EXCAVATION

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GONTENTS

2025 EXCAVATION SAFETY GUIDE & DIRECTORY

BEFORE YOU DIG

What you need to know and what you need to do before you dig.

- 4 Excavator Perspectives on Damage Prevention and Excavation Safety
- 6 Strategies for Preventing Utility Damage
- 7 The Importance of Utility and Excavator Involvement in MDPC Legislative Meetings
- 8 Excavators' Role in Ensuring Timely Utility Locating and Safe Digging
- Pre-Excavation Checklist
- 11 Identifying a Proposed Excavation Site: White Lining Versus Requesting an Onsite Meeting
- $12\,$ The Critical Role of Communication in Utility Locating
- 14 The Importance of Damage Prevention Meetings

LOCATING & MARKING

The importance of accuracy in locating and marking buried facilities.

- 15 Understanding the Marks
- 16 811 Positive Response
- Potholing to the Depth You'll be Digging
- 18 What to Do if You Experience a Late Locate

DIGGING SAFELY

Technologies and techniques to stay safe and avoid damage.

- 20 API Introduces New Contractor Assessment Program to Enhance Pipeline Safety
- 22 Abandoned Lines and Identifying the Owner(s)
- 24 Excavator Q&A
- 26 The Vital Role Coordination Plays in Joint Trenching
- 32 How One City Created a Process to Reduce Damage

WHEN THINGS GO WRONG

What to do in the event of underground damage.

- 36 Know the Hazards
- 37 Leak, Hazard & Emergency Response Information

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RESOURCE DIRECTORY

A collection of invaluable information and access to resources.

- 38 The Nation's Aging Infrastructure Generates Interstate Opportunities
- 4() The Effectiveness of an Enforcement Board
- $42\,$ Digital Safe Digging Resources
- 43 811 vs 911/Community Liaison Services
- $44\,$ Pipeline Location Information
- $45\,$ Pipeline Products & Facilities
- $46\,$ CGA Excavation Best Practices
- 47 Notification Center and State Law Directory
- $54\,$ ACTS Company Members
- 55 Industry Publications

The Excavation Safety Guide is designed to be a reference for readers to use all year long. The articles are concise, to the point and focus on current industry trends and technologies. The resources include the CGA Excavation Best Practices, a complete Notification Center listing along with the state laws and provisions, a pull-out Emergency Response poster plus much more. Protecting the buried infrastructure is becoming more of a challenge every day and this guide will help you navigate through these challenges.



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This manual is an informational and educational guide, but it is not intended to provide you with any definitive information regarding legal issues. You need to follow your specific state laws and OSHA rules. If you have any questions on issues raised in this guide, please consult with legal counsel and/or your state Notification Center.



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Excavator Perspectives on Damage Prevention and Excavation Safety

n October 2024, a group of excavation professionals got together to discuss concerns and present potential solutions to improve damage prevention and excavation safety. The panelists were experienced in the field of excavation and underground construction. They shared their experiences and perspectives on industry challenges, such as mislocated utilities and lack of communication. They also discussed the importance of training and communication in preventing damage and ensuring safety.

Specifically, they discussed the following challenges:

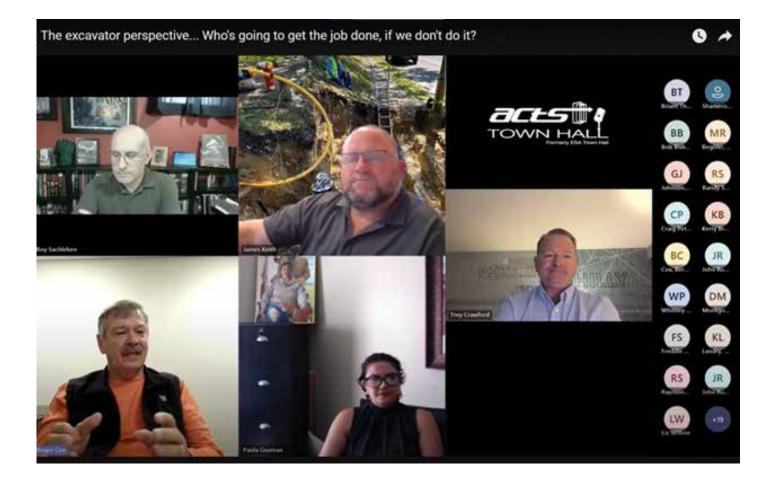
Mislocated utilities: This is a common problem that can lead to damage

to underground infrastructure. The panelists discussed the importance of accurate locating and the need for better communication between excavators and utility companies.

- Lack of communication: This can also lead to damages. The panelists discussed the importance of clear and timely communication between all parties involved in excavation projects.
- Training: The panelists discussed the importance of training for all personnel involved in excavation projects. This includes training on how to properly locate utilities, how to safely excavate, and how to respond to emergencies.



Town Hall Video



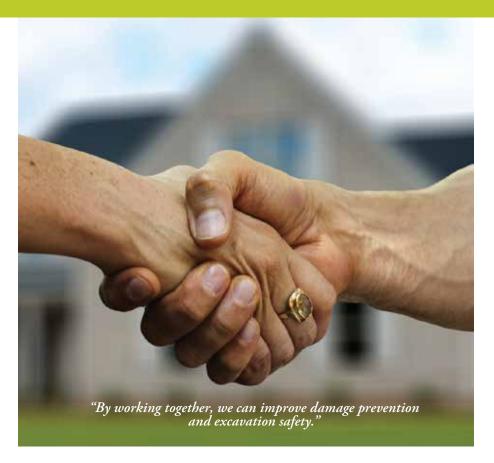
Potential solutions to these challenges included:

- Improved communication between excavators and utility companies
- Increased use of advanced locating technologies
- Better training for all personnel involved in excavation projects
- Greater enforcement of excavation safety regulations

In addition, they discussed the importance of collaboration between all stakeholders in the industry. This includes excavators, utility companies, locators, municipalities, and regulators. By working together, we can improve damage prevention and excavation safety.

The panelists provided valuable insights and perspectives on this important topic. This video is a must-watch for anyone involved in the excavation industry. It provides valuable information on how to improve damage prevention and excavation safety.

Click the QR code to watch the full video, and to register for a future Town Hall, visit ACTSnowinc.com/townhall.





STRATEGIES FOR PREVENTING UTILITY DAMAGE

BY WAYNE JENSEN, VP - DIRECTOR OF SAFETY, HIGGINBOTHAM



Preventing utility damage can be challenging, especially if you don't have a comprehensive file showing what you are doing. In today's utility damage prevention landscape, capturing and documenting best practices is crucial for all stakeholders. Here's a detailed guide to ensure you have all the necessary documentation to prevent damage and associated claims effectively.

1. Verify Positive Response

Documentation. Review each positive response to ensure all facilities are marked or confirmed as no conflict.

Many individuals working in the field lack an understanding of what constitutes a "positive response" and its significance for safe digging. Ensure you not only receive a "paper ticket" but also verify the positive response documentation on-site. Many field teams neglect to check if all facilities are marked or if additional actions are required, leading to potential issues if damage occurs. In some regions, such as Florida, only a few positive response codes confirm facilities are marked. The majority indicate that further action is needed.

2. Photograph Locate Marks

Photograph all locate marks to confirm they match those listed in the positive response.

Photographing locate marks is a simple yet powerful practice that can aid in preventing damage. One major provider of directional drilling services required subcontractors to take photos of locate marks, significantly reducing damage incidents. Use tools to document the placement and distance of locate marks relative to the location of buried facilities. Including a 12-foot range pole or level rod in photos provides a perfect perspective for usable documentation. This practice helps in recreating the scene if marks are destroyed during construction.

3. Pothole for Accuracy

Pothole facilities near work areas to verify the accuracy of the marks and document measurements with photos.

Potholing is crucial for confirming the accuracy of utility marks. Document, with photos, the depth and distance from the locate marks to buried facilities using tools like range poles and rulers. This verification process helps in preventing damage and provides valuable evidence if a claim arises. Share this documentation with utility companies to improve overall locate accuracy.

4. Document Utility Markers

Photograph all utility marker pylons in or near the work site.

Large gas line markers, fiber optic pylons, etc. should be photographed to ensure all lines are properly marked. This documentation helps identify potential issues with unmarked facilities that could lead to traumatic injuries as well as costly damage if not addressed.

5. Report Unmarked Surface Indications

Photograph and report surface indications of unmarked facilities to 811.

Surface indications, such as pedestals or other markers, should be documented and reported if they are not marked. This practice helps in identifying potential oversight by locators and ensures all possible indicators of facilities are addressed before excavation begins.

6. Use Technology for Documentation

Effective communication and documentation practices are essential for damage prevention.

Consider using cloud-based technology platforms that integrate with both desktop and mobile devices. The software allows field crews to document their activities, take and upload photos, and ensure best practices are followed. Senior management can monitor compliance in real-time, providing a comprehensive view of the damage prevention efforts across the organization.

By implementing these steps, you can significantly enhance your ability to prevent damage and defend against claims effectively. Proper documentation reinforces your commitment to best practices in utility damage prevention and supports your defense in case of damage.



The Importance of Utility and Excavator Involvement in MDPC Legislative Meetings

BY COLE FESMIRE, CITY OF OLIVE BRANCH, PUBLIC WORKS DIRECTOR

In the ever-evolving landscape of construction, the safety and well-being of communities depend heavily on proactive measures taken by industry professionals. In Mississippi, utilities and excavators have a unique opportunity to influence policy and ensure safety through their involvement in the Mississippi Damage Prevention Council (MDPC) legislative meetings. These gatherings, held in various locations such as Olive Branch, Pearl, and Gulfport, serve as essential platforms for sharing insights, advocating for necessary changes, and enhancing public safety.

The MDPC stakeholders are dedicated to preventing damage to underground utilities, a critical concern for utilities and excavators. With the increasing complexity of construction projects and the prevalence of fiber utility installations, the risk of accidents has increased significantly. By participating in legislative meetings, utilities and excavators can voice their experiences and challenges, providing valuable input that can shape effective policies. Their firsthand knowledge of the industry helps identify potential areas for improvement that may not be evident to lawmakers.

One of the key organizations facilitating these important discussions is Mississippi 811.

As the state's utility notification system, Mississippi 811 plays a pivotal role in organizing and hosting MDPC meetings throughout the state. Their lobbyists actively work to gather opinions from various stakeholders, ensuring that all voices are heard. This collaborative approach is vital in creating an inclusive environment where excavators and utility companies can come together to discuss pressing issues and develop solutions.

The past successes of the MDPC illustrate the impact of utility and excavator involvement in these legislative meetings.

For instance:

- The council has successfully advocated for the inclusion of white lining in
 the law, which allows utility owners
 to know where the excavation is being
 proposed and allows the locator to
 have a more defined area that needs
 to be located.
- Additionally, they have secured an extra day for locators to conduct their work, ensuring that underground utilities are accurately marked before excavation begins.

 The introduction of a pending emergency response protocol is another significant achievement that underscores the importance of these discussions in enhancing safety standards.

By actively participating in MDPC meetings, utilities and excavators not only contribute to the legislative process but also help foster a culture of safety within the industry. Their engagement encourages the sharing of best practices and innovations that can lead to safer job sites. Furthermore, these meetings serve as an educational platform where professionals can learn about new technologies, regulatory updates, and strategies for effective damage prevention.

The importance of a unified voice cannot be overstated. When utilities and excavators come together to express their concerns and recommendations, they amplify their influence on policymakers. A collective stance on safety issues can lead to greater recognition from lawmakers and increased likelihood of favorable legislative outcomes. By uniting their voices, these professionals demonstrate the significance of their work and the need for effective damage prevention measures.



Excavators' Role in Ensuring Timely Utility Locating and Safe Digging

BY NANCY MITCHELL, VP. GOVERNMENT AFFAIRS, USIC



Increased investment in telecommunication infrastructure has created a critical need for the prioritization of the utility locating process and increased and consistent communication between excavators and locators to ensure safe and efficient fiber network installation.

It is required by law that existing underground utility lines be marked prior to excavation to prevent damage to existing infrastructure, disruption of critical services, and to protect the safety of crews and communities. As contractors are deployed across state lines, it is imperative they know and

follow the state-specific dig safe processes and laws, which can be found online at *Call811.com/811-In-Your-State*. Some state One Call centers also have materials providing such guidance available online or by request.

In addition to following the applicable dig safe processes and laws, there are consistent guidelines for submitting locate requests that can help excavators ensure timely and efficient locates including the safety of their crews:

• For large-scope projects, conduct an on-site pre-construction briefing to

- communicate the scope and timing of the project, which helps utility locators plan for staffing needs.
- For ongoing coordination, provide a contact familiar with the dig site. Check the number and email provided ed to make sure all contact information is accurate.
- Limit the scope of locate requests to comply with state-specific laws or 811 requirements to help ensure marks are intact when you are ready to dig. This helps prevent the need for remarks.
- Only submit locate requests for work you plan to complete during the lifespan of the ticket. Just-in-case or backup tickets result in unnecessary work for locators, which can delay the marking of time-sensitive excavation sites.
- Include clear, detailed instructions and define the excavation site with GPS coordinates, landmarks, and white lining.
- Do not request that both sides of the road be marked if not necessary. If your request includes a road crossing, provide the exact address of the crossing so locators are not required to mark an entire side of the street when only the crossing is needed.
- Once a ticket has been completed, do not update it. When a tie-in or inspection is required, submit a new locate request for the specific address to prevent unnecessary remarking.
- Avoid submitting multiple locate requests on the same day at the beginning of the week. Stagger your requests throughout the week in alignment with your dig schedule to prevent a buildup of late tickets at the end of the week, which can cause delays of time-sensitive locates.

Do not submit locate requests on days with severe weather conditions, which create safety hazards for locators and can wash away markings. Adding to ticket volume on these days may result in delays. Following these guidelines for submitting locate requests is critical for preventing unnecessary marking and remarking. As







locators work to meet increased demand driven by long-scope projects, such as fiber overbuilds (which take more than six times longer to mark than a standard ticket), preventing unnecessary work is key to keeping projects moving forward. Closely managing the locate request submission process is a way for contractors to be proactive in preventing late locates and reschedules that can delay their project schedules.

Advance and ongoing communication and coordination between excavators and utility locators is essential to prevent damages and maintain project schedules. The timeframe for recruiting, hiring, and training utility locators to proficiency can be as long as 12 months. To enable utility locators to plan staffing resources in support of long-scope fiber deployment projects, especially in rural areas with smaller existing staff, it is necessary for telecommunication companies and their contractors to provide deployment forecasts to locators at least 8 to 12 months in advance, and share build plans before the project commences.

Onsite pre-construction briefings followed by regular coordination meetings, in addition to providing consistently accessible contacts, are key to maximizing efficiency, preventing project delays, damages, and ensuring the safety of excavation crews and communities.

In the rapid evolution of telecommunication infrastructure deployment, excavators have an important role to play in damage prevention. As utility locators invest in staffing, advanced technologies, and service innovations to deliver timely and accurate locates, they are relying on a commitment from the excavation community to:

- Maintain knowledge and compliance with state-specific processes and dig safe laws.
- Closely manage the locate request submission process.
- Share project forecasts and build plans with locators in advance with sufficient time for resource planning.
- Engage in consistent communication and coordination with locators.

Together, we can enhance the nation's telecommunication networks while preventing damage to critical, existing underground infrastructure and protecting the safety of excavation crews and our communities.







In the Office

- Review all drawings, plans, engineering blueprints for existing buried facilities
- Proposed excavation area has been marked in white paint and/or flags
- Call 811 at least 2-3 business days before excavation (check your state One Call laws)
- Locate ticket number is posted at the work location
- Onsite meeting scheduled with all high profile facilities in locate area (gas/oil pipelines, high-voltage cables,

Onsite

Complete a pre-excavation walkthrough of the entire jobsite and adjacent areas

Visually Inspect the Jobsite

- Signs or marking posts
 - Pavement markers (stamped nails, pavement decals, A-tags)
 - Surface markers:
- Other surface signage for landscaped areas
- Locate marks
- Consult any maps or field sketches of the location
- Identify all services to buildings such as:
 - · Gas meters
- · Electric cables
- · Farm taps
- Water valves
- Pipeline valves
- · Telephone closures
- · Cable pedestals
- Look for the evidence of trench lines from the previous exavation
- Look for the cleared pipeline ROWs
- Talk with the property owner or general contractor to identify potential private facilities that may not be marked:
 - · Lighting
- · Outbuildings
- · Propane tanks
- · Pools/Spas
- Irrigation
- Sewer laterals
- · Communications lines

Document the Jobsite

- Compare actual jobsite to One Call ticket
 - · One Call ticket covers the scope of the work
 - · One Call ticket "Work to Begin" date is valid
 - · All utilities have responded
 - All facilities are marked within the excavation area
- Photograph the jobsite
 - Locate marks and flags from 360°
 - · Permanent signage and location relative to the dig area:
 - Note location, height, and operator of overhead lines
 - Note all required safety signage
 - · Video and/or sketches where pertinent

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Before You Dig

- Review safety information with anyone working the job
- Confirm with facility owner vacuum or hydro excavation is scheduled for all pipelines impacted
- Locations for hand digging within the tolerance zone are noted
- Emergency equipment available when hazardous. atmospheres are potentially present

- List of all emergency contact numbers for assets in and adjacent to the dig zone is readily available
- The location and route to the nearest hospital is known by onsite supervisors
- When possible before any excavation, do a sweep with a locator to identify any foreign lines that are not marked
- Representatives for all critical facilities are present

This document is provided for informational purposes only and does not constitute professional advice. It is Intended to be used as a guide in the development of a checklist specific to your altustion and may not be inclusive of all pre-excavation activities required of your situation. Company's appropriate management before implementation. ACTS Now, for, its imployees and agents accept no liability and distillar all responsibility for the consequences of acting, or refining from acting, in retained of the information contained in this document or any decision based on it, or far any consequential, special incidental or punitive damage to any person or entity for any matter relating to the contents of this document

Identifying a Proposed Excavation Site: White Lining Versus Requesting an Onsite Meeting

BY MARK LIPKA, SUPERVISOR - EDUCATION, PENNSYLVANIA 811

lear communication and planning are integral to any excavation. Efficiently and effectively identifying and communicating the location of the proposed excavation site is one segment of the larger excavation process. Two common methods for identifying the worksite location are white lining and requesting an onsite excavation meeting. Both methods aim to enhance project safety and efficiency.

White Lining

White lining is a practice performed by the excavator to physically designate the scope of a proposed excavation site. It involves marking the area in white, using paint, chalk, flags, or other means, to outline where excavation will occur.

Strong relationships enhance communication throughout the project, leading to better outcomes and smoother workflows.

Planning: White lining visually assists stakeholders in understanding the intended boundaries of work, helps prevent confusion, and communicates to facility owners and locators the exact site location. Many states require white lining, and it is a recommended best practice of the Common Ground Alliance.

Safety: White lining can help excavators identify potential hazards in the excavation area. Marking the boundaries lets excavators better assess area utilities, structures, and other factors that may pose potential risks during excavation. It also provides facility owners and locators a roadmap of the proposed excavation site. This allows the facility owners to spend

more time locating their facilities and less time deciphering the location of the worksite.

Onsite Excavation Meeting

An onsite excavation meeting involves gathering stakeholders at the excavation site to discuss the project in detail. This meeting typically includes the excavator, facility owners, designer/engineers, and others related to or affected by the project.

Planning and Coordination: An onsite meeting allows for in-depth discussions about the project's scope, logistics, and timeline. Stakeholders can collaboratively identify issues, allocate resources, and develop a coordinated approach to project execution.

Safety: Onsite meetings permit the attendees to identify the proposed excavation site by physically walking the project scope. The onsite meeting also provides an opportunity to discuss any aforementioned hazards posing risk to the excavator and safety concerns specific to the excavation and facilities.

Problem Solving: Stakeholders can identify potential issues that may not be apparent from drawings or plans by being physically present at the site. This handson approach enables the ability to address concerns on the spot to facilitate quicker resolutions and any needed adjustments.

Relationships: Onsite meetings foster collaboration and build rapport between stakeholders. Strong relationships enhance communication throughout the project, leading to better outcomes and smoother workflows.

To recap, white lining is typically a quick process to provide a visual boundary of the worksite while onsite meetings enhance the visualization to include detailed planning, problem solving, and coordination among stakeholders. Both white lining and onsite excavation meetings play a critical role in ensuring the success of construction projects. Understanding each method can help excavators choose the right approach for their projects, leading to safer and more efficient excavations.







The Critical Role of Commu

BY SHANE HART, SENIOR DAMAGE PREVENTION SPECIALIST, URBINT



ommunication isn't just a nicety in the damage prevention industry -✓it's the first line of defense against accidents, legal repercussions, and costly damages. Recently, Iowa Attorney General Bird announced lawsuits against contractors for illegal excavations that caused significant damage to underground utilities. These cases highlight the real-world consequences of poor planning and a lack of clear communication between contractors and locators.

Whether it's ensuring safety, meeting legal requirements, or maintaining trust, strong communication is essential to prevent these avoidable incidents. By embracing technology, enhancing deliverables, and prioritizing dialogue, we can strengthen the connection between locators and contractors, transforming outcomes for all stakeholders.

High-Stakes Miscommunication

Every year, thousands of utility strikes stem from communication failures, with the 2023 DIRT Report highlighting two critical contributors: marks that faded, were lost, or were not maintained, accounting for 3,168 incidents, and marks that were inaccurately placed due to locator error, leading to 9,869 incidents. These figures underscore the devastating impact of incomplete or unclear information. Such gaps in communication can lead to:

- Safety hazards: When marks fade or are misplaced, contractors may strike utilities, causing injuries, fires, or environmental damage.
- Project inefficiencies: Misplaced or missing marks result in delays as crews must pause operations to verify utility locations or address unexpected damages.
- Strained relationships: Communication breakdowns erode trust between contractors, locators, and utility owners, leading to disputes and dissatisfaction.

These examples show why consistent communication, accurate markings, and proactive maintenance of locate information are non-negotiable in preventing damages. By closing these communication gaps, the industry can avoid thousands of utility strikes each year, protecting lives, infrastructure, and project timelines.

Bridging the Gap: New Tools and **Strategies**

To address these challenges, we need a fresh approach. Here's how modern practices can build stronger connections between locators and contractors:

1. Automate with a Ticket Management System (TMS)

A Ticket Management System equipped with GIS and markup capabilities allows locators to share detailed maps with contractors. These tools:

- Provide real-time access to utility
- Enable contractors to view and annotate maps directly.
- Automate alerts, updates, and deliverables, reducing human error.
- By working from the same data and visual tools, teams can avoid misinterpretations and save time.



nication in Utility Locating

2. Leverage Consistent Communication

Communication isn't a one-off task; it's a continuous process. Using every available channel - texts, calls, emails, alerts, deliverables, and in-person conversations ensures redundancy and clarity.

On The Spot Utility Resources saw a significant shift in behavior when we started including improved deliverables with stickers that matched their signs and local 811 laws. Contractors became more diligent about waiting for clearances before digging, fostering better relationships and safer practices.

3. Share Maps and Visual Data

Equipping contractors with maps they can view and markup directly encourages collaboration and reduces ambiguity. Detailed GIS data ensures everyone is working with precise information about the location and type of utilities. If you're an excavator it's worth viewing digital maps and collecting data where you can. Whether that's marking up an as-built or collecting GPR data.

4. Standardize and Educate

Consistent use of symbols, terminology, and protocols minimizes misunderstandings, creating a universal language that both locators and contractors can rely on. For example, using standardized utility markings and clear legends on maps ensures everyone interprets the information in the same way. Imagine a project where the utility owner and contractor regularly review color-coded markings for gas lines, water mains, and electrical conduits. Without standardized symbols and training, a contractor might mistake a gas line marking for a telecommunication cable, leading to disastrous consequences.

5. Commit to Pre-Project Planning

Face-to-face discussions at the outset of a project set the stage for success. These meetings allow locators to explain their markings, contractors to outline their plans, and all parties to address uncertainties proactively. Chicago's remarkable success in cutting underground utility damag-



es by half since 2017 underscores the value of collaboration and preparation. Through its robust prevention program, 811 Chicago integrates pre-project design reviews and detailed facility maps



to ensure new utility projects avoid existing infrastructure.

The Office of Underground Coordination (OUC) plays a pivotal role in this effort by requiring utility owners to review and approve project designs

using tools to visualize facility locations and project data. These preemptive strategies, combined with open dialogue and shared mapping capabilities, create a clear blueprint for avoiding conflicts. Adopting similar approaches in pre-project meetings can help contractors and locators work together seamlessly, improving safety and reducing damage risks.

Communication - A Safeguard

Communication isn't just a tool; it's a safeguard. By adopting advanced systems like TMS, sharing maps with markup capabilities, and emphasizing consistent communication through every possible channel, we can:

- Protect lives and infrastructure
- Improve efficiency and project timelines
- Strengthen trust and collaboration between locators and contractors

The stakes are too high to leave communication to chance. Let's use every method, tool, and conversation to build safer projects and stronger relationships.

THE IMPORTANCE OF DAMAGE PREVENTION MEETINGS

Get Your Questions Answered

BY JERRY KENNEMUR, DAMAGE PREVENTION COORDINATOR, MISSISSIPPI 811



've been asked by several people over the years what I think about Damage Prevention Meetings and if Mississippi has good results. ▲ I would have to say the areas where we have a good turnout for these meetings have a positive influence on the people attending and the area where the meeting is taking place. I tell everyone the best way to prevent damages is good communication between all parties, getting to know the locators in the area, and knowing the contractor's contact person and the local utility owner/operators. I've heard Damage Prevention Coordinators from other states say it's hard getting people to these meetings, and I agree. I think you can have too many meetings, and although repetition is the best way to learn, if you don't have something new you will soon see your numbers drop.

There are so many factors to think about when it comes to Damage Prevention Meetings. I recently had a meeting scheduled for nearly a month. When I set the meeting up I didn't know it was going to rain for a solid two weeks. Then on the day of my meeting, it was the first sunny day we had. Needless to say, no one showed up. Those kinds of things are going to happen, and it shouldn't discourage anyone from planning to attend another meeting. Excavators and contractors may be the most challenging group to set aside time for these Damage Prevention Meetings, but they need to be there the most so we can provide important information to help keep everyone safe on the jobsite.

Utility owner/operators have many meetings they are required to attend where they hear about changes in the law and the need to make changes in their organization. I rarely get a call from a utility asking me to explain something about the law, but I do get several calls from excavators/contractors asking me to help define something in the law or help with an issue they don't understand.

Mississippi Damage Prevention Coordinators have around 42 Local MDPC meetings around the state. If you or someone in your organization would like to attend one of these meetings, visit ms811.org and click on DPC Map. You can also call or send an email from this site letting us know you would like to be added to our MDPC meetings. You can contact the One Call center in your state to be added to their distribution list as well, to stay up to date on meetings and locations.

We are always happy to have anyone call that needs help of any kind, but we would also like to have you in our meeting so we can put a face with a name and get to know you in person. We understand it may be difficult to allow all employees to come to a regular MDPC meeting, so we would be glad to come to your place of business and have an in-house meeting with all your employees during a time that works for you.

Remember, calling Mississippi 811 (or the One Call center in your state) can prevent damages to underground utilities, but more importantly, it can help prevent bodily injuries, or worse.

COLOR CODE IDENTIFIERS WHITE **Proposed Excavation Temporary Survey Markings**

Electric Power Lines, Cables, Conduit, RED and Lighting Cables

Communication, Alarm or Signal Lines,

Cables, or Conduit

BLUE **Potable Water**

YELLOW

PURPLE Reclaimed Water, Irrigation, and Slurry Lines

Gas, Oil, Steam, Petroleum, or Gaseous Materials

GREEN **Sewers and Drain Lines**

FAC	ILITY IDENTIFIER					
СН	Chemical	E	Electric			
F0	Fiber Optic	G	Gas			
LPG	Liquefied Petroleum Gas	PP	Petroleum Products			
RR	Railroad Signal	S	Sewer			
SD	Storm Drain	SL	Street Lightning			
STM	Steam	SP	Slurry System			
SS	Storm Sewer	TEL	Telephone			
TS	Traffic Signal	TV	Television			
W	Reclaimed Water "Purple"	w	Water			
UNDERGROUND CONSTRUCTION DESCRIPTIONS						
С	Conduit	CDR	Corridor			
D	Distribution Facility	DB	Direct Buried			
DE	Dead End	JT	Joint Trench			
HP	High Pressure	НН	Hand Hole			
МН	Manhole	РВ	Pull Box			
R	Radius	STR	Structure (vaults, junction boxes, inlets, lift stations)			
Т	Transmission Facility					
INFF	RASTRUCTURE MATERIAL					
ABS	Acrylonitrile - Butadiene - Styrene	ACP	Asbestos Cement Pipe			
CI	Cast Iron	СМС	Cement Mortar Coated			
CML	Cement Mortar Lined	CPP	Corrugated Plastic Pipe			
CMP	Corrugated Metal Pipe	CU	Copper			
CWD	Cresote Wood Duct	HDPE	High Density Polyethylene			
MTD	Multiple Tile Duct	PLA	Plastic (conduit or pipe)			
RCB	Reinforced Concrete Box	RCP	Reinforced Concrete Pipe			
RF	Reinforced Fiberglass	SCCP	Steel Cylinder Concrete Pipe			
STL	Steel	VCP	Vertrified Clay Pipe			

Understanding the Marks: Locating and Marking Practices

Chapters from CGA Best Practices 20.0. For the complete Understanding the Marks: Locating and Marking Best Practices, See CGA Best Practices 20.0 at

BestPractices.CommonGroundAlliance.com

- 4. Locating and Marking
- 4.01 Available Records
- 4.02 Corrections and Updates
- 4.03 Color Code
- 4.04 Vacant
- 4.05 Locator Training
- 4.06 Safety
- 4.07 Visual Inspection
- 4.08 Facility Marking
- 4.09 Positive Response to **Locate Request**
- 4.10 Marking Multiple Facilities in the Same Trench
- 4.11 Abandoned Facilities
- 4.12 Locating Electromagnetically
- 4.13 Facility Owner/Operator Identification
- 4.14 Communication Between Parties
- 4.15 Documentation of Work Performed
- 4.16 Damage Investigation
- 4.17 Forecasting/Planning for **Predictable Workload Fluctuations**
- 4.18 Quality Assurance
- 4.19 Trenchless Excavation
- 4.20A Locating and Marking in **Navigable Waterways**
- 4.20B Locating and Marking in **Navigable Waterways**
 - 4.21 Service Lines
 - 4.22 Marking Newly Installed Facilities
 - 4.23 Trouble Locate (Unlocatable) **Resolution Protocol**

811 Positive Response Benefits the Excavator and the Utility

BY JANA BRUEN, DAMAGE PREVENTION PROGRAM MANAGER, BP PIPELINES (NORTH AMERICA) INC.

11 Positive Response benefits both the excavator and the utility - a big statement, but what does it mean? Positive Response is a system that allows utility companies to communicate with excavators about the status of a dig notice. Currently, 84% of states require Positive Response, showing that 811 Centers think including Positive Response is significant enough to require it in state law. Positive Response is so important states are considering a requirement for the excavator to sign off within the state One Call system identifying that all responses have been reviewed.

How does Positive Response benefit utilities?

Positive Response allows utilities to communicate information directly to the excavator. For Clear-No Clear excavations, Positive Response codes (if available) provide a means for sharing critical information such as Critical Facility in Conflict or Utility Must Be Onsite. Utilities using a ticket management system often have a method to send additional information or questions to the excavator, providing a deeper communication system. Data may also be sent in other languages like Spanish, for example.

State One Call centers are continuing to aid the Positive Response process by providing more ticket response codes. Gone are the days of only **Clear, Marked**, or **Not Complete.**

Prior notification from the utility may

impact the excavation schedule.

- Does the utility require to be on-site when work is near them (i.e., Watch and Protect)?
- Is prior permission required to cross the utility?
- Does the excavation equipment weight require bridging across the utility?
- Is permission required to work in a private easement?

What about excavators?

Excavators have the biggest benefit. Capturing the utilities notified during ticket submittal allows excavators to track responses from all notified utilities. Excavator members in state One Calls can log in to see responses, including those who have not responded. Any non-responses can be sent an additional ticket if needed. Is this more work for the Excavator? Possibly, but the result is a safer excavation by knowing everything within the excavation extents, not just partial information.

Utility contacts may be obtained from the state One Call system to allow for direct communications between the excavator and the utility field representative. With complete utility information, excavators can evaluate all safety risks within the site and implement risk mitigation where applicable.

Design One Call tickets are being used more often. Ticket information not only provides who is potentially involved, but who receives the ticket. Design Tickets





allow a means for a utility to provide their requirements for work around their facilities. In addition to the above questions, the designer may find that the utility is in direct conflict – requiring a relocation or a change of the design altogether. Knowing this information can allow for a project to continue on schedule versus finding out when the dig ticket is submitted.

Most, if not all, state laws require coordination between excavators and affected facility owners. Positive Response provides clear information of utility involvement and contact information with details from those involved.

Safety is key for all the work we do, both for excavators and facility owners. Expanded communication via Positive Response increases the ability for a safer excavation for everyone.



Potholing to the Depth You'll Be Digging

BY ASHLEY FUGATE, V.P. OF BUSINESS DEVELOPMENT/DAMAGE PREVENTION, PIPE VIEW AMERICA

otholing, a practice that is not new to the industry but not always in proper use, is an important part of installing underground assets. Before the commencement of excavation for the construction of underground infrastructure development, the existing infrastructure must be located and exposed for a visual. This is why potholing is commonly called daylighting. Potholing is one of the primary investigative construction techniques used to expose the horizontal and vertical location of utility lines. Potholing should be a crucial part of project planning. Regardless of the term you use, utility location is a crucial step that is necessary to ensure there is no potential or resulting conflict during construction. This also helps ensure the safety of the public and employees is top priority in each project.

Starting the Potholing Process:

Finding What is Below, Going Beyond the One Call Ticket

At the start of any project, always contact 811 through your state 811 website or by calling 8-1-1. Finding out what's below takes some investigation and resources that may add on to your initial One Call



ticket submission. Not every utility is in the One Call system in most states.

- Most municipalities do not participate in 811. You must call and work with the local municipality to access maps and ask for their assistance in locating their assets.
- Water and sewer mains are what most



municipalities will mark and have mapped access to. This means all lateral lines or service lines will have to be marked privately.

- o There are companies that can come out and run sewers with closed-circuit television (CCTV) cameras to give you access to depths, footage, and give you an X marks the spot locate for your sewer mains and laterals/service lines. This is an added cost that will reduce your potholing time by over 75%, reducing the cost of labor drastically.
- Any type of sprinkler system or any private system a homeowner or business has installed is typically not included in the One Call ticket. This is a simple door knock to inform the homeowner or business there will be digging around the property and allows for a quick question about utilities that may have been installed privately that excavators need to be aware of. This is a fantastic way to build a great rapport with the homeowner or business as well as prevent damages.

Pothole/Daylight Exposure

After investigating all underground facilities, including private facilities, exposure is key to potholing. Regardless of depth, it must be a requirement to expose all utilities, all the way around the lines. Often while potholing and once the asset is visible, it is viewed as a daylighted utility, and there are

- possibilities of striking that asset due to the asset not being fully visible.
- Utilizing tools beyond hand digging is a major factor in potholing. When considering a potholing plan, having a good understanding of what type of assets are housed underground as well as depths can help identify what tools you will use in your potholing plans.
- will work best in the project environment. Hand digging, Hydro-Excavation, Air Excavation, Vacuum Excavation, and outsourcing the potholing process are a few examples of different options and tools that can be used in this process. Being educated in all these options will drastically help improve the process of knowing what needs to be used on each project.
- Knowing the tolerance zone in the state the project is occurring is key. A lot of contractors move from state-to-state working in new areas. Know before you go, set a standard in each potholing plan to educate all employees on the tolerance zone in the state where work is taking place.
- At times, assets will be housed underground at depths greater than five feet. This will require a shoring/ sloping/benching plan and process to visualize those assets while also being safe.

Always start with a strategic plan, investigate thoroughly, educate accordingly, and execute effectively and efficiently.

What to Do if You Experience a Late Locate

BY TREY CRAWFORD, VICE PRESIDENT, GRADY CRAWFORD CONSTRUCTION



this is important in case we have to make a third or fourth request. Most of the time all it requires is the second request.

- Call the locator and let them know you are not seeing all the utilities shown on the dig ticket.
- Let the locator know the area of the job you are concerned about.
- Explain to the locator that you see signs of the utility without any paint or flags on the ground.
- Look for communication or power hand holes, fire hydrants or valves, pressure release valves, or pipeline markers. Also look for any above ground or ground level signs of a utility that might not have been located.

Generally, we have a good relationship with the field locators and they come out when we call.

We make sure we are only calling in tickets that can be worked. Around 10 years ago we were not following best practices and had too many locate tickets called in. Once we sat down at the table with all parties, we found that as long as we called in what we could work, the locators really started focusing on just doing what we had requested, and it cut down on a lot of the second requests we were making.

Communication is the most vital part of getting locates called in, in a timely

manner, and having locators locate by the mark-by time. Locators need to feel like contractors are not abusing the system. If you are a contractor and you constantly have locates that are not getting done on a consistent basis, odds are your people in the field do not have a good working relationship with your locator community.

You also have to look internally at your own crews. If one supervisor/foreman has fewer second requests, you have to ask why? I would bet they communicate better with the locators. It costs contractors money sitting around waiting on locates. The most efficient crews work with the locators and if something is not located, they don't waste time sitting around waiting on the locator to show up. They clean out their trucks and equipment, grease the excavators or boring equipment and other productive tasks while waiting on a locator. Generally, the locators tell the supervisor/foreman how long it will take to be onsite.

Anything a contractor can do to help the locator benefits the contractor in the long run. It's a partnership that can't be filled with lies and half-truths. Any successful partnership has true expectations and communication along with a little give and take. If you strive to improve on your current status of late locates and show

the locating community you are trying to work with them and give them as much notice as possible, it will get better.

The process works but everyone has to do their part and put their best foot forward to try and make noticeable differences in your current plan. Locators will notice and try their best to get the ticket located.

Here's a simple example of how communicating can be beneficial:

A locator calls an excavator or vice versa the morning a ticket is valid, and the locator tells the excavator he/she won't be there until 10:00 AM. The communication means an excavator crew or bore crew can go pick up materials or start hydro excavating other utilities and still be doing something productive while waiting for the locator to show up.

The system works, there are human delays and errors, but the system works. When all parties are communicating and contacting each other it can work well. Sometimes, you just have to do a little extra and it pays off in the end.

Communication is the most vital part of getting locates called in, in a timely manner, and having locators locate by the mark-by time.

communication



ith its critical role in our country's energy infrastructure, the pipeline industry demands a rigorous commitment to safety. Recognizing this demand, the American Petroleum Institute (API) continually refines industry guidance to ensure alignment with the most current safety standards and recognized good practices. That focus extends to the recent launch of its new API Pipeline Safety Management System (SMS) Contractor Safety Assessment Program, which builds on the success of its established Pipeline SMS: A Contractor's Guide and associated implementation tools, expanding its safety protocols to include contractors. This expansion acknowledges the essential role that contractors play in pipeline operations, providing expert guidance and practical tools to help them align their safety practices with those of pipeline operators, thus enhancing safety across the industry.

Building on Success

Following the launch of API's operator-focused Pipeline Safety Management System (PSMS) Assessment Program in 2020, industry leaders recognized a growing need for alignment in safety protocols among contractors. In 2022, API and the PSMS Industry Team responded by publishing Pipeline SMS: A Contractor's Guide, which distilled API Recommended

This expansion acknowledges the essential role that contractors play in pipeline operations....

Practice 1173, Pipeline Safety Management Systems' 234 requirements into 56 key focus areas that are critical and specifically applicable to pipeline contractors and service providers. The following year, API introduced an Implementation Tool for contractors, providing targeted guidance for contractors looking to integrate a pipeline SMS into their existing operations.

Following the publication of this guidance document and tool, API worked with the Distribution Contractors Association to produce the **Pipeline SMS Contractor Assessment Program**, a three-tiered structured offering (*Figure 1) to help contractors implement programs that support pipeline safety.

Setting New Standards in Contractor Safety

API's Contractor Safety Assessment Program takes a supportive, industry-aligned approach, offering several distinctive benefits:

- Not-for-Profit Focus: Prioritizes elevating industry standards rather than generating profit.
- Non-Punitive Approach: Aims to foster improvement among contractors without fear of penalties.
- Standardized Expectations: Ensures consistency for contractors working across multiple operators.
- Diverse Assessors: Includes former operators, contractors, and regulators, providing a well-balanced perspective.



- Confidentiality: Assessment results remain private, promoting trust and encouraging participation.
- Collaborative Support: Emphasizes collaboration, offering guidance as contractors evaluate and mature their safety management systems.

Tailored Assessment Offerings

The Pipeline SMS Contractor Safety Assessment Program offers three levels of assessment, providing flexible options for contractors based on their current SMS needs and goals:

Offering 1 - Guided Gap-Assessment Contractors work virtually with an API Pipeline SMS Assessor to guide them through the 56 requirements for applicability to a particular company's scope of work. The assessor also shares key good practices to help the contractor kick-start their implementation efforts.

Offering 2 – Focused Assessment

A Focused Assessment provides more targeted expertise to help companies mature specific programs of their selection. The contractor identifies their topic(s) to an assessor, who then works through the details of the API RP 1173 requirements for that topic with the contractor.

Offering 3 - Full Assessment

For contractors who require the most comprehensive feedback on their programs at any current level of maturity, a Full Assessment evaluates their conformance to all 56 requirements found in Pipeline SMS: A Contractor's Guide. To provide the highest level of support, an assessor meets with all personnel involved in the company's safety management process, in-person, at the contractor's offices. Field verifications can be included if a company would like to assess how policies and/or procedures are being used by field personnel.

Enhancing the Industry's Safety Culture

By offering structured, supportive assessment tailored to contractors' specific needs, API raises the bar for safety practices. The Pipeline SMS Contractor Assessment Program underscores API's commitment to helping protect workers, communities and the environment while advancing the integrity and reliability of critical pipeline infrastructure.



Assessment Offerings



*Figure 1

Offering 1 - Guided Gap Assessment

- Contactor Prep Time: Low
 Virtual Only
- Personalized Learning Sessions (QA/QC on self-assessment tools) including Q&A
- Verbal report out using a pptx and bulleted observations & discussion points for Company on completed assessment

Offering 2- Focused Assessment

- Contractor Prep Time: Medium

 On site optional (Daily Rate/Travel)
- Assessment Plan and Document Review of predefined PSMS pick list of elements within 56 requirement statements
- Verbal report out with delivery of (1) pptx assessment report for each selected element area(s)
- · Peer Support (post-assessment)

Offering 3- Full Assessment

- Review of company provided polices and procedures for full gap analysis of all 56 requirement statements
- Field verification and analysis by assessor(s) may be added for additional cost
- Maturity evaluation that aligns with the industry accepted PSMS maturity model
- Benchmarking

Abandoned Lines and Identifying the Owner(s)

BY ROY SACHLEBEN, SAFETY MANAGER, STAR CONSTRUCTION, LLC



t's a phrase no excavator wants to hear from his/her spotter. My crew was digging in a rear easement in Old Louisville. The area was a mess of buried utilities in a cobblestone alleyway, but everything was on the west side of the alley. We were two feet into the soil on the east side of the alley which was clear of all locate marks, and yet our spotter was calling a halt and wondering, "What is that?"

The shovel had uncovered a metal pipe two inches in diameter. Luckily, it was running at an angle to our trench, otherwise the bucket teeth would have caught it and ripped it from the ground. Only the disturbed soil falling revealed the pipe before it would have been damaged.

At this point, what should be done?

• **First: STOP WORKING!** When an unknown utility is uncovered, stop digging immediately. Never compound the problem by rushing through it.

- Next: eliminate the obvious by asking some simple questions:
 - o What does the 811 ticket say?
 Everyone is required to notify
 their local 811 operator and
 provide all the information for
 their excavation. Unfortunately,
 this does not guarantee an errorfree dig since any number of
 errors can be made.
 - o The location could be incorrect.

 A mistake as small as one digit on an address can mean your utility paint is off by a few feet or several city blocks.
 - o Your start date could be wrong.

 A crew could be digging before locators arrive, or, just as dangerous, the crew could be too late and working on an expired ticket and faded marks.

A positive response from a utility owner is not proof against mistakes. One of my crews hit a gas main because I failed to see that a positive response simply said the locator couldn't find the location. A mistake had been made and that's the point. Since any number of things could have gone wrong, a crew should check their 811 ticket first.

Read the ticket carefully. Was anything missed?

With the 811 information in hand, we need to see if we missed anything in the field.

• Did we miss a mark or not see an indicator of a utility, like a meter box or fresh dig marks? Re-examine the area paying close attention to the known marks. Make certain a mistake had not been made. In our case, the crew had done their job correctly. Gas, phone, electric, cable TV, water, and sewer all responded and marked their respective utilities. All were accounted for and visualized. We missed nothing and were stumped.

Speak to the property owner.

If you are lucky enough to have access to the property owner, talk to them. Homeowners, building managers, or custodial services can all be valuable sources of information. They may be able to fill you in on a known dead service or a private utility that you were uninformed about. In our case, none of the homeowners in the immediate area could help. They were unaware of anything in that area, and it was certainly not a private utility.

Wire can be electric, telecommunications, or even a dog fence. Plastic or medal conduit can carry water, sewage, gas, any manner of wire or fiber, or even dangerous volatile chemicals. Concrete is often used for water or sewage. If this is an OLD utility, you may even see terracotta or wood. What is visible in the field can provide clues, especially if the uncovered utility resembles a known object.

Questions have been asked, the investigation is ongoing, there's a lot of information, but we still have no answer. What's next?

Get help from management.

For our company, the field crew is required to alert their supervisor. For a small, agile company, management may be the person running the excavator. Larger



THE OBVIOUS!

organizations may run through supervisors, inspectors, managers, or higher. Whoever that individual is will need all the information their crew has amassed. They are going to need everything they can get for the next step.

Start making phone calls.

First, notify 811 of a possible damage to an unmarked utility. They may be able to help. However, there is still enough information to go further by making some educated guesses. By making a good guess as to what utility COULD be, you can contact possible owners.

In the field, we found a two inch diameter metal conduit that looked old, was too shallow to be water, and was similar to the gas lines already daylighted. We called the local gas company and reported possible damage to an unlocated gas line. A good gas company will rapidly respond. The local water company was also contacted. Both companies sent investigators.

What if the utility owner is unknown?

We've done some investigating, made some assumptions, and placed a few calls.

If we are lucky, this is the end of it. The owner is found, the utility is properly marked, and excavation continues. Every state except Alaska and Kentucky requires utility owners to register with 811. Regardless, mistakes are still made, abandoned utilities are not mapped, and sometimes newer utilities haven't made it into the database yet.

What is a crew to do when the owner of a utility remains hidden?

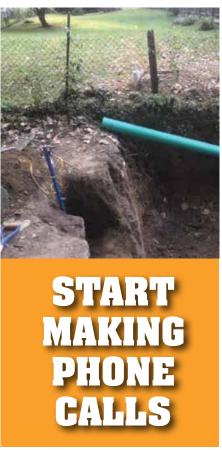
The crew we have been following had a decisive ending. Our unknown utility was an abandoned gas line identified by old, out-dated maps. A local gas company representative and their crew arrived at the job site. The uncovered line was still under pressure and dangerous, so the gas company decided to tap the line, release the pressure, cap the ends, and get it out of our way. When tapped, a jet of natural gas infused water sprayed out. We were told this was highly dangerous, and it would have happened had we cut the line. Any crew member could have been doused with the flammable concoction. We had been lucky, and when faced with a problem, did everything correctly.

But again I ask...What if no utility owner had been found?

If you followed along with our story, and copied what we did, you're already halfway to your own happily ever after by calling your local 811 office and reporting the issue. This is your best option for finding that phantom owner (as a number of 811 representatives have informed me).

One last time I ask..What IF?

As a last resort, you have two options. The first is speaking with your customer to see if there is another available route. Perhaps there is a better option that avoids the unknown utility. The second option is extremely careful hand digging if allowed by local authorities and state law. If this was a known utility in your way, you would be permitted to carefully excavate without mechanical means. Don't forget to support the utility along the trench to prevent damage from a sagging line, and remember, this is a last resort and only if permitted by local laws and regulations.







Excavator (

BY ROGER COX, PRESIDENT, ACTS NOW, INC

et me introduce the group. James Keith (JK) with TL Wallace, headquartered in Columbia, MS has worked in the industry for 25 years. While James works within the gas industry, the company also installs other underground utilities, including water and sewer.

Jason A. Porter, CSP (JP) works with Apex Pipeline Services, Inc, headquartered in Nitro, WV. He has worked for Apex for more than 12 years, and prior to that worked in the oil and gas industry as a Risk Management Consultant. Jason primarily works in the natural gas industry.

Mike Lang (ML) worked with Miller Pipeline, headquartered in Indianapolis, IN for the past 19 years. Gas, water, and drainage are all part of Miller Pipeline's expertise.

1. How do you ensure your crews are trained in damage prevention practices?

- (JK) New hires go through safer hub training, OQ testing, and eventually all employees go through a competent person training course in excavation. We also have four safety meetings each year where damage prevention is on the agenda.
- (JP) All employees go through orientation training when brought on to a new project. Part of that training focuses on damage prevention measures and policies to prevent line strikes or unintended damages. Employees also participate in a daily Job Safety Analysis (JSA) session with their specific work crews. Part of that JSA discussion covers any excavation activities and any associated foreign line crossings that were identified by the One Call process or by review of the project provided alignment sheets.
- (ML) The company trains on Best Practices for safe excavation and Horizontal Directional Drilling (HDD), and reinforces the training with onsite daily huddles, monthly safety meetings, and in-house job site safety inspections. Keeping up to date with the various 811 dig laws is an important component of safe digging and what we do.

2. What measures do you implement to identify and protect underground utilities before starting any excavation work?

- (JK) We call 811 for a required dig ticket. The foreman on each crew must fill out a pre-excavation and/or boring permit before excavation begins on a project. These permits are designed as a checklist for all the precautionary steps required before the excavation begins. We also pre-camera the excavation site before excavating.
- (JP) Review of all alignment sheets and One Call tickets prior to excavation work starting with all Foreman. A foreign line

What is your top three list for a safe and successful project?

list is developed from the alignment sheets and shared with all crews. The list will identify the line as well as Station #/location of the line.

Prior to the start of any excavation work, a line sweep is conducted on the entire right-of-way to attempt to identify any potential foreign lines. Once any foreign line is identified, potholing activities are conducted to confirm depth and location. Potholing is performed by a method of manual digging.

(ML) Every project starts with a project walk-through and understanding the

expectations of the owner/operator. When locates are called in and completed, all utilities are hand spotted or vacuum excavated to affirm and identify. We not only look for marked utilities but try to identify any unmarked utilities that may exist. If it is determined that conflicts may exist, discussions with the operator are held to determine if a reroute is a better option.

3. How do you stay updated on the latest damage prevention technologies and best practices?

(JK) Members of my team and I attend local 811 damage prevention meetings and the annual 811 Conference every year.

(JP) Participation in the WV 811 quarterly meetings and participation on the WV Damage Prevention Board. As Chair of the Safety Committee for the Gas & Oil Association of WV (GOWV), we have offered a Damage Prevention Seminar for the last 3 years and intend on continuing the seminar moving forward. This seminar is developed in conjunction with WV 811 and includes participation from OHIO811, Kentucky 811, VA811, PA One Call System, Inc., and Common Ground Alliance (CGA).

I also attend other 811 Summits and conferences offered by surrounding states and organizations.

(ML) The company works to be aware of the latest technologies in our industry. We've found that attending and participating in 811 Damage Prevention Summits pays dividends. Not only do they provide training and dig law updates but they provide us with the opportunity to interact with other stakeholders in areas where we work.

4. How do you ensure all crew members are aware of the importance of damage prevention and safety?

(JK) We have a Job Safety Analysis (JSA) before the beginning of each project. Preventing damage to existing utilities and safety are two of the major topics discussed.

Talking Damage Prevention and Safety

- (JP) Through training and JSA completion, all employees on the project are made aware of the importance of Damage Prevention measures and what they should do when there is a concern or question.
- (ML) Safe digging by following proven policies is reinforced daily. Using good judgment is emphasized for each person on the team. Our onsite daily huddles and JSA's are an integral part of our commitment to safety and damage prevention.
- 5. How do you make sure the lines of communication stay open when it comes to keeping crews and utilities safe?
- (JK) One way is the excavating and boring permits. They are designed so the foreman must call or talk to the project manager and discuss the project before excavation begins.
- (JP) Morning meetings are conducted between the Project Superintendent and all Foreman on the project. The Project Safety Coordinator also participates in the meetings and can convey any areas of concern or focus.
- (ML) Our daily onsite meetings are focused on jobsite issues and provide the Foreman and Project Supervisor pertinent information necessary to keep the job running efficiently and safely.
- 6. What is your top three list for a safe and successful project?
- (JK) Life, Property, Integrity, and No Obstacles! Planning, Communication, and Accountability. First, you must have a plan, then communicate the plan from the office to the field (pre-construction meetings), and last make sure everyone is held accountable for their part in the process.
- (JP) No Personal/Employee Injuries, no property damages, and no negative environmental impacts.
- (ML) Call 811 before digging, pre-job planning, and identifying onsite hazards and mitigations.

- 7. What do you think other stakeholders don't understand about an excavator's role in preventing damage?
- (JK) I think most people fail to realize regardless of who's at fault for the damaged utility line, it affects everyone. Instead of pointing fingers, we need to unite and work on the problem that's prevention.
- (JP) It's the challenges an excavator may encounter when it comes to Damage Prevention. It is still too easy and convenient to blame the excavator as they are always the one that physically strikes/damages the utility. There is no denying that the excavator is the one putting the bucket in the ground, but the process of ensuring lines are properly and timely marked and identified, does not always provide the desired results it should. The challenge for the excavator is to not rely on the locate system alone to ensure lines are properly identified. Additional measures must be implemented and practiced to try and identify mismarked lines, lines that are not marked, or lines that are not known about at all. Excavators must understand their role in the damage prevention process is the most critical, because again, the excavator is the one sticking the bucket in the ground and is going to be the one blamed if a damage occurs.
- (ML) I'm not sure they understand all successful projects are a team effort from start to finish. Owner/operators, locators, and excavators must work together instead of working as individual groups.
- 8. Based on your experience in the industry, are the challenges you face today different than when you first began?
- (JK) It is harder today than when I first started. There are so many underground utilities now that production can sometimes be difficult. I think we are going to have to build a system where each utility has a designated space. I know we can't replace all utilities, but moving forward on new sub-divisions and replacement projects could start the process.
- (JP) Very similar challenges from a Contractor/Excavator standpoint. Time

is money. Always! The bottom line on a project is important but not a replacement for safety and damage prevention.

The Excavator/Contractor must continue to be involved as proactively as possible in Damage Prevention efforts. Instead of simply accepting that line strikes will occur, the Excavator can insist that proper notification and marking is conducted. Don't just assume that by waiting the required time before digging and not seeing any marks, that the area is clear.

- (ML) In some ways the difficulties are the same, despite obvious technological improvements. The bottom line is all stakeholders need to work together and continuously improve communication efforts. Communication, logical thought process, and common sense are key to all our successes on these projects.
- 9. If you or your company participates in any of the local 811 or damage prevention meetings, what are the benefits of participating?
- (JK) You learn so much by attending these meetings. You get to see the difficulties other contractors, locators, and utility owners face. If you let it, these meetings can change the way you think about certain things. They are also a good place to discuss the issues you may be facing within your business.
- (JP) The meetings can be a valuable resource, making you aware of any law changes or best practices being discussed in the industry. They allow for review of other damages and lessons learned I can bring back to my company to implement. The contacts you meet can make a difference in creating a more efficient line of communication which is critical for successful projects.
- (ML) It is a great way to stay up to date with local changes and policies, but mainly provides an opportunity to interact with other stakeholders to discuss challenges, difficulties, and possible solutions. It is the best way to strengthen our relationships with those stakeholders that we're depending on for a successful project.

The Vital Role Coordination Plays in Joint Trenching

The Benefits of Joint Trenching Go Beyond Construction Efficiency

BY JULIE PALMER, MANAGER, GAS CAPITAL DELIVERY FOR MINNESOTA, CENTERPOINT ENERGY

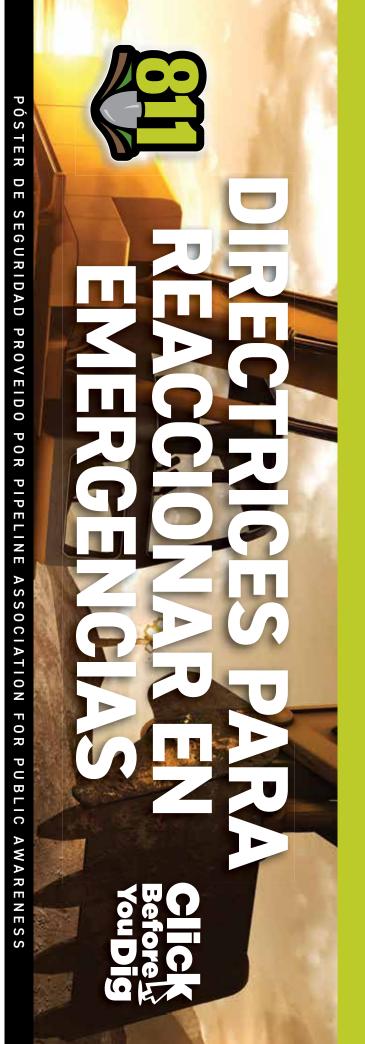


ur communities expect reliable utility service to heat homes, power businesses, and connect them to others. As utility companies continue to plan new construction for anticipated future growth and replace aging infrastructure, it is vital they consider the impact of this work on the communities they serve. In many cases, several utilities are installed underground to serve an area including natural gas, electricity, and communications.

Joint trenching offers value to construction projects and can be useful in many cases for utility companies and construction contractors. Through close coordination among project participants, joint trenching is a valuable construction method to reduce the space needed for utilities, enhance safety, and reduce the duration and community impact of construction activities.

Like a highly trafficked road, underground areas can become congested with all the infrastructure needed within an area. That's where a construction method called "joint trenching" can be valuable in meeting the utility needs of communities while also reducing the amount of space needed for underground infrastructure.

Joint trenching is the practice of building a trench that contains several types of underground utilities. This method of construction allows for multiple utility types to be placed safely in one trench instead of



CONOZCA LOS PELIGROS

- El gas natural y otros productos de petróleo son inflamables y queman. Si la piel está expuesta, serias irritaciones pueden ocurrir. Los gases escapados pueden desplazar el oxígeno.
- La electricidad hará descargas o cortocircuito a tierra produciendo temperaturas que son cuatro veces más intensas que la temperatura del sol. Como mínimo quemaría la piel y dañaría los organos internos. Los altos voltajes de electricidad pueden hacer arco a distancias considerables a través del aire. Usted debe estar consiente de cables aéros de alto voltaje y aleje cualquier parte del equipo por lo menos a 10 pies de distancia de los cables aéreos.
- El agua a alta presión pueden causar heridas graves.
 Las aguas residuales contienen bacterias que puede ser de alto riesgo para la salud. Los gases del alcantarillado son inflamables y queman.

RECONOZCA LAS CONDICIONES PELIGROSA

- Los charcos de liquido, la tierra soplando, los sonidos siseantes, las nubes de vapor, los olores a gas, las burbujas en agua estancada, la vegetación completamente seca, y la tierra congelada o hielo alrededor de gasoductos/ oleoductos son todas señales de escapes de gas natural o petróleo y deben de ser tratadas como una emergencia.
- Trate el contacto con cualquier cable eléctrico como una emergencia sin tener en cuenta si aparece dañado o no o si está cortado. Ésto incluye el contacto con cables aéreos de alto voltaje.
- Con frecuencia los servicios usan zanjas conjuntamente poniéndolo a usted en un mayor riesgo en las zanjas que támbien tienen electricidad.
- La tierra mojada o descolorida es un indicio de un escape de agua/alcantarillado y debe ser tratada como una condición de emergencia potencial.



PROVIDED BY PIPELINE ASSOCIATION FOR PUBLIC AWARENESS

KNOW THE HAZARDS

- Natural gas and other petroleum products will ignite and burn. If exposed to the skin, serious irritations may occur. Escaping gases can displace oxygen.
- Electricity will arc or short to ground producing heat that is up to four times greater than the heat of the sun. At a minimum, it will burn skin and damage internal organs. High voltage electricity can arc significant distances through the air. Be aware of all aboveground high voltage lines and keep any part of the equipment at least 10 feet away from overhead lines.
- Water under high pressure can cause serious injury.
 Wastewater contains bacteria that can be a significant health risk. Sewer gas will ignite and burn.

RECOGNIZE UNSAFE CONDITIONS

- Pools of liquid, blowing dirt, hissing sounds, vapor clouds, gaseous odors, bubbles in standing water, dead vegetation, and frozen soil or ice next to pipelines are all signs of a natural gas or petroleum pipeline leak and should be treated as an emergency.
- Treat contact with any electric line as an emergency regardless of whether it appears undamaged, damaged or severed. This includes contact with aboveground high voltage lines.
- Utilities often jointly use trenches placing you at greater risk in trenches that also have electricity.
- Wet or discolored soil is an indication of a water/sewer leak and should be treated as a potential emergency condition.

EMERGENCY CONDITIONS INVOLVING UNDERGROUND FACILITIES INCLUDE:

Leaks, ruptures, explosions, fires, severe settling or soil movement, weakened or damaged facilities and similar instances where immediate action is necessary to prevent loss of life, injury to persons, or damage to property and the environment. Every situation is different and must be evaluated on the individual circumstances. Below are general emergency response guidelines for various emergency/damage situations involving underground facilities.

RESPOND IMMEDIATELY

NATURAL GAS & PETROLEUM LIQUIDS

- Turn off equipment, if it can be done safely.
- 2. Abandon all equipment and get a safe distance away.
- not start motor vehicles or electrical equipment. Remove 3. Avoid open flames or anything that might start a fire. Do all ignition sources (cigarettes, cell phones, or anything that could create a spark or static electricity).
- 4. Evacuate the area and keep people out.
- 5. Do not make contact with escaping liquids.
- bo not operate any pipeline valves.
- 7. Call 911 or your local fire, police, or sheriff's office.
- 8. Do not try to put out a fire. If it's burning, let it burn; ask local firefighters to observe and protect adjacent property.
- 9. Contact the facility operator immediately to report the condition.

ELECTRICITY

- underground electric lines if you can move it away safely. 1. Only move equipment in contact with overhead or
- on the ground at the same time, and then only shuffle or hop away. until rescue workers arrive; keep others away. If you must equipment, it's safest to stay on equipment (unless on fire) 2. If excavator equipment remains in contact with electric abandon equipment, jump clear of it, landing with both feet
- the ground may become energized for a large area around the Strike. (Hopping or shuffling away will help reduce your risk to step potential.) 3. If a buried electrical line is struck in wet soil/conditions,

- 4. Contact the facility operator immediately to report the condition.
- If appropriate, call 911 for local emergency response.

- Evacuate the area immediately and keep people out. Leaking water can fill a trench quickly making escape extremely difficult.
- wrong valve may affect fire flows and/or possible containment 2. Do not close valves in order to stop flooding. Closing the of potable systems.
- the slightest scratch or vibration can cause pipelines to break. 3. Be careful of damaged high-pressure water lines because even
- 4. Move carefully around trenches with wet walls. Wet soil can easily cause suffocation.
- 5. Avoid contact with wastewater. Do not wade in or work around wastewater.
- 6. Sewer gas is flammable; avoid open flames or anything that might start a fire.
- Contact the facility operator immediately to report the condition.

FIBER/COMMUNICATION

- 1. If a fiber optic cable is cut, do not look into the end of it. Serious eye damage may occur.
- Contact the facility operator and report the condition.

NEVER BURY A DAMAGED FACILITY!

Even a minor scrape, nick, cut, tear, break, or dent should be reported to the facility owner immediately. If not promptly repaired, it could result in a future leak, service outage, explosion, accident, injury, or death.

ación se dan directrices generales de emergencia para reaccionar ante varias emergencias/situaciones donde hay daños que dad y el medio ambiente. Cada situación es diferente y debe ser evaluada individualmente según las circunstancias. A continuexplosiones, incendios, hundimiento severo o movimiento de tierra, debilitamiento y daño de gasoductos/oleoductos/acueductos y casos similares donde es necesaria la acción inmediata para impedir pérdida de vidas, heridas a personas, o daños a propie-CONDICIONES DE EMERGENCIA que afectan las instalaciones subterráneas incluyen: escapes, rupturas,

REACCIONE INMEDIATAMENTE

afectan las instalaciones subterráneas.

GAS NATURAL Y LÍQUIDOS DERIVADOS DEL PETROLEO

- 1. Apague el equipo, si lo puede hacer con seguridad.
- 2. Abandone todo el equipo y aléjese a una distancia segura.
- Evite llamas abiertas o cualquier cosa que pueda prender fuego. No arranque vehículos de motor o equipo eléctrico. Retire todas las fuentes de ignición (cigarrillos, teléfonos celulares, o cualquier cosa que pueda crear una chispa o electricidad estática).
- 4. Evacúe el área y no deje pasar a la gente.
- 5. No haga contacto con escapes de líquidos.
- 6. No maneje las válvulas de gasoductos/oleoductos.
- 7. Llame al número de emergencia 911 o llame a las oficinas locales del cuerpo de bomberos, policía, o sheriff.
- 8. No trate de apagar el fuego. Si está ardiendo déjelo quemar; pídale a los bomberos que observen y protejan la propiedad adyacente.
- Inmediatamente póngase en contacto con a la compañía que opera los gasoductos/oleoductos para reportar las condiciones.

ELECTRICIDAD

- Sólo mueva equipo que esté en contacto con cables eléctricos aéreos o subterráneos si usted lo puede mover con seguridad.
- 2. Si el equipo excavador continúa en contacto con equipo eléctrico, es más seguro quedarse en el equipo (a no ser que esté en llamas) hasta que lleguen los trabajadores de rescate: no deje que otros se acerquen. Si tiene que abandonar el equipo, salte lejos del equipo, cayendo con ambos pies a la misma vez, y luego sólo aléjese arrastrando los pies o saltando
- 3. Si hay impacto con un cable enterrado y la tierra está mojada, la tierra en el área alrededor del impacto puede estar energizada. (Reduzca el riesgo de electrocutarse alejándose saltando o arrastrando los pies.)
- Inmediatamente póngase en contacto con la compañía que opera las instalaciones para reportar la emergencia

5. Si es apropiado llame al número de emegencia 911 para ayuda local.

ACUEDUCTO/ALCANTARILLADO

- Evacúe el área de inmediato y no deje que la gente se acerque. Un escape de agua puede llenar una zanja rápidamente haciendo su escape sumamente dificil.
- 2. No cierre las válvulas para impedir inundaciones. Cerrar la válvula equivocada puede impedir que el agua pase por los ductos de agua que usan los bomberos para apagar fuegos y/o posiblemente contaminar el sistema de agua potable.
- Tenga cuidado con los ductos de agua de alta presión debido a que cualquier leve rasguño o vibración puede causar una ruptura.
- 4. Muévase con cuidado alrededor de zanjas que tienen las paredes mojadas. Tierra mojada puede derrumbarse fácilmente y causar asfixia.
- Evite contacto con aguas residuales. No camine o trabaje alrededor de aguas residuales.
- Los gases del alcantarillado son inflamables; evite llamas abiertas o cualquier cosa que pueda iniciar un incendio.
- 7. Inmediatamente póngase en contacto con la compañía que opera los acueductos y alcantarillados para reportar la emergencia.

FIBRA OPTICA/COMUNICACION

- Si el cable de fibra óptica está cortado, no mire adentro de la punta del cable. Graves daños a los ojos pueden ocurrir.
- Inmediatamente póngase en contacto con la compañía que opera la fibra óptica para reportar la situación.

NUNCA ENTIERRE EQUIPO DAÑADO

Nunca entierre equipo danado como cables electricos, gasoductos, oleoductos o ductos de cualquier tipo. Informe de inmediato a la compañía afectada cualquier leve rasguño, corte, rotura, o abolladura. Si la reparación no es hecha rápidamente en el futuro pueden resultar escapes, interrupción de servicios, explosiones, accidentes, heridas, o muerte.

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DIGGING SAFELY

digging multiple trenches at separate times for each utility type.

At CenterPoint Energy in Minnesota, we seek opportunities to conduct joint trenching when we replace existing natural gas lines or when we install lines to serve new customers. Prior to starting work, we coordinate with our construction contractors to find opportunities to conduct joint trenching operations while considering several factors to reduce public and stakeholder inconvenience, and reduce overall construction duration.

Benefits of Joint Trenching

Joint trenching offers value to communities in many ways, including:

• Fewer impacts on customers - construction activities can be better coordinated: Construction projects cause inconvenience to the community. Joint trenching allows for construction to be completed in a more deliberate way, and at once, instead of several impacts over a longer period of time, reducing potential community and stakeholder frustration.

- Fewer traffic impacts for the public helpful for a congested utility corridor: By joint trenching, the amount of space needed for underground utilities can be reduced. This can be helpful for planning ahead for potential future public right-of-way or utility expansions or when working in areas that are heavily developed.
- Safer outcomes for all reduced risk of utility line hits in future construction activities: With more utilities located in one trench, future construction activities can have awareness of utilities being in one area, as opposed to several separate trenches. This could reduce the risk of damage to facilities and costly disruption to utility service that may occur from lines being hit.

Considerations when Joint Trenching

Although joint trenching offers potential benefits, several factors should be considered as joint trenching is evaluated as a construction method:

- Allow for appropriate separation between utility lines: With all types of construction, an appropriate and safe distance needs to be maintained between utility lines. A joint trench needs to be thoughtfully designed to maintain a safe distance between utilities and to provide sufficient space to access each utility line for maintenance, future replacement, and repairs.
- Not all utility types are compatible within the same trench: Not all utility types can be installed in the same trench, so the specific needs of each utility project need to be evaluated for joint trenching efforts to verify compatibility.
- Increased need for early and frequent communication among utilities: Joint trenching offers the value of collocated infrastructure. However, this requires significant coordination in advance with each utility involved in a construction project. Without proper advance coordination and communication, projects could be delayed or become infeasible.



How One City Created a Process to Reduce Damage to Their Underground Utilities

BY JOHNNY LUNSFORD, OPERATIONS MANAGER, ROGERS WATER UTILITIES

In 2019 as a utility provider, we recognized a significant problem emerging in our service area. Unfortunately, many of these issues were caused by utility boring companies damaging our underground water and sewer infrastructure - critical services upon which our customers rely. Consequently, we needed to develop a solution to address this disruptive problem before it got bigger. The solution needed to address the immediate issue while also minimizing potential future harm to our infrastructure.

We conducted a comprehensive review to clearly and thoroughly describe the damages that had been caused. The comprehensive review revealed the problematic practices of utility boring companies were a primary cause of the issues, but it also revealed the issues were not solely caused by the utility bore companies. We concluded that we are also failing with our inaccurate locates and miscommunications between the utility boring companies and the utility itself. To prevent further damage, we needed to develop a process that helped both parties understand how their individual behaviors contributed to the overall prevention efforts. This would result in a more reliable and workable process. Resolving these troubling behaviors will require time and effort. To enhance the protection of our underground facilities, we needed to establish a policy that promotes shared responsibility.

- We initiated open communication with utility boring companies and our locators to establish proper procedures for accurately identifying the locations of our underground utilities
- We emphasized to the utility companies the critical need to expose and visually inspect our buried infrastructure before starting any drilling or boring work. This would enable us to verify the accuracy of the locator marks and identify any issues. Unfortunately, we found that some utility companies were still subcontracting the work to unqualified crews who showed little regard for the integrity

Rogers

of our underground system. These subcontractors seemed solely focused on getting the job done quickly and moving on to the next project, rather than performing the work responsibly. The utility continues to struggle with locators who are not performing

Facts are in the numbers:
Our average before 2019 was 10-20 repairs a week (sometimes more). In 2024, 5 repairs for the year.
In between 2019-2024 our average was 10-20 repairs a year. In that time, we had over 5,000 bores and 200 miles of pipe put in the ground.

their duties properly. As a result, the company has had to discipline and remove some employees from those positions. So, this plan was not working, and we needed to come up with something new.

What finally brought everything to where we are today, came about when a subcon-

tractor working for one of the contractors caused significant issues that impacted our water lines. In a single subdivision, this subcontractor damaged every water service line on one side of the street. Our crew had to spend two days repairing those damaged services. As a result, the affected homes were without water for three days while we flushed and chlorinated the lines and had a boil order issued until we could get good samples back. Then, another subdivision was hit the same way even after every one of the services lines was mark correctly. Since they were unable to follow the proper 811 rules, we decided to create a Utility Resolution and City Ordinance, as outlined below, to address the issue.

Exhibit 1 to Resolution No. 19-14

While performing a bore, always have the following information: bore permit number, utility maps, and a valid locate number.

Expose water mains and services at every crossing point parallel to the water main. Expose the water line every 100 - 200 feet; if crossing sewer mains, check the depth at the manholes. If you cannot, then expose the sewer at every crossing. Private sewer services are your responsibility. With this bond you were provided with a map of RWU underground utilities. Compare the underground utilities on the map to those located on the ground. If the maps do not match the physical locates, contact the below phone number.

The City of Rogers & Rogers Water Utilities

Code Enforcement requires all properties where utility work is being done in Rogers, AR to have all rocks and extra dirt removed, and topsoil, seed or sod, and straw before permits are to be released up to injection.

Sec. 54-55. - Damage to Water Facilities or Sewer Facilities

Any person negligently breaking or causing damage to any public water lines,

public sewer lines, other public water facilities or other public sewer facilities of the Rogers Water Utilities, shall be liable to the Rogers Water Utilities for the cost of repairing the break or damage. Violation of the Arkansas Underground Facilities Damage Prevention Act shall be considered evidence of the person's negligence. In the event the break or damage is caused by the person's reckless, or intentional actions or omissions, the person causing the break or damage shall be liable for three times the cost of repairing the break or damage (treble damages). If the damages prescribed herein are not paid when due, Rogers Water Utilities may bring an action in any court of competent jurisdiction to collect such damages, including, without limitation, an action to collect on any bond posted with the Rogers Water Utilities or any bond (including, without limitation, street cut or curb cut bonds) posted with any other department of the City of Rogers, the Rogers Water Utilities being an intended obligee of such bonds.

Sec. 54-56. - Bores Without Permit Unlawful

It shall be unlawful for any person to conduct boring of any type, including, without limitation, directional boring or auger boring, in the city for the purposes of installing service lines or utility lines or for any other purpose except in the case of an emergency, until a permit for such boring has been issued by the Rogers Water Utilities.

Sec. 54-57. - Boring Permits; Deposits

Permits to bore. The Rogers Water Utilities shall and is hereby authorized and directed to issue permits, upon proper application, to conduct boring within the city for the purposes of installing utility lines or service lines or for such other purposes as may be approved by the superintendent of the Rogers Water Utilities. Such permits allow boring operations only within the public ways of the city, including public rights-of-way and utility easements, as specified in the permit or otherwise provided in any applicable franchise agreement. Such permit does not allow the permittee to conduct boring on private property without the permission of the owner or owners of the private property.

The Rogers Water Utilities may deny the boring permit application if the applicant is indebted to the Rogers Water Utilities for damages to Rogers Water Utilities' water lines, sewer lines, or other property, and the applicant is in arrears for such debts. Upon denial of any permit application, the Rogers Water Utilities shall communicate the reason for denial to the applicant and shall provide documenta-

tion to the applicant supporting its denial.

Persons applying for a permit to bore shall coordinate with the Rogers Water Utilities, including attending a preconstruction meeting with the Rogers Water Utilities prior to the permit being issued and prior to the work commencing in order to prevent damage to Rogers Water Utilities' water lines, sewer lines, and other property, and to prevent damage to privately owned water lines and privately owned sewer lines.

Sec. 54-58. - Applications for Boring Permits

A person applying for a permit to bore shall make written application to the superintendent of the Rogers Water Utilities upon a form furnished by the Rogers Water Utilities. The application shall state the exact location of the work, the required information in subsection (b) below, and such other information as the superintendent of the Rogers Water Utilities shall require.

Required Information. Applications for Permits Must:

Show the applicant to be 21 years of age or older, or if the applicant is an entity, show the principal of the entity is 21 years of age or older.

Designate the street, alley, or other location of the proposed bore.

Provide a map or drawing of the proposed bore.

Indicate the purpose of the bore. State the nature of the surface of the street, alley, or other location.

Contain an agreement to comply in all things with the applicable provisions of this article and other applicable provisions of this Code.

Issuance. The superintendent of the Rogers Water Utilities shall approve a permit pursuant to the provisions of this article if the applicant and proposed work comply with all applicable provisions of this article and all other applicable portions of this Code.

Sec. 54-59. - Deposits

A person who is required by the provisions of this article to obtain a permit shall pay

continued on page 34



continued from page 33

to the Rogers Water Utilities a \$5,000.00 deposit for each bore. (Example: if there are four bores, the deposit amount shall be \$20,000.00). The superintendent of the Rogers Water Utilities may require a deposit in a greater amount for each bore in the event of an unusually large project or if the project presents an unusually high degree of risk to any public water lines, public sewer lines, other public water facilities, other public sewer facilities, or other critical infrastructure. The deposit must be sufficient for the scope of the work. An applicant cannot receive a permit for work greater than is secured by the deposit amount. The deposit shall be in the form of a cashier's check or bond. The bond shall be executed by a surety company authorized to transact business in the state. This deposit requirement shall not apply to utility companies operating under franchise or under congressional grant in the city. If the work is sublet to a contractor, either the contractor will be required to deposit a cashier's check or bond, or the utility company shall deposit a cashier's check or bond.

In the event the permittee negligently, recklessly, or intentionally breaks or causes damage to any public water lines, public sewer lines, other public water facilities or other public sewer facilities of the Rogers Water Utilities, the deposit shall be forfeited and applied to the damages caused by and assessed against the permittee pursuant to section 54-55 above, including, without limitation, any treble damages. In the event the deposit is insufficient to reimburse the Rogers Water Utilities for such damages, the permittee shall pay the difference to the Rogers Water Utilities in accordance with section 54-55 above.

Sec. 54-60. - Violations

In addition to any other criminal penalties that may be prescribed by state law, noncompliance with the provisions of this article shall constitute a violation.

The following acts shall be treated as offenses separate and apart from any other violations of this article:

Conducting boring without a permit therefor.

Falsification of the application for a permit to bore.

Failure to post a cashier's check or bond

as required in section 54-59 or posting a fraudulent cashier's check or bond thereunder:

Failure to comply with other specifications and requirements imposed by this Code.

Any person violating any of the provisions in this section shall be liable to the Rogers Water Utilities for any expense, loss, or damage to the Rogers Water Utilities caused by the violation.

The applicant would go on to our website and fill out the application for bore permit (Figure 1).

Bore Agreement Application 1. It shall be unlawful for any person to conduct boring of any type including, without limitation, directional boring or auger boring, in the City for the purposes of installing service lines or utility lines or for any other purpose except in the case of an emergency, until a permit for such boring has been issued by the Rogers Water Utilities (RWU). (Sec. 5456) Any boring shall commence only after the application process is completed and approved by the Rogers Water Utilities, located at 601 S. 2nd Street, during normal working hours from 8:00am to 5:00pm, Monday through Friday, Ph. (479) 621-

- 2. Any person negligently breaking or causing damage to any RWU public water lines, public sewer lines, or other public water or public sewer facilities shall be liable for the cost of repairing the break or damage. Treble damages apply if the break or damage is caused by reckless or intentional acts or omissions. (See Sec. 54-55 (a)). Any person breaking or damaging any cables, pipes or lines of the City shall be liable for the cost of repairing the break. (Sec. 14-512). The Applicant is responsible for utility locates per the Underground Facilities Damage Prevention Act. Call Arkansas One Call: 811 or 1-800-482-8998.
- 3. A person who is required by the provisions of this Article to obtain a permit shall pay to Rogers Water Utilities a

RWU Bore Application		
First name:	Last name:	
Company name:		
Company address:		
City:	State:	Zip:
Phone:	Email:	
Applicant comments:		
Contractor Information		
Company name:		
Contractor first name:	Contra	ctor last name:
Company address:		
City:	State:	Zip:
Contractor phone #	Contact o	email:
RWU Bore Information		
Location of Bores:		
Number of Bores:		
Number of Streets crosse	ed:	
Proposed start date:		
RWU Bond Information		
Type of Bond: (circle whi	ch one applies) Check Surety	Bond
If Surety Bond - Bond Co	mpany Name:	
If Surety Bond - Bond Nu	mber:	
Surety Bond - Bond Expir	ation Date:	
If Check - Name on Check	E	
If Check - Check Number		
Bore Location Address: _		

- \$5,000.00 deposit for each bore. The deposit must be sufficient for the scope of work. The deposit shall be in the form of a cashier's check or bond. The bond shall be executed by a surety company authorized to transact business in the state. (Sec. 54-59 (a)) The following deposit schedule shall apply: a. Bores under or in the vicinity of a 12 inch or less pipe: \$5,000.00 b. Bores under or in the vicinity of a pipe greater than 12 inches: \$20,000.00 (or such greater amount as designated by the RWU Superintendent).
- 4. Any person making any cut in any pavement, curbing, or sidewalk or repairing or constructing any pavement, sewers, public utility lines or other works, or making any excavation in, upon, under, or adjoining a street, alley, sidewalk or other public ground, whether paved or unpaved, shall at all times while such work is being done, comply with the provisions of the Manual on Uniform Traffic Control Devices (MUTCD), latest edition. (Sec. 14-516)
- 5. Street closure requests for construction work must be submitted for approval to the City of Rogers Department of Community Development by 5:00 p.m. five (5) business days prior to the proposed start of work and must be accompanied by a copy of written plans for the construction project. (Sec. 52-4(c)) Emergency Street closures after normal business hours must immediately notify Police Dispatch at (479) 621-1172.
- 6. Prior to digging or construction of any trench deeper than four feet and seven-eighths inches (4' 7/8") within the corporate boundaries of the city, a person or other entity must first obtain a trench permit from the Rogers Fire Department. (Sec. 14-2) Link: www. rogersar.gov/FormCenter. Trenches shall comply with OSHA excavation standards. All cuts must be visibly marked and must be saw-cut on all sides to insure a smooth straight vertical edge before any excavation begins. Concrete repair shall extend to the nearest existing joint unless approved by the City. All cuts shall be inspected prior to excavation.
- 7. Immediately upon the completion of any job, the backfilling of cuts made into the earth beneath any street, alley, sidewalk, street or alley crossing, or other public ground under permit from the Department of Community

- Development shall be made up to the original street surface in layers of Class 7 base. (Sec. 14-517(4)a) Density testing for required compaction may be required. Permanent pavement repair for streets and alleys shall be in accordance with Rogers Water Utilities (RWU) Water Details WD-1: Details 15 and 16, latest revision, matching the existing pavement material. Pavement repairs must be inspected by the City Inspector prior to and after placement of pavement material.
- 8. Permanent repair for trails, sidewalks, driveways, and curb and gutter shall be in accordance with the City of Rogers Standard Specifications for Street and Drainage Construction, latest edition and Standard Construction Details, latest revision. (Ch.14, Article VIII) Repairs must be inspected by the City Inspector prior to and after placement of pavement material.
- 9. The applicant agrees and understands that work covered by a permit issued as a result of this application is subject to Federal and State laws and City Ordinances prescribed by the City of Rogers and the provisions herein. Causing damages prohibited by Section 54-55 or other portions of the Rogers City Code or failure to make prompt repairs, maintain cuts, or remove debris covered by the City's Ordinances, or to comply with the issued permit will result in forfeiture of the check or bond. The permit is valid for the specific bore listed and is good for seven (7) days. The Rogers Water Utilities and any applicable Department of the City must be notified before the work begins and ends, any anticipated delays or extensions, and within 24 hours of any emergency cuts or excavation not authorized by the issued permit. (Sec. 14-518(a) (5))

Print name:_	 	 _
Signature:	 	

The initial resistance came from contractors who were already following best practices, as they saw no need for the new requirements that didn't apply to all contractors in our city. But we continued to provide communication and support to the utility boring companies. We emphasize the importance of having a positive outlook and we both needed to be patient with the process.

The utility appointed a single point of contact to manage communication with the participating contractors. This employee would coordinate pre-construction meetings after the companies had submitted their applications and bonds. If a subcontractor is working for them, the subcontractor will need to be the ones to attend the meeting and have the bond in the subcontractor's name.

At the pre-construction meeting we provide each contractor with a site map and instruct them to call us if the actual site locates differ from the map. We also advise them to contact us if they are unable to locate the water and sewer lines during excavation. We will come out to assist in identifying their locations. We inform them that they will be held responsible for any damage to the line if the map is not onsite when we arrive, or the exposing work has not been completed, even if the locates are inaccurate.

If they had taken all necessary precautions, but still hit us due to inaccurate markings or an unmarked line, we would be at fault and they would not be held responsible.

- We also invite all the electric, gas, and cable companies to these pre-construction meetings.
- We gave each one of our locators a raise with the emphasis that it requires them to communicate with contractors in the field.
- We purchased a GPR for the hard to locate lines. After implementing these new protocols, we, as a utility company, saw a reduction in system damages and improvements in overall performance.
- We fostered stronger trust with bore companies as they recognized our collaborative, rather than adversarial, approach.
- The boring companies found that new policies leveled the playing field for them because it required close quotes on all work.
- Plus, it helps run all the here today, gone tomorrow, bore contractors out of town because they couldn't provide the bond's or follow rules. This opened up more work for them.

Utility was able to go from "damage prevention" to "prevent damage".





KNOW THE HAZARDS

PRODUCTS AND FACILITIES SAFETY INFORMATION FOR PUBLIC OFFICIALS

NATURAL GAS

is a naturally occurring resource formed millions of years ago because of heat and pressure acting on decayed organic material. It is extracted from wells and transported through gathering pipelines to processing facilities. From these facilities, it is transported through transmission pipelines to distribution pipeline systems. The main ingredient in natural gas is methane (approximately 94 percent).

Natural gas is odorless, colorless, tasteless and nontoxic in its natural state. An odorant (called mercaptan) is normally added when it is delivered to a distribution system. At ambient temperatures, natural gas remains lighter than air. However, it can be compressed (CNG) under high pressure to make it convenient for use in other applications or liquefied (LNG) under extremely cold temperatures (-260° F) to facilitate transportation.

PETROLEUM GAS

is a mixture of gaseous hydrocarbons, primarily propane, butane and ethane. These products are commonly used for cooking, heating and other industrial applications. They are easily liquefied under pressure and are often stored and transported in portable containers labeled as Liquified Petroleum Gas (LPG). When transported in transmission pipelines they may also be identified as Highly Volatile Liquids (HVLs) or Natural Gas Liquids (NGLs). Vaporized LPG may also be found in smaller gas distribution systems. Typically, LPG is a tasteless, colorless and odorless gas. When transported via transmission pipelines

it normally will not have odorant added. Odorant is added when LPG is offloaded to a distribution pipeline system or transport tanks to facilitate leak detection. Ethylene and propylene do have a faint natural odor like petroleum.

PETROLEUM LIQUIDS

is a broad term covering many products. including: crude oil, gasoline, diesel fuel, aviation gasoline, jet fuel, fuel oil, kerosene, naphtha, xylene and other refined products. Crude oil is unrefined petroleum that is extracted from beneath the Earth's surface through wells. As it comes from the well, crude oil contains a mixture of oil, gas, water and other impurities, such as metallic compounds and sulfur. Refinement of crude oil produces petroleum products that we use every day, such as motor oils and gasoline. Crude oil is transported from wells to refineries through gathering or transmission pipelines. Refined petroleum products are transported in transmission pipelines to rail or truck terminals for distribution to consumers. Odorant is not added to these products because they have a natural odor.

ANHYDROUS AMMONIA

is the liquefied form of pure ammonia gas. It is a colorless gas or liquid with an extremely pungent odor. It is normally transported through transmission pipelines and is used primarily as an agricultural fertilizer or industrial refrigerant.

CARBON DIOXIDE

is a heavy gas that is normally transported in transmission pipelines as a compressed fluid. It is a naturally occurring, colorless, odorless and tasteless gas used in various industries, including meat packaging, produce, petroleum, beverage industries. Under normal conditions, carbon dioxide is stable, inert and nontoxic. However, it acts as asphyxiant when released in large concentrations to the atmosphere.

ETHANOL

(also called ethyl alcohol) is a colorless liquid that is widely used as an additive to automotive gasoline. It may be transported in buried transmission pipelines. Ethanol has a natural odor similar to gasoline and will mix easily with water.

HYDROGEN GAS

is commonly produced from the steam reformation of natural gas. It is frequently used near its production site, with the two main uses being petrochemical processing and ammonia production. Hydrogen is a flammable gas that is colorless, odorless and lighter than air. It is nontoxic, but can act as an asphyxiant.

"SOUR" CRUDE OIL & "SOUR" GAS

refer to products containing high concentrations of sulfur and hydrogen sulfide. Products containing little or no sulfur are often referred to as "sweet." Hydrogen sulfide (H₂S) is a toxic, corrosive contaminant found in natural gas and crude oil. It has an odor like the smell of rotten eggs or a burnt match. Exposure to relatively low levels of hydrogen sulfide (500 ppm) can be fatal.

Looking for guidance on when to shelter-in-place or evacuate? Scan here for a technical guide.





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LEAK, HAZARD & EMERGENCY RESPONSE INFORMATION	/	ATURAL	GAS ETROLE	JIN GAS LIROLE	JMLIQI	ARBON A	THAMO	TOROG!	OURCE
INDICATIONS OF A LEAK	4	8 6	(C) ((V) \		<i>P</i> / 4	<u> </u>	٥.	9 /
SEE – liquid pooling on the ground									
SEE – a white vapor cloud that may look like smoke									
SEE – fire coming out of or on top of the ground									
SEE – dirt blowing from a hole in the ground									
SEE – a sheen on the surface of water									
SEE – an area of frozen ground in the summer									
SEE – an unusual area of melted snow in the winter									
SEE – an area of dead vegetation									
SEE – bubbling in pools of water									
HEAR – a loud roaring sound like a jet engine									
HEAR – a hissing or whistling noise									
SMELL – an odor like rotten eggs or a burnt match	1	1							
SMELL – an odor like petroleum liquids or gasoline									
SMELL – an irritating and pungent odor				•				•	
HAZARDS OF A RELEASE									
Highly flammable and each visuated by best or appuls									
Highly flammable and easily ignited by heat or sparks									
Will displace oxygen and can cause asphyxiation									
Vapors are heavier than air and will collect in low areas									
Contact with skin may cause burns, injury or frostbite									
Initial odor may be irritating and deaden the sense of smell									
Toxic and may be fatal if inhaled or absorbed through skin									
Vapors are extremely irritating and corrosive									
Fire may produce irritating and/or toxic gases									
Runoff may cause pollution									
Vapors may form an explosive mixture with air	1	1							
Vapors may cause dizziness or asphyxiation without warning	-	-							
Is lighter than air and can migrate into enclosed spaces									
EMERGENCY RESPONSE									
Avoid any action that may create a spark						•		•	
Do NOT start vehicles, switch lights or hang up phones									
Evacuate the area on foot in an upwind and/or uphill direction				2	2			2	2
Alert others to evacuate the area and keep people away				2	2	•		2	2
From a safe location, call 911 to report the emergency								•	
Call the pipeline operator and report the event								•	
Wait for emergency responders to arrive									
Do NOT attempt to close any pipeline valves						•			
Take shelter inside a building and close all windows				2	2			2	2

The majority of these products are naturally odorless and only certain pipeline systems may be odorized. Odorant can also fade or be scrubbed out when leaking products migrate through soil.

Sheltering in place is an alternative to evacuation when the products are toxic or the risk of fire is very low. Refer to "Shelter-In-Place or Evacuate Guidance Document" provided online at: qrco.de/Evacuation

The Nation's AND COURT INFORMATION OF THE Generates Interstate Opportunities

BY JAIME GILLEN, DIRECTOR OF PUBLIC RELATIONS AND COMMUNICATIONS, OHIO811



ubstantial growth in the excavation industry is expected over the next several years to restore and revolutionize the aging underground infrastructure across the United States.

Resilience measures and upgrade investments are being implemented to the thousands of miles of iron and bare steel gas distribution pipelines remaining in operation today, and to the electrical grid which is bearing the stress of more than sixty years in service. Nearly half a million miles of water systems are at, or are approaching, their end-of-life status and along with preservation measures to existing water infrastructure, many states are also implementing water resource management programs and installing reclaimed water systems (purple pipe). Cross-country fiber network builds are also taking place in record numbers to provide connectivity to the millions of Americans lacking adequate communication resources.

In the coming years, excavator and contractor opportunities for interstate jobs will continue to cultivate as facility owners address the millions of miles of buried utilities that will have surpassed their useful life. Expanding your geographic

footprint can be very lucrative, however, an understanding of the legislative and regulatory requirements at the local, state, and federal level is imperative to preventing damage and disruption to underground utilities.

Legislative and Regulatory Requirements

It's important for excavators and contractors moving amongst multiple states to recognize the differences and nuances in local ordinances, state regulations, and possibly excavator licensing obligations.

- In some circumstances, an excavator permit is required in addition to a building permit, while other jurisdictions may also require environmental permits. A measure of time for the permitting process should be accounted for when establishing project timelines.
- Excavator and contractor licensing requirements can differ across the country, presenting another avenue to plan for with out-of-state jobs. State regulations may require the prime





contractor to be licensed in their state while others require all subcontractors to also be state-licensed. These requirements may begin at the bid level, so researching ahead of time can prevent delays. You can check to see if the state you will be working in has license reciprocity laws that could save you time in your project planning. The Occupational Licensing Legislation Database will provide details on state-specific legislation: https://www.ncsl.org/ labor-and-employment/occupational-licensing-legislation-database If your project involves pipelines, additional certification or documentation may be required to be in compliance. The Pipeline and Hazardous Materials Safety Administration (PHMSA) statute allows for individual states to assume safety authority over intrastate lines; however, each state may adopt distinct state regulations in addition to the adoption of federal regulations. Give yourself time before the project starts to check if your work requires a Special Permit from PHMSA or a state waiver. Visit the PHMSA website for an overview from the Office of Pipe-

line Safety's Standards & Rulemaking

division to learn the requirements

needed for your job: https://www.

pipeline/standards-and-rulemak-

ing-overview

phmsa.dot.gov/standards-rulemaking/

8-1-1 and State Excavation Laws

"Contact Before You Dig" is available in all 50 states, and it is required for excavators to provide notification prior to commencing their work. While underground damage prevention and excavation laws vary from state to state, the 8-1-1 phone number was established by the Federal Communications Commission (FCC) in 2005 to provide a universal number to dial no matter where you plan to dig in the United States. With advancements in technology, many states now offer online and remote options to submit excavation notifications. These web-based tools often provide additional planning and tracking tools which benefit all excavators, especially those working in multiple states.

Each state has a defined waiting period for the utility owners and operators to respond to your 8-1-1 notification. This gives the utilities time to review their records and take action by marking their lines with flags or paint and reporting their response through means such as Positive Response. Be prepared for unanticipated lags that could occur during the waiting period, such as with small municipalities with limited locating crews or areas with large volumes of excavation activity. Always confirm that all utilities have responded, and work with the state 811 Center if you need to make an additional request for markings. The Center may also be able to connect you with private locating companies that can be contracted to mark additional lines.

Ticket expiration also varies considerably across the country. Stay mindful of remarking requirements to stay in compliance, however, requesting a remark is a necessary safety protocol when lines are damaged, removed, or no longer visible. It's important to understand the laws in the jurisdiction where you are performing work to be sure you are compliant and, most importantly, are keeping yourself and your crew safe.

Scott Mergler, AT&T Damage Prevention Manager, emphasizes the importance of safety and communication in their projects across the country and states, "At AT&T, our top priorities are keeping our customers connected and ensuring that all workers can perform their tasks safely and return home to their families. It's immensely rewarding to be part of diverse teams nationwide, collaborating to facilitate safe digging and excavation practices. My team works closely across state lines and the key to their success is constant communication and avoiding unnecessary risks." Scott's extensive underground damage prevention expertise is extended throughout the industry. He also serves as the OHIO811 Chairman of the Board, and as an expert on the Underground Technical Committee, which is tasked with reviewing reported damage prevention compliance violations from the Public Utilities Commission of Ohio.

You can visit *Call811.com* to connect with the 811 Center in the location you will be working in while learning more about excavation laws and requirements.

Conclusion

Damage prevention is a shared responsibility amongst all stakeholders. Excavation and workplace safety laws are designed to protect critical underground infrastructure and those who live and work in each state. While these laws provide comprehensive tools, it is up to each excavator to ensure they are followed and to stay vigilant when there are unexpected occurrences throughout their job. Doing your homework before crossing the state line can help your projects run more smoothly while experiencing the many benefits of multistate operations.

For more information, contact jaimeg@oups.org.

Effectiveness of an EFFC EFF BOARD BY ROGER COX, PRESIDENT, ACTS NOW, INC. BY ROGER COX, PRESIDENT, ACTS NOW, INC.

Stakeholders in every state became aware of the emphasis placed on stronger state excavation damage prevention programs in the early to mid-2000's. That was in part due to the Pipeline Inspection, Protection, Enforcement, and Safety (PIPES) Act of 2006.

As I remember, the nine elements of an effective damage prevention program became the document that brought stakeholders together as committees tried to figure out the impact of the rule.

Element two encouraged the support and partnership of all stakeholders, and some states determined that meant creating a board or committee of stakeholders to either advise or determine the enforcement process for the state. They felt the charge of the nine elements as fair and equitable enforcement of the state's dig law meant enforcement for all violations of the dig law without regard to utility type, indicated the state's regulatory agency couldn't enforce such a concept because all utilities were not under agency jurisdiction. That was seen as a big advantage to create the enforcement board.

In addition to the challenge, local politics played a big part in determining the direction of enforcement for the states.

There was also the concept of "enforcement generally requires more than just legal knowledge." "It's a team effort," and because of the gray areas in most state laws, enforcement was a complicated thing. So, there was a desire to want other forms of expertise at the table when mak-

ing enforcement decisions with an eye on the effectiveness of the program.

When I'm asked are enforcement boards effective, my answer is it's too early to tell, but here is what I've learned:

Some enforcement boards are better than others and the difference is usually the

Some
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level of commitment to preventing damage through effective training and fair and consistent enforcement.

The enforcement board that only focuses on civil penalties will overlook their influence on the legislative process and strengthening the dig law. When complaints are received, the complaint, the frequency of the complaint, the quality of the documentation, the strength of the law, and the penalty all become valuable data. A data analysis will go a long way in determining what the next step is when it comes to reducing damages.

The enforcement board's commitment to partnership is another key component in long-term success. The most successful boards I've worked with develop a relationship with the state's regulatory agency that is built on mutual trust and respect for their respective roles in the damage prevention process rather than fear and mistrust of one another.

While it may be too early to tell the effectiveness of the enforcement board, there are some advantages of an enforcement board. Since there are many stakeholders on the board, it becomes easier to create respect for all utility types. For example, if someone digs without calling 811, they can be subject to penalties whether there is a gas line near the dig site or not. The Public Service Commissions have often stated when a violation of the dig law occurs, "I can't do anything about someone hitting a water line, but if it was a gas line, I could get involved."

The enforcement board has no such restriction and that can be a huge advantage to creating a more effective damage prevention program.



serve professionals involved in traditional excavation, vacuum excavation, trenching, directional drilling and boring, bursting and tunneling, using the most innovative technology.





Take a peek at the COLE Publishing Family















Digital Safe Digging Resources

Call811.com

Visiting Call811.com has proven to be a preventive measure in excavation safety and utility damage prevention. Research has revealed contacting 8-1-1 before digging significantly helps avoid incident, injury, harm to the environment, and even death.

Notify your state's 811 center by contacting 811 or making an online request 2-3 days before work begins. Visit Call811.com to find information about your state's specific notification period requirement, your 811 center, and online service availability.

The 811 center will transmit information to affected utility operators.



ClickBeforeYouDig.com

Another digital safety resource is ClickBeforeYouDig.com. This resource helps safely identify buried utility lines.

How to use the portal:

Click on the province or state in which you are planning to dig for information about the notification service in that area. Follow the links to visit the local damage prevention center website or click the CONTRACTOR button to place a locate request for that region.





811 vs 911



Primary Responsibility: Coordinates pipelines/utility line locating and marking prior to excavation projects

During Emergencies: Can alert operators who are near but not directly involved

Contact Instructions: Call prior to excavating, grating or ditch clearing and to comply with damage reporting requirements



Primary Responsibility: Coordinates pipeline emergency notifications and initial response actions

During Emergencies: Can access pipeline maps, pipeline product information and pipeline emergency contact information

Contact Instructions: Call 911 immediately and notify the pipeline operator if you suspect a pipeline leak or witness intentional damage or pipeline vandalism

Community Liaison Services

Formerly known as the Community Assistance and Technical Services (CATS) Program

PHMSA has renamed its CATS program to "Community Liaison Services" to more appropriately align with current roles and responsibilities and better interface with various stakeholders.

Mission

To advance PHMSA's pipeline safety mission by proactively engaging with pipeline stakeholders, providing technical expertise, and leveraging technology, data, and information to reduce pipeline risks and influence change through program and policy development.

Vision:

To serve as "trusted" and "credible" stewards of public safety and environmental protection by raising awareness and influencing change to continuously improve pipeline safety.

If you need assistance with any of the following pipeline safety related matters, please contact a PHMSA Community Liaison today:

- Pipeline safety policy/programs (damage prevention, public awareness, emergency response, PIPA, etc.)
- Pipeline stakeholder engagement and outreach
- Pipeline technical services and support (public inquiries, whistleblowers, post incident/accident communications, siting and permit initiatives)
- Questions about pipeline safety in your community

Community Liaisons are located within each PHMSA region.

Community Liaison Services Program Manager

Marta Riendeau: Marta.Riendeau@dot.gov • Phone: (609) 354-8010

Central Region:

Illinois; Indiana; Iowa; Kansas; Michigan; Minnesota; Missouri; Nebraska; North Dakota; South Dakota; Wisconsin.

Angela Pickett: angela.pickett@dot.gov • Phone: (816) 329-3823 Sean Quinlan: sean.quinlan@dot.gov • Phone: (816) 329-3800

Southern Region:

Alabama; Florida; Georgia; Kentucky; Mississippi; North Carolina; Puerto Rico; South Carolina; Tennessee.

James Kelly: james.kelly@dot.gov • Phone: (404) 990-1848
Tiffany Baker: tiffany.baker@dot.gov • Phone: (404) 832-1164

Eastern Region:

Connecticut; Delaware; Maine; Maryland; Massachusetts; New Hampshire; New Jersey; New York; Ohio, Pennsylvania; Rhode Island; Vermont; Virginia; Washington, D.C.; West Virginia.

Karen Gentile: karen.gentile@dot.gov • Phone: (609) 433-6650 Nita Raju: Nitander.raju@dot.gov • Phone: (609) 771-7806

Southwest Region:

Arkansas; Louisiana; New Mexico; Oklahoma; Texas.

James 'Jay' Prothro: james.prothro@dot.gov • Phone: (713) 272-2832

Western Region:

Alaska; Arizona; California; Colorado; Hawaii; Idaho; Montana; Nevada; Oregon; Utah; Washington; Wyoming.

Tom Finch: thomas.finch@dot.gov • Phone: (303) 807-7200

Dave Mulligan: david.mulligan@dot.gov • Phone: (720) 963-3193

Pipeline Location Information

PIPELINE MARKERS

Pipelines are buried in areas called rightsof-way. Pipeline markers are used to designate the general route of the pipeline. Markers can also be found where a pipeline crosses a street or railroad, emerges from the ground, or in waterways.

BE AWARE: Pipeline markers will not designate the exact location, depth or number of pipelines in the area. Markers come in different shapes and sizes, but will always:

HIGH PRESSURE PRPELINE WARNING OF THE PROPERTY OF THE PROPERTY

Include the word

WARNING, DANGER OR CAUTION

Identify the material being transported

Provide a number to reach the company in event of an emergency

Provide the name of the pipe
• line company

Gathering pipelines are normally located in rural areas and transport crude oil or natural gas from wellheads and production facilities to processing facilities where the oil, gas and water are separated and processed.

Transmission pipelines move refined liquid products and natural gas from refineries to marketing and distribution terminals typically using larger diameter, high-pressure lines. The general location of all transmission pipelines can be viewed in the National Pipeline Mapping System at www.npms.phmsa.dot.gov

Distribution pipelines are normally located in populated areas and carry natural gas or propane from a transmission pipeline or storage facility directly to residential and industrial customers. Some companies have included the location of their pipelines in a mobile friendly web application called Pipelines Nearby, which can be accessed at www.pipelinesnearby.org

MARCADORES DE TUBERÍA

Las tuberías son enterradas en áreas llamadas derecho de paso (ROW por sus siglas en ingles). Los marcadores de tubería se usan para designar la ruta general de la tubería. Los marcadores también pueden ser encontrados donde una tubería cruza una calle o riel de tren, donde sale del suelo, o en vías navegables.

ESTÉ CONSCIENTE: Los marcadores no dan la ubicación exacta, profundidad ni número

de tuberías en el área. Los marcadores vienen en diferentes formas y tamaños, pero siempre incluyen:

 Incluye la palabra
 WARNING, DANGER OR CAUTION (aviso, peligro o precaución)

Identifica el material siendo transportado

 Da el número de la compañía en case de emergencia

Da el nombre de la compañía de tubería

Tuberías Recolectoras están situadas en zonas rurales y transportan normalmente petróleo crudo o el gas natural de manantiales y de instalaciones de producción a centros de procesamiento donde se separan y se procesan aceite, gas y aqua.

Las tuberías de Transmisión mueven productos y gas natural líquidos refinados desde refinerías a terminales comerciales y de distribución típicamente usando líneas de alta presión con diámetro más grande. La ubicación general de todas las tuberías de transmisión se puede ver en el sistema de trazado nacional de tubería en www.npms.phmsa.dot.gov

Las tuberías de Distribución están situadas en áreas pobladas y llevan normalmente el gas natural o propano de una tubería de transmisión o instalación de almacenamiento directamente a clientes residenciales e industriales. Algunas compañías han incluido la ubicación de sus tuberías en una aplicación web móvil llamada Pipelines Nearby, que puede ser accedida en www. pipelinesnearby.org



Pipeline Products & Facilities

NATURAL GAS is a naturally occurring resource formed millions of years ago because of heat and pressure acting on decayed organic material. It is extracted from wells and transported through gathering pipelines to processing facilities. From these facilities, it is transported through transmission pipelines to distribution pipeline systems. The main ingredient in natural gas is

methane (approximately 94 percent). Natural gas is odorless, colorless, tasteless and nontoxic in its natural state. An odorant (called mercaptan) is normally added when it is delivered to a distribution system. At ambient temperatures, natural gas remains lighter than air. However, it can be compressed (CNG) under high pressure to make it convenient for use in other applications or liquefied (LNG) under extremely cold temperatures (-260° F) to facilitate transportation.

PETROLEUM GAS is a mixture of gaseous hydrocarbons, primarily propane, butane and ethane. These products are commonly used for cooking, heating and other industrial applications. They are easily liquefied under pressure and are often stored and transported in portable containers labeled as Liquified Petroleum Gas (LPG). When transported in transmission pipelines they may also be identified as Highly Volatile Liquids (HVLs) or Natural Gas Liquids (NGLs). Vaporized LPG may also be found in smaller gas distribution systems. Typically, LPG is a tasteless, colorless and odorless gas. When transported via transmission pipelines it normally will not have odorant added. Odorant is added when LPG is offloaded to a distribution pipeline system or transport tanks to facilitate leak detection. Ethylene and propylene do have



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Chapters from CGA Best Practices 20.0. For the complete Excavation Best Practices, see CGA Best Practices 20.0 at BestPractices.CommonGroundAlliance.com

- 5 Excavation
- 5.01 811 Facility Locate Request
- 5.02 Delineate Area of Proposed Excavation
- 5.03 Locate Reference Number
- 5.04 Pre-Excavation Meeting
- 5.05 Facility Relocations
- 5.06 Separate Locate Requests
- 5.07 811 Center Access (24/7)
- 5.08 Positive Response
- 5.09 Facility Owner/Operator Failure to Respond
- 5.10 Locate Verification
- 5.11 Documentation of Marks

- 5.12 Work Site Review with Company Personnel
- 5.13 811 Center Reference at Site
- 5.14 Contact Names and Numbers
- 5.15 Facility Avoidance
- 5.16 Federal and State Regulations
- 5.17 Marking Preservation
- 5.18 Excavation Observer
- 5.19 Excavation Tolerance Zone
- 5.20 Excavation within Tolerance Zone
- 5.21 Mismarked Facilities
- 5.22 Exposed Facility Protection
- 5.23 Locate Request Updates
- 5.24 Facility Damage Notification

- 5.25 Notification of Emergency Personnel
- 5.26 Emergency Excavation
- 5.27 Backfilling
- 5.28 As-Built Documentation
- 5.29 Trenchless Excavation
- 5.30 Emergency Coordination with Adjacent Facilities
- 5.31 No Charge for Providing Underground Facility Locations
- 5.32 Vacuum Excavation
- 5.33 Facility Owner Provides a Monitor

 During Excavation



Notification Center and State Law Directory		ICKE	TC		e T	ATE	LAW	C o I	DPA1	/ICIO	MC				IFICA MPTI				NOTII	FICAT CEPT		S	of the
Informational purposes only. Information and laws are subject to change. Consult your local Notification Center website for updated information. ACTS Now, Inc attempted to verify all information as of publication date, and accepts no responsibility for missing or incorrect information. Note: Voice tickets may also be another acceptable form of ticket submission. You can reach your local Notification Center in the U.S. by dialing 811.	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Premarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead G	Large Projects	Tolerance Zone (either side of the utility plus the width of the utility)
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Website: 811ak.com Hours: 8:00 AM - 5:00 PM, M-F/Emergency 24/7 Advance Notice: 2-10 business days based on location Marks Valid: 15-20 business days based on location Law Link: 811ak.com/faq	*24	Y -30" t	Y pased	Y on pro	Y posed	Y d dept	N h of di	9 	N	N 	Y	N	N	N L	N	Y	N	l ^y L	Y	Y 	N	Y 	24"*
ARIZONA / Arizona 811 / 800-782-5348																							
Website: arizona811.com Hours: 6:00 AM - 5:00 PM, M-F Advance Notice: 2 full working days(excludes weekends and holidays) Marks Valid: 15 working days Law Link: arizona811.com/resources/	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	N	Y	N	N	Y	Y	N	N	24"
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Website: arkansas811.com Hours: 24 hours, 7 days Advance Notice: 2 to 10 working days Marks Valid: 20 working days Law Link: arkonecall.com/statelaw/statelaw.aspx	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	N	N	N	Y	Y	N	Y	18"
CALIFORNIA																							
Underground Service Alert of Northern CA & NV USA North 811 / 800-642-2444 Website: usanorth811.org Hours: 24 x 7 Advance Notice: 2 working days, not including the day of notification Marks Valid: 28 days Law Link: usanorth811.org (Quick Links / Law & Excavation Manual)	N	Y	Y	N	Y	Y	Υ*	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	Y	24"
Underground Service Alert of Southern California / 800-422-4133	N	Y	Y	N	Y	Y	Y *	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	Y	24"
Website: digalert.org Hours: 6:00 AM - 7:00 PM, M-F Advance Notice: 2 working days to 14 calendar days not including date of notice Marks Valid: 28 days Law Link: https://leginfo.legislature.ca.gov/faces/codes_displayText. xhtml?lawCode=GOV&division=5.&title=1.∂=&chapter=3.1.&arti- cle=2	*D	 OT and	i non-	press	urized	 sewe	er lines	 , stori	 m drai	ins and	d drair	l lines	exem	pt 									
COLORADO / Colorado 811 / 800-922-1987																							
Website: co811.org • Hours: 24 hours Advance Notice: 2 days, not to include the day of notice Marks Valid: 30 days Law Link: colorado811.org/one-call-legislation/	* D	Y OT ex 		I v L	Y	Y 	γ*	N	N	Y	N	Ψ	N	N	N	Y	Y	l v	Y	y 	N	Y	18"
CONNECTICUT / Call Before You Dig / 800-922-4455 Website: www.cbvd.com	l N	Y	Y	Ιγ	Y	v	Y		v	v	v	v	N			v		v	v	v		γ	18"
Hours: 7:00 AM - 5:00 PM, M-F; Emergencies 24 Hours Advance Notice: 2 full working days up to 30 calendar days (excludes weekends, holidays and the day of notification) Marks Valid: 30 days Law Link: www.cbyd.com/resources/ct-cbyd-state-law-regulations#	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	N	Y	18"
DELAWARE / Miss Utility of Delmarva / 800-282-8555																							
Website: missutility.net/delaware Hours: 24 hours, 7 days Advance Notice: 2 full business days Marks Valid: must start within 10 calendar days, no expiration as long as marks still visible and scope does not change. Law Link: delcode.delaware.gov/title26/c008/index.shtml	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	N	N	N	N	Y	Y	N	N	24"
FLORIDA / Sunshine 811 / 800-432-4770	I																						
Website: sunshine811.com Hours: 7:00 AM - 6:00 PM Advance Notice: 2 full business days (10 if dig site is underwater) Marks Valid: 30 days Law Link: sunshine811.com/law	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	24"

Notification Center and State Law Directory HELP US STAY UP TO DATE. Directory information is also available online at actsnowinc.com. Report any updates to this directory by calling 501-548-6363.	Т	ICKE	TS	rerage						Ouse OISIV		rting			IFICA MPTI				AC	FICAT CEPT			Tolerance Zone (either side of the utility plus the width of the utility)
Note: Voice tickets may also be another acceptable form of ticket submission. You can reach your local Notification Before		ne ne	aje	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Premarks	Positive Response	Hand Dig Clause	Damage Reporting		Homeowner	Railroad	Agriculture	£	Damage	Design	Emergency	Overhead	Large Projects	erance Zor
Center in the U.S. by dialing 811. You Dig.com	FAX	Online	Mobile	Stat	Ç	Em	Mar	EXC	Mar	Pos	Han	Dan	DOT	Hon	Rail	Agri	Depth	Dan	Des	Eme	0ve	Lar	ᄚ
GEORGIA / Georgia 811 / 800-282-7411																							
Website: Georgia811.com Hours: 7:00 AM - 6:00 PM, M-F • (24/7 emergency) Advance Notice: 2 business days (excluding day of call) Marks Valid: 30 calendar days Law Link: georgia811.com/index.php/laws-policies/		Y Routin Farmin			Y tenan	Y ce	N	Y	Y	Y	Y	Y	N*	N	N	N**	N	^Y 	Y	Y	Y	Y	18"
HAWAII / Hawaii One Call Center / 866-423-7287 / Tickets I	ax:	877-	695-	2466																			
Website: callbeforeyoudig.org Hours: 24 hours, 7 days Advance Notice: 5 workings days, not to exceed 28 calendar days Marks Valid: 28 calendar days Law Link: callbeforeyoudig.org/law.htm	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	N	N	Y	N	N	N	Y	Y	Y	N	N	30"
IDAHO																							
DIG LINE / 800-342-1585 Website: digline.com Hours: 24 hours Advance Notice: 2 business days Marks Valid: 28 Days Law Link: https://legislature.idaho.gov/statutesrules/idstat/ title55/T55CH22/	N	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	N	N	N	Y	15"	Y	Y	Y	Y	Y	24"
BONNER/BOUNDRY One Call / 800-626-4950 Website: passwordinc.com Hours: 24 hours, 7 days Advance Notice: 2 business days Marks Valid: 28 days Law Link: legislature.idaho.gov/statutesrules/idstat/Title55/T55CH22/	N	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	N	N	N	Y	15"	Y	Y	Y	Y	N	24"
SHOSHONE/BENEWAH One Call / 800-398-3285 Website: passwordinc.com Hours: 24 hours, 7 days Advance Notice: 2 business days Marks Valid: 28 days Law Link: legislature.idaho.gov/statutesrules/idstat/Title55/T55CH22/	N	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	N	N	N	Y	15"	Y	Y	Y	Y	N	24"
KOOTENAI COUNTY One Call / 800-428-4950 Website: kootenaicounty811.com Hours: 24 hours, 7 days Advance Notice: 2 business days Marks Valid: 28 days Law Link: legislature.idaho.gov/statutesrules/idstat/Title55/T55CH22/	N	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	N	N	N	Y	15"	Y	Y	Y	N	Y	24"
ILLINOIS																							
JULIE, INC. / 800-892-0123 Website: illinois1call.com • Hours: 24 hours, 7 days Advance Notice: 48 hours notice (two business days), but no more than a 14 calendar day advance notice prior to the start of excavation. Marks Valid: 28 calendar days Law Link: illinois1call.com/lawandenforcement/	N	Y	N	N	Y	Y	Y	N	Υ*	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	N	18"
811 CHICAGO / 312-744-7000 Website: ipi.cityofchicago.org/Digger Hours: 24 hours a day, 7 days a week Advance Notice: 48 hours • Marks Valid: 28 days Law Link: https://codelibrary.amlegal.com/codes/chicago/latest/chicago_il/0-0-0-2651040	*W	Y hen po	N ossible	N 	Y	Y	Y	Y	γ*	Y	Y	Y	N	N	Y	Y 	N	Y 	N	Y	N	N	18"
INDIANA / Indiana 811 / 800-382-5544																							
Website: indiana811.org • Hours: 24 hours, 365 days Advance Notice: 48 hours notice (two working days), but no more than a 20-calendar day advance notice prior to the start of excavation. Marks Valid: 20 calendar days Law Link: indiana811.org/wp-content/uploads/2019/06/IC-8-1-26-1.pdf	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	N	24"
IOWA / Iowa One Call / 800-292-8989																							
Website: iowaonecall.com • Hours: 24 hours, 7 days Advance Notice: 48 hours, excluding Saturdays, Sundays, and legal holidays Marks Valid: 20 calendar days Law Link: iowaonecall.com/Default.aspx?tabid=404#iowa	*No	Y ormal t	Y farm o	Y perati	Y ons le	Y ss tha	Y un fifte	N een ind	thes	Y 	Y	Y 	N	N	N	Υ*	N	^Y 	Y	Y	N	Y	18"

Know what's below.		ICKE	TC		CT	ATE	1.014	COI	D D O V	(ICIO	NC			NOTI	FICA MPTI				NOTII	FICAT CEPT		S	f the
Call before you dig.	-	IUKE	0		01	AIE			TO	/ISIO	NO			EVE	WIE	ONO			AU	GEP	Eν		Tolerance Zone (either side of the utility plus the width of the utility)
Expand public awareness by visiting call811.com. You will				ه ا			Membership	Excavator Permits Issued	ks														ther s
find a variety of downloadable elements available for use free				Coverage		Clause	npe	Its	Premarks	nse	يه	Reporting											e (eir th of
in your company/organization's existing campaigns.				١	es	Sa S	Men	Ē	Pre	豆	aus	E		١.								cts	Zone
Note: Voice tickets may also be another				l e	Civil Penalties	Emergency	Ž	F. P.		Positive Response	Hand Dig Clause	Re		Homeowner	_	nre				S S	2	Large Projects	ce Z s the
acceptable form of ticket submission.		9	<u>e</u>	ا ڏ	Per	l ge	datc	vatc	date	Ę		age		eo	oad	붉	_	age	g	gel	hea	e Pı	ran
Know what's below. Call before you dig.	FAX	Online	Mobile	Statewide	Ξ	ii.	Mandatory	×ca	Mandatory	iso	auc	Damage	D01	틸	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	arg	Tole
KANSAS / Kansas 811 / 800-344-7233	1	0	_	တ	0		_	ш		-			-		-	_				ш	0		
Website: kansas811.com	ΙN	Y	Y	Ιγ	Y	Y	Y	N	N	Y	N	N	N	γ*	v	v	N	N	v	v	N	N	24"
Hours: 24 hours, 7 days				ı		-	_						"	•	•	١.	"	l "	•	•		"	
Advance Notice: 2 full working days(not including day of notice) Marks Valid: 15 calendar days	"H	omeov	vner r	etains I	respo	111511011 	iity ior	any u 	amag 	es aue 	: 10 aiç	gging 		l		I		ı		l			ı
Law Link: kansasonecall.com/static/pdf/KUUDPA_04.03.2010.pdf																							
KENTUCKY / Kentucky 811 / 800-752-6007																							
Website: kentucky811.org	N	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	Y	24"
Hours: 24 hours/7 days Advance Notice: 2 working days																							
Marks Valid: 21 calendar days																							
Law Link: kentucky811.org/the-dig-law																							
LOUISIANA / Louisiana 811 / 800-272-3020 Website: louisiana811.com	I	v	Y	Ιv	v	Y		A.	Y	v	P.I	A.	I	v	P.I	v	P.I	γ	v	v	p.	v	40"
Hours: 7:00 AM - 6:00 PM, Emergency Locates 24/7	N	Y	Y	ľ	Y	Y	N	N	Y	Y	N	N	N	Y	N	Y	N	ľ	Y	Y	N	Y	18"
Advance Notice: 2 Business Days																							
Marks Valid: 20 Days/30 Days for Agriculture, Forestry, Marine Law Link: louisiana811.com/index.php/dig-law																							
MAINE / Dig Safe System, Inc. / 888-344-7233																							
Website: digsafe.com	N	Υ	Y	Υ	Y	Υ	Y	Υ	Υ	Y	Υ	Υ	N	N	N	Υ	N	Υ	N	Υ	N	Υ	18"
Hours: 24 hours, 7 days																							
Advance Notice: 72 hours(excluding weekends and holidays) Marks Valid: 60 days; must start within 30 days																							
Law Link: http://www.digsafe.com/laws_rules.php																							
MARYLAND / Miss Utility (Western Shore) / 800-257-7777						1																	
Website: www.missutility.net Hours: 24 hours, 7 days	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	Y*	N	N	N	N	Y	Y	N	N	18"
Advance Notice: 2 full business days		١		L				ļ .		Ļ		ļ											
Marks Valid: 12 business days	*H	and di	g only 	up to	a dept	th of t I	o". Me	chaniz I	ed eq I	uıpme I	nt mu: 	st call I		I		ı		1		l			
Law Link: www.missutility.net/maryland/ Miss Utility of Delmarva (Eastern Shore) / 800-441-8355	N	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y	N	Y	N	N	N	N	Y	Y	N	N	18"
Website: missutilitydelmarva.com	-	ı -		ľ		١.	•		-	ľ		•	l	•	•				•	•	•	••	
Hours: 24 hours, 7 days Advance Notice: 2 full business days																							
Marks Valid: 12 business days																							
Law Link: www.missutility.net/maryland/																							
MASSACHUSETTS / Dig Safe System, Inc. / 888-344-7233	LN	v	Y	Ιv	v	v	v	v	v	v	v	v	L		N	v	N	v	N	v	N	v	18"
Website: digsafe.com Hours: 24 hours, 7 days	N	Y	T	ľ	T	1	Y	1	Y	1	T	1	N	N	N	1	N	1	N	1	N	1	18"
Advance Notice: 72 hours(excluding weekends and holidays)																							
Marks Valid: 30 days Law Link: digsafe.com/laws_rules.php																							
MICHIGAN / Miss Dig System, Inc. / 800-482-7171																							
Website: missdig811.org	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Υ	N	N	N	N	N	Y	Y	N	Y	18"
Hours: 24 hours																							
Advance Notice: 3 business days(excluding weekends and holidays) Marks Valid: 3 weeks to 6 months																							
Law Link: missdig811.org/education/public-act-174.html																							
MINNESOTA / Gopher State One Call / 800-252-1166 or 651	-454		1																	ı			
Website: gopherstateonecall.org Hours: 24 hours	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	N	Y	24"
Advance Notice: 48 hours(excluding weekends and holidays)																							
Marks Valid: 14 days Law Link: revisor.leg.state.mn.us/statutes/?id=216D																							
MISSISSIPPI / Mississippi 811, Inc. / 800-227-6477 / Ticke	te F	av: 6	N1_3	62-7	533								_										
Website: ms811.org	Ιγ	Y	Y	Ι _Υ	γ	Υ	Y	N	N	Y	Υ	Υ	ΙN	Y	Υ	24"	12"	Υ	Υ	Υ	N	Υ	18"
Hours: 24 hours, 7 days		١		1		-				-		-		l -				Ī		-			1
Advance Notice: 3 working days Marks Valid: 14 working days	*L	ess tha	n 16"	•		1														ı			
Law Link: ms1call.org/One Call-law				L																		Ш	
MISSOURI / Missouri One Call System / 800-344-7483 / Tid					-840																		
Website: mo1call.com Hours: 24 hours, 7 days	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y*	N	Y	Y	Y	N	N	24"
Advance Notice: 2 working days, not counting day of request				1																			
Marks Valid: As long as visible																							
Law Link: mo1call.com/manual_law.php				1																		\Box	

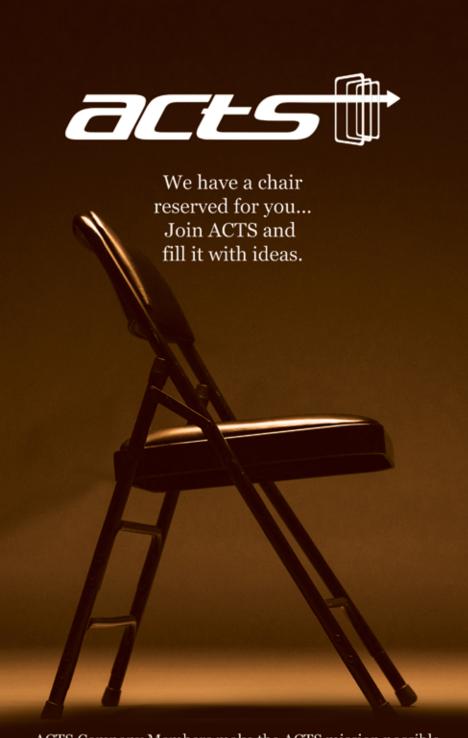
Notification Center and State Law Directory Informational purposes only. Information and laws are subject to change. Contact your local Notification Center website for updated information. ACTS Now, Inc attempted	T	ICKE	TS	ge	S1			Seed 8			NS	i d			IFICA MPTI					FICA	TION TED	S	ither side of the
to verify all information as of publication date, and accepts no responsibility for missing or incorrect information. Note: Voice tickets may also be another acceptable form of ticket submission. You can reach your local Notification Center in the U.S. by dialing 811. You Dig.com	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Premarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	Large Projects	Tolerance Zone (either side of the
MONTANA			_	0,			_		_		_		_		_		_	_	_			_	
MONTANA 811 / 800-424-5555 Website: montana811.org Hours: 24 hours, 365 days Advance Notice: 2 business days Marks Valid: 30 days Law Link: montana811.org/montana-dig-law.html	N *0	Y nly un	Y der ce	Y rtain d	Y	Y	Y es	N	N	Y	Y	Y	N	γ*	N	Y	Y	Y	Y	Y	N	N	18"
NEBRASKA / Nebraska811 / 800-331-5666																							
Website: ne1call.com Hours: 24 hours, 365 days Advance Notice: 2 to 10 business days excluding holidays and weekends Marks Valid: 17 Days Law Link: ne1call.com/ne-law-enforcement/nebraska-statutes/	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	N	18"
NEVADA / USA North 811 / 800-642-2444																							
Underground Service Alert of Northern CA & NV Website: www.usanorth811.org Hours: 24/7 Advance Notice: 2 working days, not including the date of notification Marks Valid: 28 days Law Link: usanorth811.org (Quick Links/Law & Excavation Manual)	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	Y	N	Y	N	N	24
NEW HAMPSHIRE / Dig Safe System, Inc. / 888-344-7233																							
Website: digsafe.com Hours: 24 hours, 7 days Advance Notice: 72 hours(exluding weekends and holidays) Marks Valid: 30 days Law Link: digsafe.com/laws_rules.php	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18'
NEW JERSEY / New Jersey One Call / 800-272-1000 / Ticke	ets F	ax: 8	00-7	- 05-4	559																		
Website: nj1-call.org Hours: 24 hours Advance Notice: 3 full business days Marks Valid: 45 business days Law Link: nj1-call.org/nj-law/	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	N	N	24
NEW MEXICO / New Mexico One Call, Inc. dba NM811 / 800	-321	-253	7 / T	icke	ts Fa	x: 80	00-7	27-8	809														
Website: nm811.org Hours: 7:00 AM - 5:00 PM, M-F / Emergencies & Damages: 24 hours Advance Notice: 2 working days, not including the day of the notification Marks Valid: 15 Days Law Link: nm811.org/new-mexico-811-law/	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	N	Y	18
NEW YORK																							
DIG SAFELY NEW YORK / 800-962-7962 Website: digsafelynewyork.com Hours: 24 hours, 365 days Advance Notice: 2 to 10 working days(Excluding day of call) Marks Valid: 10 working days Law Link: digsafelynewyork.com/resources/nys-code-rule-753	N	Y	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N	N	N	Y	Y	Y	N	N	24
NEW YORK 811 / 800-272-4480 Website: newyork-811.com Hours: 24 hours, 7 days Advance Notice: 2 to 10 business days Marks Valid: 10 working days Law Link: newyork-811.com/excavators/code-753-at-a-glance	N	Y	Y	N	Y	Y	Y	N	N	Y	Y	N	N	N	N	N	N	Y	Y	Y	N	N	24
NORTH CAROLINA / North Carolina One Call Center, Inc. / 8	300-	632-	4949)																			
Website: nc811.org Hours: 24 hours, 365 days Advance Notice: 3 full working days Marks Valid: 15 working days Law Link: nc811.org/north-carolina-law.html	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N	N	24

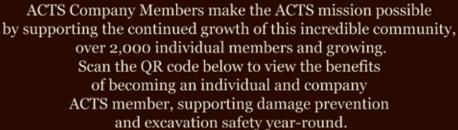
Know what's below.	Т	ICKE.	TS		ST	ATE	LAW	S & I	PRO\	/ISIO	NS			NOTI EXEI				ı		FICAT CEPT	TION:	S	of the
Call before you dig.								_															er side e utilit
You can also reach your local Notification Center by dialing 811 anywhere in the United States. This is a FREE call and a FREE service.				overage	səj	Clause	Members	ermits Iss	Premark	sponse	Clause	Reporting										cts	Zone (eithe width of th
Note: Voice tickets may also be another acceptable form of ticket submission. Know what's below. Call before you dig.	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Premarks	Positive Response	Hand Dig Cl	Damage Re	рот	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	Large Projects	Tolerance Zone (either side of the utility plus the width of the utility)
NORTH DAKOTA / North Dakota One Call / 800-795-0555																							
Website: ndonecall.com Hours: 24 hours Advance Notice: 2 Full Business Days Marks Valid: 21 calendar days Law Link: legis.nd.gov/cencode/t49c23.pdf?20130530105605	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	N	N	24"
ОНІО																							
OHIO811 / 800-362-2764 Website: OHIO811.org Hours: 24 hours, 7 days Advance Notice 48 hours but not more than 10 working days Marks Valid: As long as visible and work begins within 10 days of original ticket Law Link: oups.org/law	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	Y	Y	Y	N	Y	18"
OKLAHOMA / Okie811 / 800-522-6543																							
Website: okie811.org Hours: 24 hours, 7 days Advance Notice: 48 hours excluding date of notification, weekends and legal holidays Marks Valid: 14 calendar days Law Link: okie811.org/thelaw	N	Y	Y	Y	Wi	ldlan	d Fire	Irect e and also	Pre-	Excav	Y vation	Y Mee 	Y ting F	N Reque	N est No	N otifica	N ation	Y also	Y accer	Y Y oted	N	Υ	24"
OREGON / Oregon Utility Notification Center / 800-332-234	4 / Ti	cket	s Fax	: 50	3-29	3-08	26											_					
Website: digsafelyoregon.com Hours: 24 hours, 7 days Advance Notice: 2 Full Business Days Marks Valid: 45 days Law Link: digsafelyoregon.com/faqs/ounc_ors_oar.htm	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	12"	N	Y	N	N	Y	Y	N	N	24"
PENNSYLVANIA / Pennsylvania One Call System, Inc. / 800	-242	-177	6															_					
Website: pa1call.org Hours: 24 hours, 7 days Advance Notice: 3 to 10 business days (construction), 10-90 days (design), at least 10 days (large projects) Marks Valid: as long as equipment is on site Law Link: pa1call.org/palaw	*:	Y Penn Munio * Exem * Large	cipal R options	oads · s inclu cts ac	- mino ide Pe	r rout nnDO d onli	ine m T with	e exe ainten in sta	ance	if with d DOT	in 18"	depth	from	highe	st poi	nt in F	ROW	Y -	Y	Y	N	Υ***	18"
RHODE ISLAND / Dig Safe System, Inc. / 888-344-7233																							
Website: digsafe.com Hours: 24 hours, 7 days Advance Notice: 72 hours(exluding weekends and holidays) Marks Valid: Must start within 30 days, as long as marks maintained Law Link: digsafe.com/laws_rules.php	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"
SOUTH CAROLINA / South Carolina 811 / 888-721-7877																							
Website: sc811.com Hours: 7:30 AM - 5:30 PM, M-F Advance Notice: 3 to 12 full working days notice(10-20 full working days notice subaqueous) Marks Valid: 15 working days Law Link: sc811.com/state-law/	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	N	24"
SOUTH DAKOTA / South Dakota 811 Center / 800-781-7474																							
Website: sdonecall.com/state-law/ Hours: 24 hours Advance Notice: 48 hours(excluding weekends and holidays) Marks Valid: 21 working days from start date and time on ticket Law Link: sdonecall.com/law.asp	**	Y Damag For ag of soil	ricultu	ıral till	ling ar	Y I. All da id roa	Y amage d and	N must ditch	Y be rep maint	Y orted t enanc	Y o the fa e to a	Y* acility depth	N operato of 18"	N or, or if only;	the or home	N perator eowne	N** r is unk ers hav	Y known, re a 12	to Sou " dept	Y uth Dal th exce	N kota 81 eption	Y 1 Cent for til	18" er. ling
TENNESSEE / Tennessee 811 / 800-351-1111																							
Website: tn811.com • Hours: 24 hours Advance Notice: Not less than 3 working days, not more than 10 working days Marks Valid: 15 calendar days Law Link: https://www.tn.gov/content/dam/tn/publicutility/documents/uudeb/65-31-101etseq.pdf	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	N	Y	Y	Y	N	N	24"

N														NOTI	IFICA	TION	ı		NOTII	FICAT	TION	S	the
Notification Center and State Law Directory HELP US STAY UP TO DATE. Directory information is also available online at actsnowinc.com.	T	ICKE	TS	rage	ST				Premarks 085	use Se		ing			MPT					CEPT			e (either side of th of the utility)
Note: Voice tickets may also be another acceptable form of ticket submission. Report any updates to this directory by calling 501-548-6363. You can reach your local Notification Center in the U.S. by dialing 811.	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Pre	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	0verhead	Large Projects	Tolerance Zone (either side of the utility plus the width of the utility)
TEXAS / Texas811 / 800-344-8377																							
Website: texas811.org Hours: 24 hours Advance Notice: 48 hours (excluding weekends and holidays) Marks Valid: 14 working days Law Links: statutes.capitol.texas.gov/Docs/UT/htm/UT.251.htm	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	Y	Y	16"	Y	Y	Y	N	N	18"
UTAH / Blue Stakes of Utah 811 / 800-662-4111																							
Website: bluestakes.org Hours: 8:00 AM - 4:00 PM, M-F Advance Notice: 3 business days, 72 hours notice Marks Valid: 14 calendar day Law Link: le.utah.gov/xcode/Title54/Chapter8A/54-8a.html	N	Y	Y	Y	Y	N	Y	N	N	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	24"
VERMONT / Dig Safe System, Inc. / 888-344-7233																							
Website: digsafe.com Hours: 24 hours, 7 days Advance Notice: 72 hours (excluding weekends and holidays) Marks Valid: 30 days Law Link: digsafe.com/laws_rules.php	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"
VIRGINIA / Virginia 811 / 800-552-7001																							
Website: va811.com Hours: 24 hours, 7 days Advance Notice: 2 working days(excluding day of call) Marks Valid: 15 working days Law Link: va811.com/laws-and-regulation	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	N	N	Y	Y	N	Y	24"
WASHINGTON / Washington 811 / 811 / 800-424-5500																							
Washington 811 Website: digsafewa.com Northwest Utility Notification Center (NUNC) Website: digsafewa.com Inland Empire Utility Coordinating Council (IEUCC) Website: digsafewa.com Hours: 24 hours, 7 days Advance Notice: 2 business days Marks Valid: 45 days Law Link: washington811.com/wa-dig-law-rcw-19-122/	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	N	Y	N	Y	Y	Y	Y	Y	N	Y	24"
WASHINGTON D.C. / District One Call / 800-257-7777																							
Website: missutility.net Hours: 24 hours, 7 days Advance Notice: 96-business hours Marks Valid: 15 business days Law Link: https://code.dccouncil.gov/us/dc/council/code/ti-tles/34/chapters/27/	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	18"
WEST VIRGINIA / West Virginia 811 / 800-245-4848																							
Website: wv811.com Hours: 24 hours Advance Notice: 2 days but not more than 10 Marks Valid: 10 days Law Link: wv811.com/one-call-law	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	N	N	24"
WISCONSIN / Diggers Hotline / 800-242-8511																							
Website: diggershotline.com Hours: 24 hours, 7 days Advance Notice: 3 working days Marks Valid: For duration of work if marks remain visible and work is continuous Law Link: docs.legis.wisconsin.gov/statutes/statutes/182/0175	N	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	N	N	N	Y	Y	Y	N	Y	18"

Know what's below.	T	ICKE	TS		S	TATE	LAW	IS & I	PROV	/ISI0	NS			NOTI Exei		TION		ı		FICAT CEP1	TION: TED	S	side of the utility)
Call before you dig. Expand public awareness by visiting call811.com. You will find a variety of downloadable elements available for use free in your company/organization's existing campaigns. Note: Voice tickets may also be another acceptable form of ticket submission. Know what's below. Call before you dig. WYOMING / One-Call of Wyoming, Inc. / 811 or 1-800-849-	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Premarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	Large Projects	Tolerance Zone (either side
Website: onecallofwyoming.com Hours: 24 hours Advance Notice: 2 full business days Marks Valid: 14 business days Law Link: https://www.onecallofwyoming.com/wp-content/up-loads/2022/10/WY-State-Statute.pdf	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	N	N	24"

Canadian One Call	Т	ICKE	TS		PROV	INCI	AL L	AWS	& PI	ROVIS	SION	S			FICA MPTI		ı	ı	NOTII AC	FICAT CEPT	TION: TED	S	of the ty)
and Provincial Law Directory Click Cliquez Before Avant You Dig deCreuser Canadian One Call Centres Committee	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Premarks	Positive Response	Hand Dig Clause	Damage Reporting	рот	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	Large Projects	Tolerance Zone (either side of the utility)
ALBERTA / Utility Safety Partners / 800-242-3447																							
Website: utilitysafety.ca Hours: 8:00 AM - 4:30 PM, M-F (Emergency or Online: 24/7) Advance Notice: 3 full working days Marks Valid: up to 30 days, determined by member	N * (Y 300 m	Y m (12'	Y ') han	N d tools	N s only	N	N	N	Y	Y	Y	N	N	N	N	*	Y	Y	Y	Y	Y	1m (39")
BRITISH COLUMBIA / BC 1 Call / 800-474-6886																							
Website: bc1c.ca Hours: 24 hours / 7 days Advance Notice: Regular & Project - 3 working days excluding weekends and holidays Large Project - 5 working days excluding weekends and holidays Planning & Design - 10 working days excluding weekends and holidays Marks Valid: 60 calendar days	N	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	N	Y	VARIES
MANITOBA / Click Before You Dig Manitoba / 800-940-344	7																						
Website: ClickBeforeYouDigMB.com Hours: 8:00 AM - 5:00 PM Advance Notice: 3 full working days excluding weekends and holidays Marks Valid: Determined by member	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	N	N	N	N	N	Y	N	Y	N	Y	VARIES
ONTARIO / Ontario One Call / 800-400-2255	•																						
Website: OntarioOneCall.ca Hours: 24 hours, 365 days Advance Notice: 5 working days Marks Valid: Minimum 60 days Law Link: www.ontario.ca/laws/statute/12004	N	Y	N	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	N	N	N	Y	Y	Y	N	Y	VARIES
QUEBEC AND ATLANTIC PROVINCES / Info-Excavation /	800-	663-	922	В																			
Website: info-ex.com Hours: 24 hours/7 days Advance Notice: 72 hours (3 working days) Marks Valid: Maximum 180 days	N	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	1m (39")
SASKATCHEWAN / Sask 1st Call / 866-828-4888																							
Website: sask1stcall.com Hours: 8:00 AM - 4:30 PM, M-F (Emergency 24/7) Advance Notice: 3 full working days Marks Valid: 30 days	N	Y	Y	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	Y	Y	N	N	VARIES







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2025



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