brilliant through collaboration, empowerment and networking.”

When asked, “What tip would you give to our leading women?” Shakheana Fields, LWDP Vice President, said, “I recently heard in a webinar, after a woman gets past the glass ceiling, she's standing on glass. We all know the feeling within that analogy. Let's make it a point to lay the cement for the future ladies in damage prevention.”

Be Bold. Be Confident. Be Brilliant. Together.

Our Purpose:

- Provide educational and development opportunities for women who seek to advance as leaders.
- Optimize engagement with leading innovators and subject matter leaders in this industry.
- Facilitate discussions of leader competencies and best practices, led by experts in the field.
- Create a supportive environment.

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DAMAGE

Prevention Week™

DamagePreventionWeek.com

Damage Prevention Week™ (DPW) is an annual week-long initiative designed to bring to light the industry's efforts to prevent damage to both underground and overhead infrastructure and improve safety within the excavation community.

While companies and associations around the world were encouraged to host local events during this week focused on reducing damages and improving excavation safety, several industry leaders worked with Infrastructure Resources to host events alongside the Global Excavation Safety Conference in Tampa, Florida, this past March.

When COVID-19 forced DPW events online, event producers, presenters, and panelists all worked together to bring this important education to a virtual environment. Access to the recordings of each of these DPW events is available at DamagePreventionWeek.com.

Global GPR Congress

The Global GPR Congress was a unique opportunity for new and experienced GPR users worldwide, from a variety of industries and applications, and both the academic and private sector, to gather for open discussion and continuous learning. Attendees approved of the diversity of presenters and topics. One participant stated, "I am really impressed with the take-up and the incredible simplicity in which this oh-so-often 'complicated' topic has been delivered." Another commented, "Excellent content and nice to see GPR talks that are not just lab tests and real-world applications." Overwhelmingly, participants are looking forward to the live version of this event in Phoenix next March.



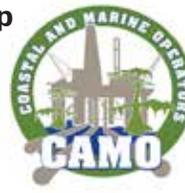
Leading Practices on Cross Bore Safety

This course, designed by CBSA, was created to provide underground utility operators, contractors, and service providers guidance for minimizing utility conflicts due to cross bore strikes. Covering a wide range of cross bore safety topics, from the evaluation of existing cross cores to regulatory requirements, speaker and moderator, Mark Bruce (President, Cross Bore Safety Association), had this to say, "Instructors enjoyed the opportunity to share knowledge and give back to the industry that we are proud to be part of. It is always a treat, when participating in educational events, for the interactions to become a learning experience for the presenters as well as the attendees. We were fortunate to have some good interchanges that added to the planned coursework. The interest was high and knowing we were adding to damage prevention for the safety of the public and industry workers is very rewarding."



Safety, Security and Emergency Response Workshop

CAMO hosted this free workshop inviting all stakeholders concerned with the protection of coastal and marine pipelines to join the conversation as they explored the issues and challenges in preventing spills, releases, and damage to underwater pipelines and utilities which negatively impact the environment and public safety, including the 2020 Corpus Christi dredging incident. Attendees commented on the relevant and high-quality content,



as well as the variety and professionalism of the presenters. This workshop is recommended for any facility owner with marine assets.

Utility Locating with GPR Workshop

Industry expert Troy De Souza (Sensors & Software) brought his knowledge and experience to the forefront again with this workshop perfect for beginners and utility experts looking to expand their skills. The interactive capabilities incorporated into this workshop allowed participants to really explore, understand and interpret the data by testing different calculations, gain, zoom, depth, filter, and slice view interaction. With a survey score of 3.7 (out of 4), participants categorized this workshop as very "smooth," entertaining, and informative.

Damage Investigation & Claims Resolution Workshop

Damage investigation is the single most critical aspect in determining the root cause of a damage. Presenter and legal expert Ron Peterson led participants on a focused journey through the seven key components of a successful root cause investigation, and how these elements can impact future legal action. A "must-see" for both facility owners and excavators.

Mark your calendars for the 2022 Damage Prevention Week

Many of these courses, along with other new and exciting initiatives will return LIVE during Damage Prevention Week, February 28-March 6, 2022 in Phoenix, Arizona. Visit DamagePreventionWeek.com to sign up for updates, register as an endorsing organization, or submit an abstract to conduct your own Damage Prevention Week live event in Phoenix. 



Infrastructure Resources Initiative

IR is dedicated to helping the industry save lives through education. Look for this icon identifying articles on programs and initiatives created by IR to help us meet this goal.

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IS 811

BROKEN?

A Two-Part **Virtual Networking Event** Explores Issues and Best Practices

As part of the 2021 Global Excavation Safety Conference VIRTUAL, KorTerra's Tom Hall, Vice President of Business Development, facilitated a lively and informative two-part roundtable discussion that addressed the question: Is 811 broken? This provocative inquiry inspired attendees from across industries to share damage prevention experiences, best practices, and ideas as well as ask questions of one another.

A wide range of industry experts and stakeholders attended both networking sessions, representing several parties focused on damage prevention, including excavation, utilities and facility owners, and One Call centers such as NC811 (North Carolina), MISS DIG 811 (Michigan Utility Notification System), Arizona 811, and others.

The first session of the conversation took place on the opening morning of the conference, and the second on day two.

Topics discussed in the recorded sessions included:

- **Accuracy and timeliness concerns related to using contracted locators versus in-house locators**
- **Reporting capabilities from both the utility and One Call perspectives**
- **Private line locate processes**
- **Issues and potential solutions related to abandoned facilities, old infrastructure, and inactive or obsolete lines**
- **Damage prevention awareness, education, and advocacy**
- **Patroller programs and quality control**
- **Lack of continuity within the One Call process and ticket management systems**
- **The need for trust and balance of responsibility among stakeholders**
- **Effective ways to bring people together and level the playing field**

Discussions occurred and resources were shared in the chat function of the virtual sessions as well.

Is 811 broken? While everyone could agree that there are specific areas needing improvement, responses were mixed among the group. Some feel that overall, the system works but



needs to evolve and improve in specific areas. Others think that yes, in some states, 811 is broken to a certain degree. Laws, processes, and accountability vary from state to state. The conversation illustrated a point that we should all remember: Different stakeholders face different challenges, but we are all passionate about finding resolutions, protecting assets, and saving lives.

The conversation can't stop here. All parties must have a seat at the table and be heard. Working together, we can address and resolve those challenges for all. Conferences like this, and continued communication among all stakeholders will allow for the

sharing of best practices and an opportunity to fix what's broken. The value of bringing industry experts together to share insight, offer solutions, and learn from one another cannot be overstated. This is how we will arrive at and develop best practices for all stakeholders so that we can reach zero incidents together. **DP**

KorTerra is the leading provider of damage prevention software, protecting billions of dollars in underground infrastructure. KorTerra provides secure cloud and mobile platforms for processing 811 locate tickets, tracking and reporting asset damages, meeting regulatory compliance, and more. Learn more at korterra.com.



MISS DIG 811 Educational Mobile Unit

• BY LINDA PORTELLI •

WHAT DO YOU get when you cross utility safety education, grant money, fun, games, superheroes, and mobility? In MISS DIG 811's case, Michigan's facility notification system, you create an EMU. We're not talking about the giant bird but rather an Educational Mobile Unit that can travel throughout the state, educating children and the public about the dangers present when working or playing near underground utility lines.

It all started with ideas brainstormed by MISS DIG 811's Education team to provide hands-on, fun, educational training about utility safety at an early age. Those ideas became a reality with monies secured from a State Damage Prevention Grant MISS DIG 811 received in 2019-2020. Larsen's Graphics developed the van's inner workings after considering the Education Department's ideas and bringing them to life, which was no small feat. Securing parts for the van's interior during COVID proved to be a challenge, but it was worth the wait. MISS DIG 811 was delighted with the outcome.

MISS DIG 811's EMU is a colorful vehicle loaded with educational fun! What better way to appeal to children and the public about underground facility safety than utilizing videos, games, and activities? MISS DIG 811 hopes that the sooner you learn about safe excavation practices around underground lines, the greater chance you'll have of becoming an advocate for responsible and safe excavation as an adult.

The EMU boasts learning activities for all ages. There are videos, a hands-on color matching activity, virtual reality, corn hole, and Plinko games. A MISS DIG 811 coloring book and passport moves the learner through various stations to finally be awarded the prestigious title of Underground Superhero. Superheroes receive a cape and hardhat once they have completed all activities.

MISS DIG 811 is adding new characters to their lineup. MISS DIGGY will be joined by Alan the Excavator Squirrel, Webster the Owl, Doug the Excavator Mole, Mel the Supervisor Worm, and three rabbit Locators: AJ the white rabbit, Hal the gray rabbit, and Bert the brown rabbit. MISS DIG 811 is excited for these new characters to appeal to children while teaching them valuable lessons about the dangers present when playing near underground utility lines.



The EMU made its debut in Michigan's Upper Peninsula at the Home and Garden Shows in Marquette and Escanaba in April. It also headed out for a clay shoot in Grand Blanc, golf outings with MITA throughout the state, and the Bay-Rama Fishfly festival in New Baltimore. Consumers Energy, SEMCO, and DTE plan to join in the fun as we utilize the van for training. As the calendar fills up, MISS DIG 811 hopes to reach as many children and adults as possible to have some educational fun while creating and fostering safe excavation habits.

The Educational Mobile Unit will travel throughout Michigan to raise awareness about the dangers of working near underground facility lines. You can request the EMU to visit schools, annual meetings, home improvement stores, municipal and public events, and anywhere the public will benefit from learning awareness about safety and damage prevention. Look for us in Michigan neighborhoods or contact us for a visit from the EMU at education@missdig811.org.

For a sneak peak at MISS DIG 811's Educational Mobile Unit: <https://vimeo.com/493501445>. 

Linda Portelli has been with MISS DIG 811 for 13 years and is the Learning Management System Administrator. She oversees social media and serves as a communications coordinator between departments. Linda can be reached at lportelli@missdig811.com.



Phoenix, Arizona
March 1-3, 2022



The largest event in the damage prevention industry is back LIVE in 2022! Featuring education for all stakeholder groups, and opportunities to network with industry peers, learn safe practices, and lower costs associated with underground damages, Global ESC has drawn more than 23,500 industry professionals since 2004!

GlobalExcavationSafetyConference.com

- Submit your abstract or session idea
- Learn more about Networking at Global ESC
- Learn more about or sign up for Global ESC Updates

Education at Global ESC

80+ Education sessions are currently in development on topics appropriate for all industry stakeholders. Our content is curated by delegate suggestions, advisory board recommendations and high-profile industry concerns. Presented by a mixture of subject matter experts, industry leaders, and professional speakers, we offer a broad range of topics not found at other industry events.

**SHARE
YOUR
MESSAGE!**

Abstracts are now being considered.

Networking at Global ESC

From the Tuesday Welcome reception, to the Wednesday Night Networking event, to the optional Click Before You Dig Golf Scramble on Friday, there are multiple opportunities to meet and connect with industry contacts you haven't seen since 2019!

NEW THIS YEAR!

Participate in casual discussions on industry topics moderated by our exhibitors and speakers. Scattered throughout the exhibit hall during expo hours, these networking conversations are your opportunity to have your voice heard on a variety of industry concerns.

Exhibits at Global ESC

The damage prevention and excavation safety industry is constantly changing and evolving. Take advantage of three days of exhibit hall access to connect with the resources you need and learn about the new services and technology shaping the industry's future.

NEW THIS YEAR!

Exhibitors offer scheduled tech talks and product demonstrations. Held in the exhibit hall during expo hours, these presentations offer you a deeper understanding of the products and services our exhibitors offer.

Interested in Exhibiting?

To learn more about the benefits of exhibiting at Global ESC, reserve exhibit space, or explore other sponsorship and advertising opportunities, contact:

Partnership Manager, Vicki Husome

vicki@IR-SavingLives.com or call 866.279.7755



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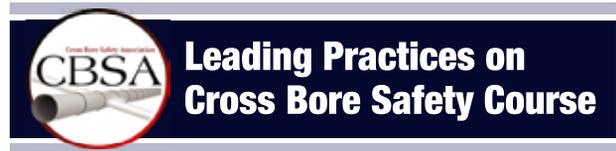
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- Submit Your Abstract for DPW LIVE Events
- Conduct your own DPW LIVE event in Phoenix
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2022 Damage Prevention Week LIVE Events:



Additional events are currently in development!

SHARE YOUR MESSAGE!

Submit your abstract for consideration at these events, or to conduct your own Damage Prevention Week LIVE event in Phoenix.

Host Your Own Local Event

Download the Damage Prevention Week logo and share your initiative! We will promote it on the DPW website and in future issues of dp-PRO™ Magazine.

Support the Movement

Contact jerilyn@IR.SavingLives.com to be recognized as a Damage Prevention Week endorsing organization.

Thank You to Our 46 Endorsing Organizations from 2021!

Industry Engages in Locator Safety Awareness Week!

• STAFF REPORT •



THANK YOU LOCATORS!

And thanks to all our industry partners who took the time to recognize these important industry professionals as we celebrated Locator Safety & Appreciation Week in April. Here is a sampling of posts and comments made during the week.

Day 1 of #LSAW!

Infrastructure Resources: It's the first day of Locator Safety and Appreciation Week (LSAW)! Join us in a week-long celebration of utility locators' hard work and dedication to safety. Thank you, locators! For more information on #LSAW, visit locatorsafety.com

National Energy Foundation: It's Locator Safety & Appreciation Week (LSAW)! Utility locate technicians play a critical role in public safety as accurate marking protects our communities and transmission infrastructure. #LSAW

CP&Y, Inc.: Engineering (SUE) team and highlight the critical work they do! #LSAW #SUE #SafetyMatters #LocatorSafety #Marks-Matter #Partners

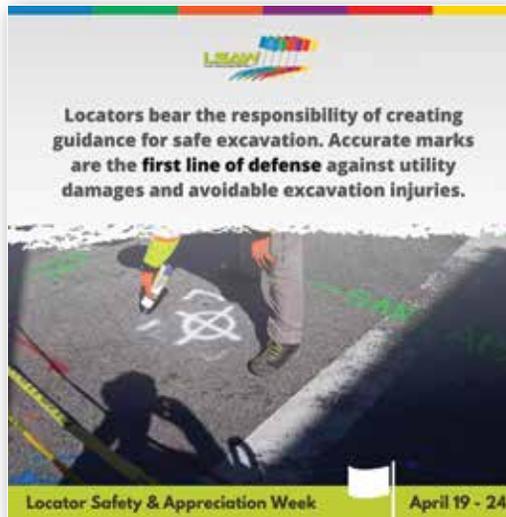
Heath US: Thank you to underground utility locators during Locator Safety & Appreciation Week for ensuring the safety of the public with on-time, accurate locate marks. #lsaw #yoursafety_ourcommitment

Day 2 of #LSAW!

Infrastructure Resources: Diligent. Consistent. Crucial. Utility Locators make it all possible. #LSAW

Ontario One Call: Utility locators perform a vital role in ensuring public safety and protecting the infrastructure we all rely on. Join us in saying thank you for their hard work during Locator Safety & Appreciation Week, April 19 – 25. #LocatorSafety #LSAW #DigSafe

MSPSCBrentBailey: This week is Locator Safety & Appreciation



Week! #LSAW is an opportunity for everyone to show their appreciation for utility locators. We appreciate the difficult, challenging & sometimes dangerous work they do protecting our underground utilities. #LocatorSafety @Mississippi811

OHIO811: This week is Locator Safety & Appreciation Week #LSAW. We appreciate your efforts in challenging conditions... how about some snow on April 21st... and your work to help protect our critical underground infrastructure. Stay safe out there!

KorTerra: Utility locators perform a vital role in ensuring public safety and protecting the infrastructure we all rely on. Join us in showing appreciation for their hard work during Locator Safety & Appreciation Week, April 19 – 25. For more info, visit locatorsafety.com #LSAW

Heath US: When our underground utility locators stay safe we all stay safe. Please be aware of these common hazards while on the job. #LSAW #yoursafety_ourcommitment

Superior Water, Light & Power: #LSAW, Locator Safety and Appreciation Week is an opportunity for everyone, everywhere in the industry, to show their appreciation for the hard work of utility locators. Find more information at <http://ow.ly/Qrt0n50Etn9y> #Digging #Safety

Weeklysafety: Utility locators perform a vital role in ensuring public safety and protecting the infrastructure we all rely on. Join us in showing appreciation for their hard work during Locator Safety & Appreciation Week, April 19 – 25. #LSAW #LocatorSafety

USIC: Today's hazard PSA: What to do around manholes. Locators: always follow the protocol set out for manholes to avoid potential danger or injury. Community: take extra caution if you are driving by. Together, we can keep everyone safe! #SafeLife #LSAW #LSAW21



National Energy Foundation (US):

It's Locator Safety & Appreciation Week (LSAW)! What is that you ask? Utility locate technicians play a critical role in public safety with millions of miles of underground utilities in the United States, accurate marking protects our communities and transmission infrastructure. #LSAW

Day 3 of #LSAW!

Infrastructure Resources: It is day 3 of #LSAW! Locators play a vital role in the #safe-digging process. Visit LocatorSafety.com to learn how you and your company can participate and show your appreciation this week.

MSPSCBrentBailey: This NL expresses our sincere appreciation for our utility line-man our utility locators all across the state of #Mississippi! #LocatorSafety #LSAW #ThankALineworker #NationalLinemanAppreciationDay #thankalineman

Pacific Gas & Electric: It is Locator Safety and Appreciation week! Join us in thanking our locate and mark personnel who are in the field responding to 811 requests, marking the location of underground utility lines so that your digging project can proceed safely. Remember to #call811! #LSAW #NSDM

Patti Poppe: Anyone doing some planting for #EarthWeek? Do it safely & #call811 ahead of time. BIG shout out to my locate & mark coworkers who are in the field responding to 811 requests every day! Thanks for helping keep our customers safe! #lovemycoworkers #LSAW #NationalSafeDiggingMonth

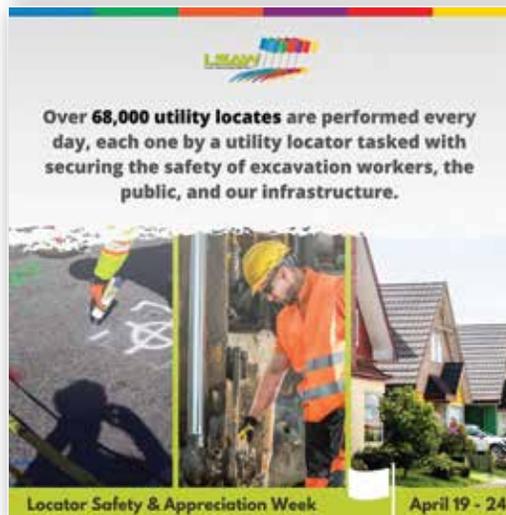
Heath US: Accurate marks can prevent service disruptions, personal harm and other unintended damages. #LSAW #MarksMatter #yoursafety_ourcommitment

Day 4 of #LSAW!

Infrastructure Resources: Have you thanked a locator today? LocatorSafety.com to learn how you and your company can participate and show your appreciation during the rest of Locator Safety & Appreciation Week!

Energy Sidney: THANK YOU Locators! #LSAW #Call811

USIC: Show appreciation to the locators keeping your community safe by being an attentive driver. Put the phone down, eyes on the road, and maintain proper speed and distance from where you see those orange



cones and bright safety vests. Our families thank you! #SafeLife #LSAW21 #LSAW

Day 5 of #LSAW!

Infrastructure Resources: thank you locators for keeping us safe all week. We appreciate you! Locator Safety & Appreciation Week (LSAW) celebrates the essential work of utility locate technicians around the world. Visit LocatorSafety.com to learn how you can participate.

Ontario One Call: Thank you for keeping everyone safe, locators! Locators work hard to show us where hazards are located underground so we can #Digsafe. Remember to #ClickBeforeYouDig

Heath US: We close out Locator Safety & Appreciation Week with a message from Ken Cowher, Vice President Operations. #LSAW #yoursafety_ourcommitment

Sunshine 811: Thank you locators! We appreciate the difficult, challenging, and sometimes dangerous work you do protecting our underground utilities. #LSAW #call811 #sunshine811

Premier Locates Inc: We appreciate our team of Damage Prevention Technicians (DPTs/ Locate Technicians) and want to thank each of them for keeping our clients and community safe! #DigSafeMonth #LSAW

Blood Hound Underground Utility

Locators: Being outdoors is great, but it comes with its own unique hazards like exposure to high levels of UV radiation. This LSAW be sure to let the locator in your life know—you recognize that they're one hot locator. Then hand them some sunscreen. #LSAW21 #LSAW

Reconn Utility Services: There's a reason Locator Safety & Appreciation Week is in the same month as National Work Zone Awareness Month and Distracted Driving Awareness Month—it's a big...big deal and the more we gain awareness, the more lives we'll save. #LSAW #NWZAW #NSDM21 

**Infrastructure Resources Initiative**

IR is dedicated to helping the industry save lives through education. Look for this icon identifying articles on programs and initiatives created by IR to help us meet this goal.

Call 811 Before You Dig 200

Presented by Arizona 811

• BY ALEJANDRA OCANO-GONZALEZ

ARIZONA 811 has always strived to be a leader in the damage prevention industry. For organizations like Arizona 811, where a great amount of effort is focused on educating and raising awareness about safe digging practices, face-to-face interactions with all stakeholders in the community are vital. For years, Arizona 811 has hosted many in-person events, such as Damage Prevention & Safety Seminars for those whose job involves excavation, as well as participated in numerous community events to increase general public awareness of the importance of using the 811 process before any digging project. As 2020 became a challenging year for everyone, we, like so many others, had to evolve to our “new normal,” which replaced in-person interactions with virtual ones, almost exclusively. To make up for this loss, we needed to find other creative and effective ways to continue to expose our message of using 811 before digging in front of the general public – even though they needed to stay home.

Arizona 811 has partnered with Phoenix Raceway for the past couple years to sponsor their “Know before you go” Quick Links page on phoenixraceway.com, providing NASCAR race fans in attendance or in their massive campground with important information about events occurring throughout race weekend. The catchy “Know before you go” title was a natural tie to our use of the national tag line, “Know what’s below,” so it was great having it feature scrolling Arizona 811 graphics informing one of our industry’s best known demographics – NASCAR fans – about the need to use the 811 process for EVERY digging project. Other advertising assets at the race included video commercials running on every digital screen and our PSA announcements heard throughout the entire venue.

Fortunately, the March 2020 race, which turned out to be the last live NASCAR race with fans in attendance, was at full capacity, so we received great benefit from our sponsorship. While advertising assets extended into November’s NASCAR Championship Weekend, attendance was restricted to 25%, so, like too many other 2020 events, we needed to cancel our participation. As the March 2021 race approached, we were again faced with attendance restrictions, which challenged us to seek a more effective way to get our message to these critical race fans.

In January, 2021, Phoenix Raceway offered Arizona 811 just such an opportunity to expand our exposure by becoming the official title sponsor for March’s NASCAR Xfinity Series race. We could name it, design the trophy, AND be the honorary Grand Marshals. We would have our logo and message on the asphalt with banners on the walls, and our commercials would be running on the jumbotron throughout the day. Some of this would be visible on TV when ac-



tion occurred near them, but not nearly as much as the race name and logo, which would ALWAYS be visible throughout the entire broadcast. We could have easily named the race the “Arizona 811 200” but, to us, it was important for the name to project a clear and complete call to action for everybody who saw it.

Phoenix Raceway’s press release announcing the official title sponsorship included a video featuring Sandra Holmes, Arizona 811 Executive Director, presenting a special oversized shovel containing the official race logo for the “Call 811 Before You Dig 200” to Scott Rovn, NASCAR’s Western Regional Vice President of Sales. Arizona 811 immediately took to social media to share the news and featured opportunities for followers to win tickets to attend the race. The announcement made headlines in multiple online sports publications and social media posts. The race name got its own Wikipedia



page as well as special attention from a FOX Sports NASCAR reporter for being one of NASCAR’s most unique.

Arizona 811 took the opportunity to run nationally exposed radio commercials on the Motor Racing Network to further expand national awareness that “underground pipelines and utilities are everywhere” so it’s important for everyone to always contact 811 prior to any digging project, big or small.

The exciting race was televised on FOX Sports 1 to a national audience of more than 1.3 million people who saw our industry’s call to action while watching Austin Cindric (Team Penske’s #22) win, become an honorary “Damage Prevention & Safety Partner,” and take home a unique trophy featuring a shovel with its blade penetrating grass, surrounded by the familiar colors of locating flags. Post-race coverage online exposed our message to an additional audience of many millions. **DP**

Alejandra Ocano-Gonzalez is Education & Awareness Manager with Arizona 811.



Promoting 811 through Aboveground and Elevated Storage Tanks: High-Visibility Return on Investment

• BY ANN RUSHING •

FINDING CREATIVE ways to share the message of damage prevention amid a pandemic quickly took a turn last March for us at NC811. With no onsite meetings, we needed other ways to share the message while keeping everyone safe. The year prior, we had begun looking at aboveground and elevated storage tanks and how we could partner with our member utilities to share in damage prevention outreach to the masses.

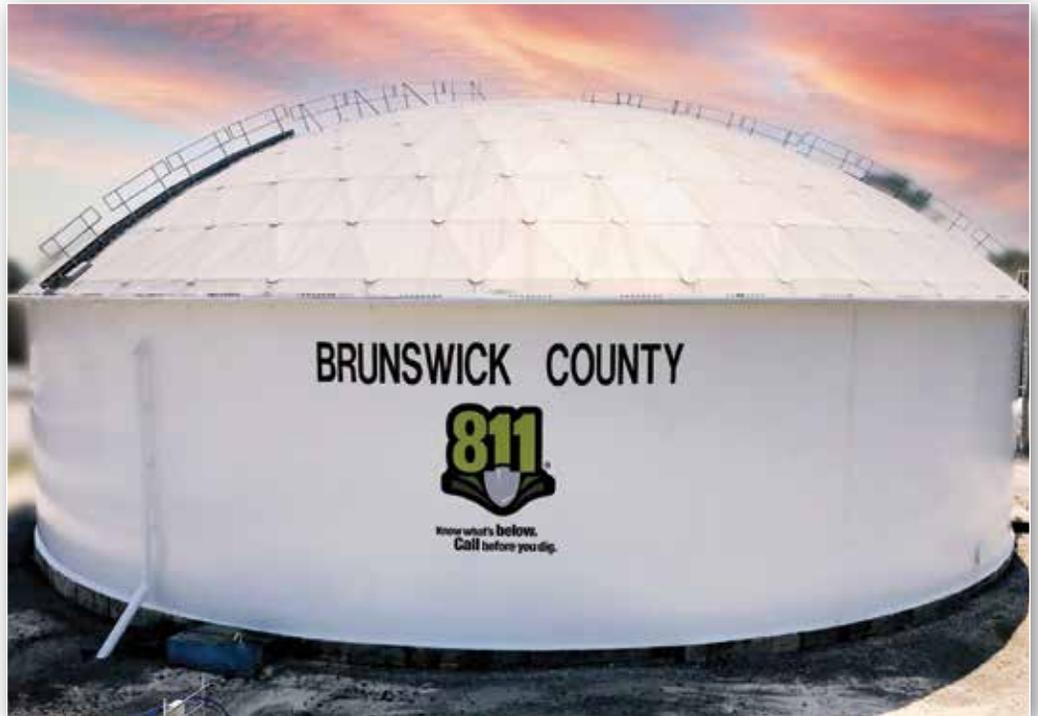
So, what is in it for the water utility? And why is it such a benefit? There is no cost to the utility to paint their tank with the 811 logo, it promotes safe digging to their customers and keeps the water flowing. Unplanned outages impact their customers, so sharing the 811 message benefits and protects their investment.

Where should you begin your search to find the tanks?

- Identify the counties/areas with the highest damages within your state
- Have discussions within your local Utility Coordinating or Damage Prevention Councils
- Contact associations within your state:
 - American Water Works Association
 - Rural Water Association
 - water tank maintenance and painting companies (tanks are generally repainted every 7-10 years)

Once a potential tank has been identified, make sure you have someone scout the actual location of the tank to ensure it is visible to passersby as water utilities do not focus on visibility when placing their water tanks. Visit your state DOT website to search for traffic counts for the annual average daily traffic in the area. This will quickly help you determine if the tank will generate enough impressions for a great return on investment.

When partnering with water utilities, base your proposal on how often the tank is painted. Our typical contract is for eight years. Some utilities may ask for a one-time rental fee while others only ask you cover the cost of the tank painting and logo. The cost for painting in North Caro-



lina has averaged \$6,500 - \$8,500 depending upon the size of the tank. One of our targeted tanks has 136,000 daily passersby which equates to \$2.91 per day over an eight-year period. Now that is a great return on investment!

Some proposals may require approval from the Town Commissioner or City Council prior to installation. Once approved, typically the water utility has a contracted company who handles maintenance and painting of their tank. Since we at NC811 have an on-staff graphic designer, he was able to design the artwork for the company to create a template for painting, saving us additional expense. The tank gets a base coat which usually has at least a two-week cure time. Once cured, the 811 logo with tagline is hand painted.

Be creative on funding. Do not be afraid to ask your water utility to split the cost. PHMSA offers a One Call grant to qualified applicants. One Call Executive Directors in each state receive emails each year when the grants open. Be thorough on your documentation to prove the benefit to safety for the public. Together, we are Partners in Protecting Everyone. 

Ann Rushing is Education Manager of NC811. If you would like to learn more about our success, email me at Annrushing@nc811.org.



Damages are inevitable. Who's got your back?

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All utility companies face damages and claims. At CMR, our experienced specialists identify significantly more recovery opportunities than our customers identify themselves. We've recovered millions of dollars for clients – saving them time and money. To learn more about how our services pay for themselves, visit CMRClaims.com.

RTK-Pro, Utility Locator with GNSS

The RTK-Pro Walk Back feature allows the field technician to quickly and accurately walk back to a previously located point in four simple steps.

- 1 - Fetch the point over 4G.
- 2 - Follow the directional arrow.
- 3 - At ten feet distance, the zero in process starts.
- 4 - Reach and confirm the point with centimeter accuracy.

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Utility Locator with Survey-Grade GNSS
 The RTK-Pro receiver is the first to add RTK GNSS accuracy to a utility locator. The new Walk Back feature allows the field technician to quickly walk back to a previously located point in four simple steps. Fetch the data, follow the directional arrow, zero in and then confirm the point with centimeter accuracy.

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Conducting a thorough damage investigation requires several steps including filling out damage forms, creating sketches of the scene, interviewing witnesses, and assessing damages. Photos of the scene will often determine who is liable for the damage, so it is imperative to utilize the best damage investigation tool to document the damage and help prove your case.

The Rhino HITKit +2 is the recognized industry-standard damage investigation tool. It provides posts that are legible from 360° and includes a rigid ruler with numbers that can be clearly read from a distance.

“One of the biggest problems with damage pictures is the lack of perspective and measurements. The Hit Kit+2 provides the best tools to solve these problems. This kit should be mandatory for all damage investigators.”

Ron Peterson
 Director, National Utility Contractors Association (Nulca)



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LOCATING



BY CHRISTOPHER KOCH

OLD DOG Beats Dead Horse

I showed up on a jobsite a couple weeks ago to do a private locate for one of my favorite customers. “Before we get started,” he said. “I have to speak to the complaints department.” He was cordial about it but wanted me to know that I had missed a fiber on a recent job I’d done for him. A heads-up foreman had spotted it inside a shared conduit, gotten curious, and kept at the riddle until he got it solved.

The line that was missed provided a communications tether between two medical buildings on neighboring lots whose signage and layout gave no indication that they might share an owner. To add further confusion, the fiber didn’t have a dedicated conduit on either building, but rather shared space with the irrigation control wiring and the communications facilities.

I’d actually induced a signal on the conduit, swept for results and found tones on both the irrigation (which I marked) and the communication (which I followed to a pedestal outside of the project area). The fiber that was missed followed the communications line away from the first building (and might well have been installed concurrently), but at some point, swept back into the project area on its way to the neighboring building.

The contractor was patient and experienced, so he understood how the private fiber might have been missed. He wasn’t angry but wanted to share how his team had managed to find a facility I hadn’t. I listened patiently, apologized for having overlooked it, and thanked him for sharing the information with me.

Here’s the thing. If he had hit it, the conversation might not have been so friendly. It would probably have been focused on whether or not I was willing to absorb, or at least share, the cost of the damage since he had paid for a private locate and the missed line was private. In fact, the contractor mentioned, only half-jokingly, how it was a good thing I have a disclaimer on my work order about the potential for unmarked facilities.

In my customer’s mind, their heads-up action had saved them from having to pay for a damage and/or having to try to collect from me to pay for it.

Here comes the dead horse. The property owner requested the work. The property owner had also installed the fiber. Now they had request-

“In my customer’s mind, their heads – up action had saved them from having to pay for a damage and/or having to try to collect from me to pay for it.”

ed a new light pole be added to their property without notifying the contractor about the existence of their fiber. They hadn’t taken responsibility for locating it, they hadn’t affixed an external tracer wire, they hadn’t provided any permanent marker or warning sign— they hadn’t even labeled the conduit or the cable. Nothing, nothing, nothing.

So, yes, I missed it. Thankfully, so did the excavator. But absentee facility owners drive the need for my disclaimer. Now who do I talk to in the complaints department? 

Christopher Koch is a training consultant and President of ZoneOne Locating. He is past president of Nulca and worked on both the 2009 and 2015 revisions to the Nulca Professional Competency Standard. He can be reached by email at Christopherkoch@live.com or on Twitter @kochauthor.

THE OPINIONS EXPRESSED IN THIS ARTICLE ARE THOSE OF THE AUTHOR. dp-PRO WELCOMES AND ENCOURAGES ARTICLES AND CORRESPONDENCE FROM ALL POINTS OF VIEW.





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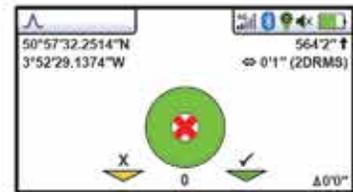
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Walk Back	
Get list	
WB-01 Gas Meter	Select
WB-02 Gas Service Valve	Select
WB-03 Gas Line	Select

Start by selecting one of the predetermined Walk Back points synced in the locator from the VMMap cloud interface.



End at the selected point with centimeter accuracy.

"WALK BACK" FUNCTIONALITY

The RTK-Pro Walk Back feature allows the field technician to quickly and accurately walk back to a previously located point in four simple steps.

- 1 - Fetch the walk back point from the VMMap Cloud server via the locator's 4G connection.
- 2 - Follow the guidance arrow directing the user to the general area of interest.
- 3 - When within ten feet of the walk back point, the screen will change to the "zero in" screen.
- 4 - When reaching the walk back point, the receiver confirms its location and shows the matching GPS coordinates.



Vivax-Metrotech Corporation

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